

Commercial Horticulture

October 18, 2024

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Beneficial of the Week:

Monarch butterflies

Plant of the Week:

Liquidambar styraciflua
(sweetgum tree)

Conferences

Pest Predictive Calendar

**IPMnet
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

Coordinator Weekly IPM Report:

Stanton Gill, Extension Specialist, IPM and Entomology for Nursery, Greenhouse and Managed Landscapes

Regular Contributors:

Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant

Disease Information: David Clement (Extension Specialist) and Fereshteh Shahoveisi (Turf Pathologist)

Weed of the Week: Chuck Schuster (Retired Extension Educator), Kelly Nichols, Nathan Glenn, and Mark Townsend (UME Extension Educators)

Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)

Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)

Design, Layout and Editing: Suzanne Klick (Technician, CMREC)

Stanton A. Gill Horticulture Scholarship

A scholarship has been established at Montgomery College to honor and continue the memory of Stanton Gill, a renowned teacher, scientist, innovator, and mentor. If you are interested in donating to the fund, there are several ways to contribute:

Via check to:

Montgomery College Foundation

Attn: Jonathan Strausberg

For: Stanton A. Gill Horticulture Scholarship

9221 Corporate Blvd. E334, Rockville, MD 20850

Please put a note on the memo line of the check indicating the donation is for the Stanton A. Gill Horticulture Scholarship.

Online:

Go to www.montgomerycollege.edu/donate. Check the "Give to where the need is greatest" box and be sure to check the "In honor of someone" box. Add a note that this is a memorial gift in honor of Stanton in the Comments section.

The family thanks you for helping them to carry on Stanton's legacy.

**If you wish to send Stanton's family a card, please send it to:
Family of Stanton Gill, c/o UMD Extension, Central MD Research and
Education Center, 4240 Folly Quarter, Ellicott City, MD 21042**

Peach Leaf Curl

By: Karen Rane, UMD, and David Clement, UME

Peach leaf curl, caused by the fungus *Taphrina deformans*, causes distortion, puckering and reddish discoloration of infected leaves in the spring. In severe infection years even blossoms and young green shoots can be infected. Infected leaves will fall prematurely and this defoliation can result in high yield losses. After symptoms occur, a white coating will appear on the infected leaf surfaces, which is the layer of fungal spore bearing structures. The spores from these structures will germinate and spread throughout the plant during the growing season by rain. The spores can survive hot dry periods and winter freezing. For effective disease management it is very important to get thorough spray coverage of the tree from all sides.

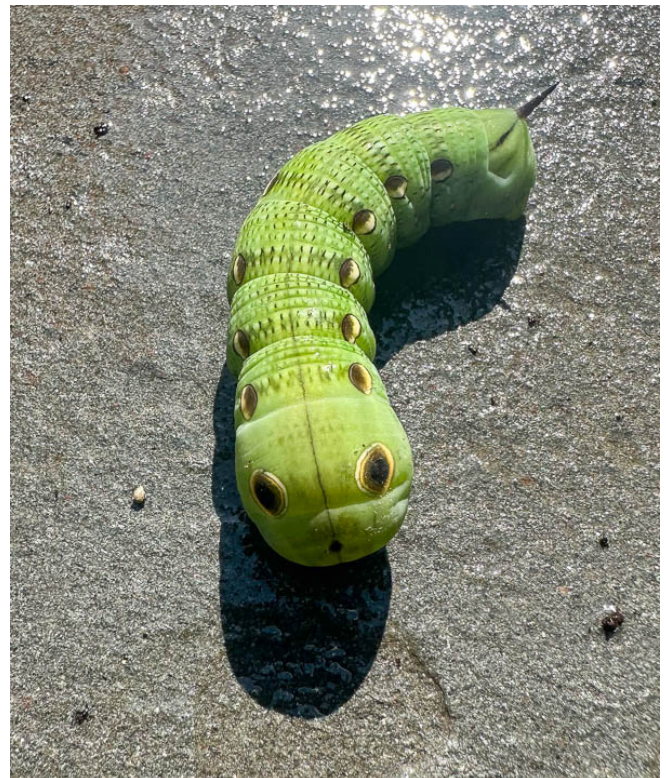
By the time spring symptoms are visible it is too late to manage this disease with fungicides. The best time to apply a preventative fungicide (such as copper products, or chlorothalonil) for this disease is in the fall, after the leaves have dropped. Spraying after leaf drop also allows better fungicide coverage of the trees. Spring applications often fail if warm weather during winter thaws causes bud swell which allows the fungal spores to invade and colonize the tissue. If last spring's infection was severe then fall and spring applications would add extra insurance from damage. For more information on this disease, check out the [Peach Leaf Curl fact sheet](#) by Dr. Kari Peter, Penn State University fruit pathologist.



