

Commercial Horticulture

October 27, 2023

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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 sgill@umd.edu

Coordinator Weekly IPM Report:

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

Disease Information: Karen Rane (Plant Pathologist), 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)

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Watch Out – Ticks are Active NOW!

By: Stanton Gill

We had the Treasurer of the Chestnut Society bring in a tick on Monday that had lodged into their skin. With the cool then warm fall weather that moved in last week, many people are out walking on forest trails enjoying the fall color. Many hunters are moving into the woods in Maryland this week with the start of black powder hunting and have a high chance of encountering ticks.

The tick that was embedded was the blacklegged tick, also known as the deer tick, *Ixodes scapularis*. At this time of year, people are out working in landscapes, edges of wooded areas and are often gathering leaves or removing storm broken branches. This provides a great opportunity for ticks since they quest on the margins of woods, waiting to latch onto mammals passing by. Ticks cannot



Blacklegged ticks are still active, so check yourself after working outside.

Photo: Sheena O'Donnell, UME

fly or leap. They wait for their host, resting on the tips of tall grasses, weeds, small shrubs or on branches at the edge of wooded areas. The ticks hold their upper pair of legs outreached, called questing, waiting to climb onto passing hosts.

They usually wander about a host, but will settle where fabric constricts on the skin, so look here first for ticks. If you check yourself regularly, you can often feel them moving about on your skin to quickly remove them before they embed in to the skin. Ticks secrete small amounts of saliva with anesthetic properties so you often do not notice the penetration of the mouthparts.

A blacklegged tick will embed, then suck the blood slowly for several days. Lyme disease is a major concern when dealing with the black legged tick. You can recognize this tick from other ticks by the lack of festoons on the upper abdomen edges. Also, the mouthpart is rather narrow and the legs are black in color.

There are many protective measures you can find on the web for dealing with ticks. The big thing is be aware ticks are very active right now and check yourself closely for ticks after wandering around in areas where they are questing.

Black Knot of Prunus Species

By: David Clement and Stanton Gill

A sample of plum was turned in by Steve Arrington this week. The plum branch had hard swollen black galls (tumor-like growths) on the branches. The swelling he detected on plums trees is called black knot which is caused by the fungus, *Apiosporina morbosa*. In early summer, young galls or new areas of growth on the edges of older galls are covered with velvety, olive-green spores. These galls turn black and hard by the end of the summer. Leaves wilt, turn brown and die on branches with galls in trees that are highly susceptible to black knot.

At this time of the year, the only good solution is pruning out the galls. Preventative fungicides such as chlorothalonil or Manzate need to be applied starting early in the growing season to mid-season to prevent future galls from forming.



As the leaves drop from the trees, black knot galls are easy to find.

Photo: Steve Arrington

Beech Leaf Disease Update

By: Karen Rane and David Clement

Maryland Department of Agriculture Forest Pest Management (MDA FPM) specialists have spent the summer surveying sentinel plots and responding to reports of trees showing symptoms of beech leaf disease. This disease, caused by the foliar nematode *Litylenchus crenatae* subsp. *mccannii*, is causing significant dieback, decline and death of landscape and forest beech trees from the Great Lakes region, through Pennsylvania and New York to coastal New England. In early September, the MDA reported on the first confirmation of this disease in Maryland, on a beech tree in Harford County. Since that initial report, MDA FPM has confirmed the disease in 7 additional Maryland counties: Alleghany, Baltimore, Frederick, Washington, Charles, Cecil and Anne Arundel counties.

The characteristic symptom of beech leaf disease (dark stripes between leaf veins (Fig. 1)) may be difficult to see as leaves senesce. Additional symptoms include thickening, curling and distortion of infected leaves (Fig. 2). At this point in the growing season, the nematodes are primarily invading bud tissue, where they overwinter.