**Peach leaf curl on Hale Haven peach.
Photo: Suzanne Klick, UME**

Tersa Sphinx Caterpillar

Dave Freeman, Oaktree Property Care, found a Tersa sphinx moth caterpillar (*Xylophanes tersa*) in Vienna, VA this week. It feeds on various herbaceous and woody plants including four-o'clocks, common milkweed, catalpa, and broadleaf buttonweed. There are brown and green forms of the caterpillars. Interestingly, this caterpillar mimics a snake as part of its defense against predators. It overwinters as a pupa in plant debris.



Tersa sphinx caterpillar will find a place in plant debris to pupate.

Photo: Dave Freeman, Oaktree Property Care

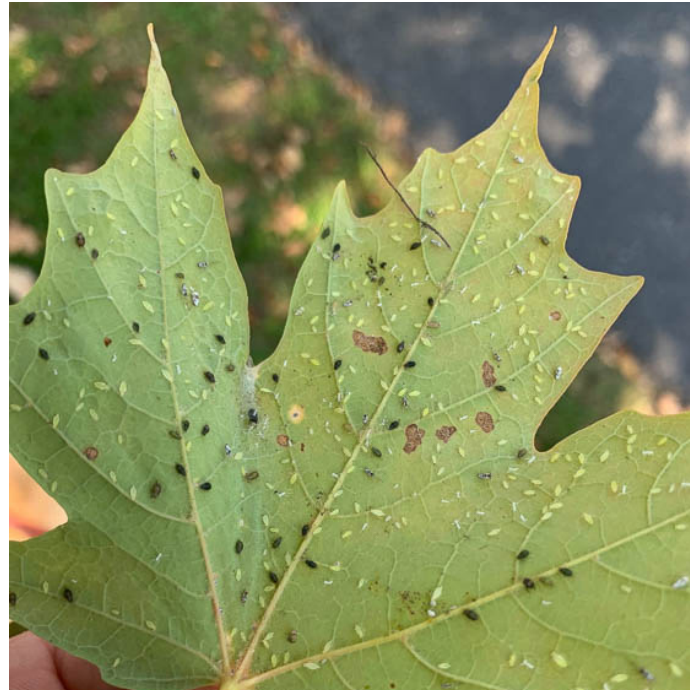
UPDATE on IPM Newsletter and Submissions

NOTE: We will continue to run the IPM Newsletter until the end of the season (October 25th, one more issue after today); and start it up again in the spring. Please send your images, input on what you are seeing in the field, etc. to Suzanne Klick (sklick@umd.edu) and she will share them with me (Paula Shrewsbury), Karen Rane, Dave Clement or other appropriate Extension expert.

Also, if you have insect / arthropod related issues, feel free to contact me (pshrewsbury@umd.edu) about them and I will do my best to help you out.

Aphids on Sugar Maple

Dave Keane found some late season aphids on a sugar maple in Frederick this week. Look for predator and parasitoid activity on trees. In addition to providing food for natural enemies, these aphids occur so late in the season, there should be no need for control measures.