You can find more information on beech leaf disease at the following links:

University of Maryland Extension: <https://extension.umd.edu/resource/beechn-leaf-disease>

University of Massachusetts <https://ag.umass.edu/landscape/fact-sheets/beechn-leaf-disease>

To report trees with suspected beech leaf disease, contact MDA Forest Pest Management at 410-841-5922
https://mda.maryland.gov/plants-pests/pages/forest_pest_management.aspx



**Fig. 1. Dark “stripes” on leaves of beech, typical symptoms of Beech Leaf Disease.
Photo: J. Chatfield, Ohio State University Extension**



**Leaf distortion and curling due to beech leaf disease.
Photo: Nick Brazee, University of Massachusetts.**

Arborvitae Top Dieback

Joe Seamone of McCall and Berry Landscape Management sent in photos of a planting of arborvitae showing top dieback symptoms on some of the plants (Fig. 1). There are a number of problems that can cause dieback in arborvitae – abiotic root stress issues, root injury from construction, fungal canker diseases and insect borers are just a few. In this case, a closer look at the trunk of the affected plants revealed the cause for the symptoms – Joe discovered that nylon straps used to support the plants at planting several years ago had not been removed, and were girdling the trunks (Fig. 2). It’s important to examine trees and shrubs closely and thoroughly as part of the diagnostic process.



**Fig. 1. Row of arborvitae showing discoloration and dieback on some of the plants (arrows).
Photo: Joe Seamone, McCall and Berry Landscape Management**



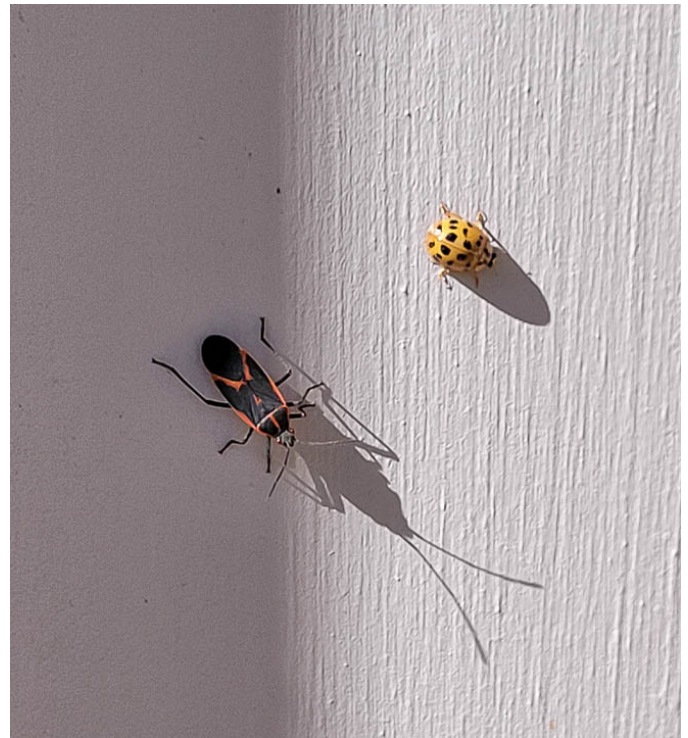
**Fig. 2. Close up of trunks from two of the arborvitae with top dieback, revealing the support straps embedded in and girdling the trunks.
Photos: Joe Seamone, McCall and Berry Landscape Management**

Spotted Lanternfly

Mandi Murray, City of Rockville, reports the following on spotted lanternfly: It is "definitely active in Baltimore County! Female SLF have been very active over the past 2 weeks at my residence in Baltimore County. I was primarily seeing males on my native grape, but have been finding females now as well. I have also noticed them in my 30" DBH Silver Maple over the past two weeks and there appear to be some egg masses. Not sure I can reach the eggs to scrape them off of the tree but any adults are at risk of getting smashed." An area greenhouse grower is reporting that the adults are coming into the greenhouses overnight."

Swarming Insects

With the warm weather, we are receiving reports of swarming and clustering insects this week. Marie Rojas, IPM Scout, is reporting that both boxelder bugs and Asian lady beetles started to congregate on buildings in Beallsville this week. We have also seen swarms of lady beetles here at the research center in Ellicott City this week. Matt Anacker, A&A Tree Experts, forwarded a photo from Brad Nowicki, Bradley Development & Design, Inc. of giant bark aphids, *Longistigma caryae* (Harris). They cluster on tree trunks in warm falls and we have had a warm fall so far. Donna Anderson, Towson University, has a co-worker, Randy Hallameyer, who brought in a photo of an euonymus leafnotcher moth (*Pryeria sinica*) that he said was swarming around *Euonymus japonicus* shrubs in Parkville, MD. The caterpillar is active very early in the season, causing damage in March and April in this area.



**Boxelder bugs are heavily covering siding on a house (left). An adult boxelder bug and a multi-colored lady beetle close-up (right).
Photos: Marie Rojas, IPM Scout**



Giant bark aphids are often found in the fall.
Photo: Brad Nowicki, Bradley Development & Design, Inc.



Donna Anderson, Towson University, forwarded this photo from a co-worker, of an euonymus leafnotcher moth.
Photo: Randy Hallameyer, Towson University



Here is a photo of frost on the lawn on Tuesday morning before the sun melted it. There were cold mornings this week, and some places had frost.
Photo: Ginny Rosenkranz, UME

Survey Request

From: Judy Fulton, Maryland Native Plant Coalition

I am a member of the steering committee for the Maryland Native Plant Coalition. We are conducting a short survey to determine which invasive plant species Marylanders find most problematic. We're asking people from various constituencies around the state to list their top 25 invasive plants. The survey is easy to complete and has over 100 invasive plants from which you can choose, and you can also write in names if we've missed species you'd like to mention.

We are looking to gather information from all parts of our state, as well as from individuals dealing with invasives in places such as natural areas, home gardens, commercial landscapes, and farmland. Please complete the survey by November 3 ([Maryland Invasive Plant Survey](#)). Also, feel free to share it with others.

Thank you for helping us learn more so we can educate Marylanders and better address invasive species issues.

Beneficial of the Week

By: Paula Shrewsbury

Ground beetles provide insect and weed biological control

With the onset of cooler weather, there are greater numbers of ground beetles (family Carabidae) running around landscapes and walkways. In particular, I have seen *Scarites subterraneus* (big-headed ground beetle), a mainly carnivorous ground beetle (predator), is active and being found not only in outdoor environments, but also making their way into homes about this time. I find 3-4 *Scarites* in my basement every week. They are shiny black, about ¾" long, and have large mandibles that look a little intimidating. Fortunately, they are not very aggressive to humans. I have picked up many to bring back outside and have yet to be pinched. In nature, *S. subterraneus* feed on ground dwelling caterpillars (ex. cutworms, armyworms), wireworms, fly larvae, ants, aphids, snails and slugs.

Ground beetles are common and abundant in our landscapes and nurseries in addition to many other managed and natural environments. Ground beetles get their name because most species forage and live at the ground level ([click here to see video](#)). However, there are a few species, such as the fiery hunter beetle (*Calosoma* sp.), that are arboreal. I commonly see fiery hunter up in trees attacking caterpillars, especially cankerworms in the spring and early summer ([click here to see video](#)). Carabids are diverse in their appearance. There are over 40,000 known species world wide of ground beetles. Some species of ground beetles can be quite small as adults at less than 1/8" in size, and others large at over 1.5" in size. Most are shiny black (ex. *S. subterraneus*, *Harpalus pensylvanicus*) or metallic (ex. tiger beetles and fiery hunters) in color and have noticeable ridges or lines on their hard, leathery front wings. Their feeding habits and what food items they feed on are also diverse. Some species of ground beetles are carnivorous feeding mainly on prey (other insects, mites, snails and slugs) such as *S. subterraneus*, and of



Big-headed ground beetle (*Scarites subterraneus*) adults feed on a diversity of other insects, snails, and slugs, and some plant material providing biological control services.