A heavy infestation of aphids on this sugar maple leaf.
Photo: Dave Keane, Howard County Recreation and Parks

Velvet Ants

Jim Metler found velvet ants (which are actually wasps) this week. The females are wingless; only the males have wings. Velvet ants are not aggressive, but the sting is quite painful, so it is best to avoid handling the females. A female velvet ant oviposits one of her eggs near a larva or pupa in the nest of its prey (ground nesting bees and wasps). Adults feed on nectar and water. The immature stages are external parasites of bees and wasps that nest in the ground.



The prey of velvet ants are ground nesting bees and wasps.
Photo: Jim Metler

Spiders Are Active in the Fall

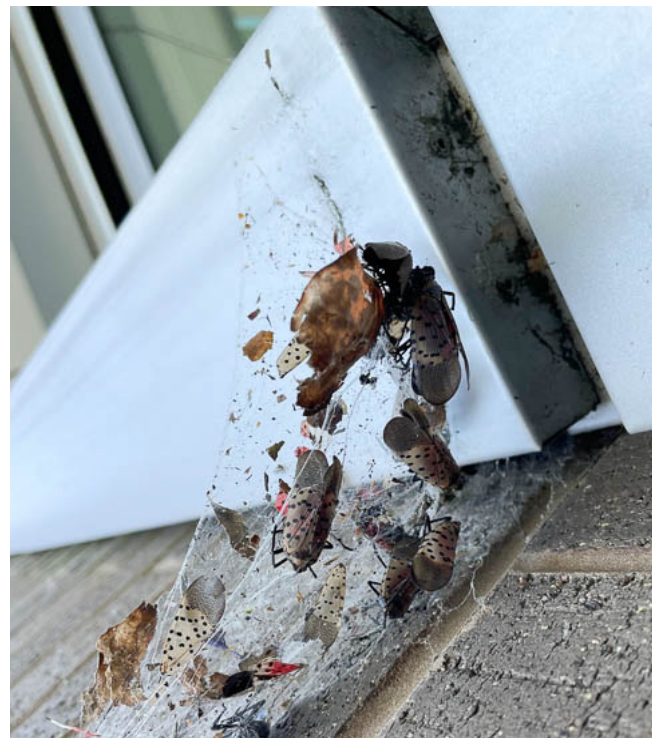
Several people are finding different spiders in the landscape this week. Spiders are amazing predators and collectively with other natural enemies help to keep pest populations down. I (Paula) am looking for a yellow and black garden spider to use for educational outreach. If you have one that you would like to donate to the cause, please contact myself (pshrewsbury@umd.edu) or Nancy Harding (nharding@umd.edu).



Dave found this yellow and black garden Argiope spider, as well as a spotted orbweaver in Virginia this week.
Photo: Dave Freeman, Oaktree Property Care



One insect that spiders are grabbing in their webs are spotted lanternflies.
Photo: Dave Freeman, Oaktree Property Care



Brandon reported: 'I saw a spider web loaded with SLF in Columbia this week. I thought that it was a nice site to see a native predator taking out so many SLF.'

Photo: Brandon Allison, BrightView

Beneficial of the Week

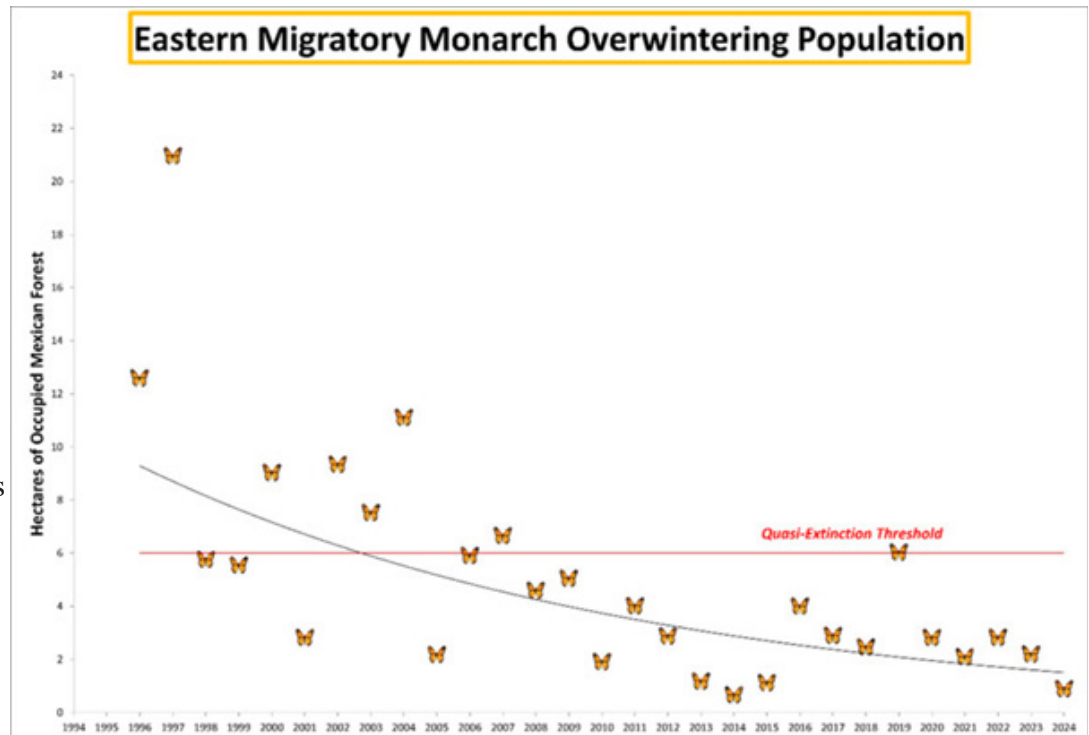
By: Paula Shrewsbury

What is the status of Monarch butterfly populations?

Monarch butterflies, *Danaus plexippus* (family: Nymphalidae), are one of, if not, the most well-known butterflies in North America. There are few children who make it through school without learning the lifecycle of these beautiful and interesting iconic butterflies. There are community science projects and numerous other programs with the goal of monitoring and conserving monarchs. Everyone loves monarchs and rightly so. They have one of the most fascinating lifecycles and migratory behaviors of all insects. In addition, monarch adults provide pollination services and the caterpillars are food for other organisms. Given all of this I think they qualify as a “beneficial” even if the caterpillars make milkweed plants look a little ratty.

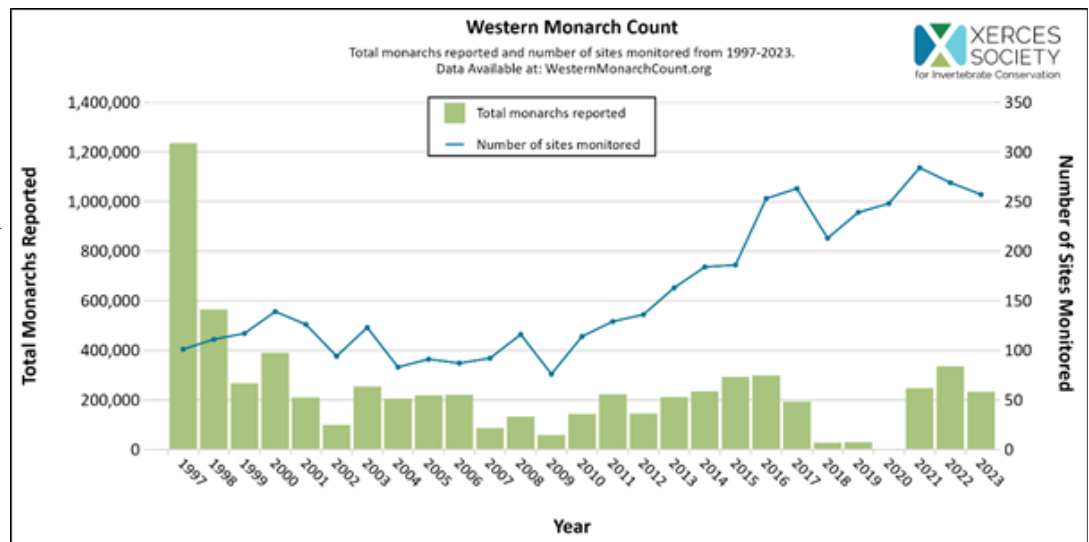
Monarchs have an amazing lifecycle that involves multiple generations and migration across miles. In North America (NA), in general, there are three populations. There is the **eastern NA Monarch population** that overwinters in Mexico,

and in the spring, around mid-March, begins its seasonal migration to the north toward southern Canada traveling a few thousand miles. Monarchs undergo multiple generations during this long journey to Canada. In the late summer–fall months monarchs begin their migration back to their overwintering habitat in the oyamel fir forests in central Mexico. So basically, the adults that return to the overwintering roost in Mexico



The eastern monarch butterfly population in 2024 was only 1/6 of the size needed to be out of the danger zone of migratory collapse.

Photo: BiologicalDiversity.org



Graph of the total abundance estimates of western monarch butterflies with number of sites monitored from 1997-2023 by the Western Monarch Thanksgiving Count.

Photo from Xerces Society

at the end of the season are several generations later than those that began the journey (ex. their great, great,... grand-butterflies). There is also a **western NA Monarch population** (west of the Rockies) that similarly migrates between sites in California and Canada. They [overwinter or roost in coastal regions of California](#), migrate to Canada, and back again to California to overwinter. A few winters ago, in December, I was fortunate enough to visit one of the overwintering roosts of monarch adults in Monterey, CA. A truly amazing site that I recommend you all put on your bucket list to experience. A third, more recently founded population that is non-migratory, is in Florida and Georgia.



Western monarch butterflies cluster on a Eucalyptus tree in Pismo State Beach Monarch Butterfly Grove, California.
Photo: Lisa Damarel, from Xerces.org

You have likely heard discussion regarding monarch butterfly decline – in both the Eastern and Western monarch populations. Scientists studying monarch butterflies implicate several factors that come together to threaten populations of monarchs. Illegal logging of the forests in Mexico has reduced optimal overwintering habitat for monarchs. Weather events associated with climate change also threaten monarchs. In 2002, unusual weather in the mountains of Mexico killed an estimated 75% of monarchs that were overwintering; in 2015-2016, a winter storm killed more than 7%. These weather events killed tens of millions of overwintering monarchs. Within the U.S., Eastern monarchs have lost an estimated 165 million acres of breeding habitat along their migration route northward. Although monarch butterflies feed on nectar from a diversity of flowering plants, monarch caterpillars only eat milkweed foliage. Scientists believe that critical milkweed resources used by caterpillars have been dramatically reduced due to the use of herbicides and genetically modified crops that tolerate direct spraying of herbicides and kill milkweed. Other threats to their populations include habitat fragmentation and destruction, urban development, pesticides, along with other climate change related phenomena.



Research indicated that milkweed planted along the perimeter of butterfly gardens had 2.5-4 times more monarch eggs and larvae.
Research and photo by D. Potter and A. Baker, UK)

What is the status of Monarch butterfly populations now?

The 2023 annual accounts of the **Eastern monarchs** that spend the winter in Mexico showed a 22% decline from 2022 counts. The Eastern monarch populations have declined by around 90% since the mid-1990's. **Western monarchs** overwinter in forested groves on the coast of California. Western monarch overwintering “Thanksgiving” counts were conducted from November 11 through December 3, 2023 with a total count of 233,394 butterflies across 256 sites in California. The 2023 Thanksgiving count was slightly lower than the 2022 counts, but similar to those of 2021 ([Xerces, Jan. 2024](#)). The 2023 Thanksgiving count was followed by a “New Year’s” count (2024) that indicated the highest seasonal decrease on record, likely due to severe winter storms on the west coast. We will have to wait to see what the 2024

Thanksgiving count shows. The Western monarch overwintering population remains at about 5% of what it was in the 1980's. Scientists say that monarchs are at risk of extinction in North America.

What can be done to help monarchs? Globally, efforts to slow (and hopefully stop) climate change, conservation of food resources for adult and larval monarchs, and improvement of habitats for monarchs will help. Actions to influence policy on climate change, pesticide use, and the placement of monarchs on the Endangered Species Act list will also assist monarchs. At a local level, providing habitat with milkweeds for caterpillars and nectar resources for adults should improve monarch reproduction and survival. There are 73 species of milkweed in the U.S., monarch caterpillars use about 30 of these as hosts. Be sure to consult references to learn what milkweed species work well in your geographic region. Here in Maryland, species including common milkweed (*Asclepias syriaca*), swamp milkweed (*Asclepias incarnata*), butterfly weed (*Asclepias tuberosa*), whorled milkweed (*Asclepias verticillata*), and poke milkweed (*Asclepias exaltata*) are good choices. Research has determined that tropical milkweed, *Aesclepias curassavica*, is not a good choice and can actually be detrimental to monarchs. Adult monarchs feed on nectar from a diversity of plants, but not all nectar is created equally. Consult references to learn what plants provide the best nectar for monarch butterflies and their bloom times. Regional references for milkweed plants can be found at this link <https://xerces.org/milkweed> and references for monarch nectar plants can be found at this link <https://xerces.org/monarchs/monarch-nectar-plant-guides>.

Research from the lab of Dan Potter (with student Adam Baker, UKY) shows that garden design is important and suggests [how to build more effective monarch butterfly gardens](#). For example, monarch eggs and larvae were 2.5 to 4 times more abundant in gardens with milkweeds planted around the perimeter as opposed to gardens in which milkweeds were surrounded by or intermixed with the other non-milkweed plants. They also found female monarchs laid significantly more eggs on standalone milkweed plants as opposed to milkweeds that were visually "camouflaged" or physically blocked by adjacent non-milkweed plants. Although planting any milkweed and nectar hosts for monarchs will be helpful, these studies provide guidelines to design gardens that are more effective. Start planning for how to include milkweed and monarch nectar plants in your perennial gardens next spring. We have a critical role to play in conserving these remarkable travelers.

Plant of the Week

By: Ginny Rosenkranz

Liquidambar styraciflua or the American sweetgum is a native herbaceous tree that can reach heights of 60-100 feet tall and spread 40-50 feet wide, thriving in full sun, preferring medium moist well drained soils. Trees grow straight upright and are pyramidal when young, and as they mature the crowns become more rounded, growing into an excellent shade tree. Each star-shaped, glossy green leaf has palmate veins and grows 4-7 inches across with a slight toothed margin. The palmate veins help shape the 5-7 lobes. In the cool night temperatures of autumn, the green leaves give way to bright yellows, oranges, reds and purples. In the spring, sweetgum produces spherical clusters of tiny monoecious bright yellow-green flowers (separate male and female flowers). The female flowers mature into round spiny fruiting heads that grow up to 1.5 inches and are known as gumballs, usually in August to September. Gumballs have many tiny capsules that hold 1 or 2 winged seeds per capsule. The hard gumballs start out green and mature to dark brown, often remaining on the trees through winter, providing fruit for winter songbirds like the American goldfinch, and other small mammals. When the gumballs fall off the trees in spring and scatter the ground around the tree, they should be cleaned up especially if the tree is near a sidewalk or a play area where they can create a safety issue for people walking barefoot or turn their ankle. The bark of sweetgum form deeply furrowed, and in cold climates the twigs will develop corky wing like projections. Mice, rabbits and beavers enjoy the bark in the winter months. Sweetgum trees are cold tolerant in USDA zones, are resistant to heat, drought, deer, rabbits, black walnut, soil compaction, and fire. Sweetgum has a very shallow root system and needs to be planted in the spring so irrigation from spring to late fall should be planned.

We may not be happy with the spiny gumballs, but there are many native insect caterpillars that are happy to call the sweetgum tree their primary source of food, including the imperial moth (*Eacles imperialis*) from April to October and the caterpillars of the hickory horned devil (*Citheronia regalis*) which feed from May to mid-September.

There are no serious diseases or insect problems. Bleeding necrosis, leaf spots and wood rot may occur, and borers, caterpillars, scale and webworms may become a problem. Abiotic problem of chlorosis can occur if the trees are planted in alkaline or high pH soils.



**Fall color and fruit (gumballs) of sweetgum.
Photos: Ginny Rosenkranz, UME**

Degree Days (as of October 16)

Annapolis Naval Academy (KNAK)	4288
Baltimore, MD (KBWI)	4216
College Park (KCGS)	4247
Dulles Airport (KIAD)	4269
Ft. Belvoir, VA (KDA)	4291
Frederick (KFDK)	4141
Gaithersburg (KGAI)	3994
Greater Cumberland Reg (KCBE)	3777
Martinsburg, WV (KMRB)	3548
Millersville (MD026)	4059
Natl Arboretum/Reagan Natl (KDCA)	4786
Perry Hall (C0608)	3878
Salisbury/Ocean City (KSBY)	3975
St. Mary's City (Patuxent NRB KNHK)	4864
Susquehanna State Park (SSQM2)	3971
Westminster (KDMW)	4382

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

December 5, 2024

Tech Day: Focus on Solar
Location: CMREC, Ellicott City

December 12, 2024

2024 Cultivating Innovation in Maryland's Agriculture and Technology Conference
Location: Crowne Plaza, Annapolis, MD ([Program and registration information](#))

Charles County Government is offering a FREE one-day workshop for landscaping companies that maintain stormwater BMPs.

This hands-on training is designed for landscape and green infrastructure professionals who maintain sustainable stormwater Best Management Practices (BMPs) such as rain gardens, bioretention areas, and bioswales.

The workshop includes classroom and field activities, with a certificate of completion from the Chesapeake Bay Landscape Professional Certification program. It's sponsored by Charles County Government, the Chesapeake Bay Trust, the University of Maryland, and the Chesapeake Conservation Landscaping Council.

The workshop is October 22, 2024, at the Fieldside Neighborhood Community Center, 11850 St. Linus Drive, Waldorf, MD, from 9:00 AM-3:00 PM and registration is required. Please see the flyer for registration links and instructions. <https://certified.cblpro.org/product/charles-county-sustainable-stormwater-bmp-management-for-crews-certificate/>

Biocontrol School – In-Person Event

Penn State Extension is hosting an in-person Biocontrol School for anyone interested in learning about biological control and sustainable pest management. The event will take place on **December 5, 2024**, starting at 8:30 a.m. Eastern, at the Farm and Home Center in Lancaster, Pennsylvania.

Speakers from Penn State Extension, BioWorks, Certis, IPM Labs, and Koppert will introduce attendees to various groups of biological control agents (beneficial insects, fungi, etc.). The workshop features a great lineup of experts who will provide valuable background information and practical advice on implementing biological control measures.

For details about the Biocontrol School, including registration, agenda, continuing education credits (CEUs), and more, please visit the event page.

Registration fee: \$85 | **Registration deadline:** November 30

For more information and to register, visit: <https://extension.psu.edu/biocontrol-school>

2025 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 6 - Thursday, January 9, 2025 from 8:00 am – 3:00 pm

Lab dates: Monday, January 6 - Thursday, January 9, 2025 (space limited) from 3:30 pm – 5:30 pm

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

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

Commercial Ornamental IPM Information

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

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