Photo: Frank Roylance

these many are generalists that feed on a diverse range of prey items. Other species of ground beetles are omnivores, which can feed on both prey and plant material (ex. weed seeds). Some species even partake in pollinivory – feeding on pollen – for nutritional resources. Many omnivorous ground beetles are opportunistic and feed on whatever food item is most abundant, but if there is a choice, they often have a preference. Carnivorous and omnivorous species of ground beetles are predators of caterpillars, grubs, other species of beetles, fly maggots and pupae, aphids, weevils, earthworms, [slugs](#), snails and other soft-bodied creatures hanging around the soil. Many species of ground beetles are granivores, which mainly feed on seeds (often weed seeds) but may also eat insects when seeds are not abundant. *Harpalus pensylvanicus* and *Anisodactylus sanctaecrucis* are two common granivorous (seed feeding) ground beetles that occur throughout much of North America. *Anisodactylus* is abundant in the spring and summer; *Harpalus* is active later in the summer and fall. Research has shown that they can be good biological control agents of weeds (ex. lambsquarter, pigweed, foxtail, crabgrass, velvetleaf, and more) (J. Lundgren, 2005. Amer. Entomol).

Because ground beetles are good biological control agents of potential pest insects and weeds, and they have diverse diet preferences, a number of studies have examined methods to enhance ground beetle populations by modifying managed environments to be more favorable for ground beetles – an approach referred to as conservation biological control. Studies have shown that installing “beetle banks” (rows of bunch type grasses between crop rows) in agricultural fields enhances populations of ground beetles, with the grasses providing refuge and overwintering habitat. Production nurseries often install grass allies between plant rows, which should favor ground beetles. Container plant producers can put hard wood mulch over weed cloth beds. Our research has shown that this will increase prey item abundance (ex. collembola breaking down the mulch), provide habitat (nooks and crannies from the mulch) and increase ground beetle activity. It would be hard to go wrong trying to encourage a diverse and abundant population of ground beetles with their potential for providing pest insect and weed suppression. These practices will also increase the abundance and diversity of numerous natural enemies, especially those that are generalist feeders.



Pennsylvania dingy ground beetle, *Harpalus pensylvanicus*, adults are active August and September, consume seeds from weed plants, and provide weed biological control. Photo: M. El Damir, BugWood.org



The fiery hunter, *Calosoma scrutator*, is one of the largest carabid or ground beetles growing to 1.5” long. Their ability to run up trees and large mandibles, make them excellent predators of caterpillars. Photo: M.J. Raupp, UMD

Weed of the Week

By: Mark Townsend, UME-Frederick County

Common groundsel, *Senecio vulgaris* L. is a member of the sunflower family. It has numerous, yellow disk flowers. It is a winter annual, though it may germinate in all seasons. This weed will grow from 4 to 24 inches in height, having deeply lobed leaves that have toothed margins. Upon close examination of the leaves, they can be smooth or hairy, with when present can be long and wavy. Leaves are arranged along the stem in a spiral pattern and deeply scalloped or lobed in the margin. Upper leaves attach directly to the stem without stalks, while lower leaves have short stalks. Stems are smooth. Yellow flowers appear at the end of stems in clusters and can be one half inch in diameter. This plant can flower through most of the growing year. The flower has small bracts at the base of the flower with black tips, which will seem attached to the flower head itself. The seed head (fruit) which appears is very similar in appearance to dandelion, with a white puff ball that is easily distributed by the wind. Seeds can germinate throughout the growing season, but this plant prefers the spring and fall. Seed heads that are pulled but left may produce viable seed. This weed thrives in moist landscapes and lawns, and is a prolific seed producer with seeds that do not require cross-pollination.

Cultural control of common groundsel will include reducing fertilizer placement near the surface of landscape beds, not placing fertilizer on the surface of container grown plants, and growing dense turf. Some biological controls have been researched in California using ragwort flea beetle and cinnabar moth larva with some amount of success. Chemical control of common groundsel is achieved using many pre-emergent products that will include snapshot and Surflan, Snapshot, Rout, and Gallery in the landscape, and in container nursery crops the use of Broadstar and Rout provide control in reducing common groundsel by up to 90%. Timing is very important as this can be a fall germinating weed. Post emergent control can be obtained using glyphosate products. Control in turf settings can be achieved using many broadleaf post-emergent products.



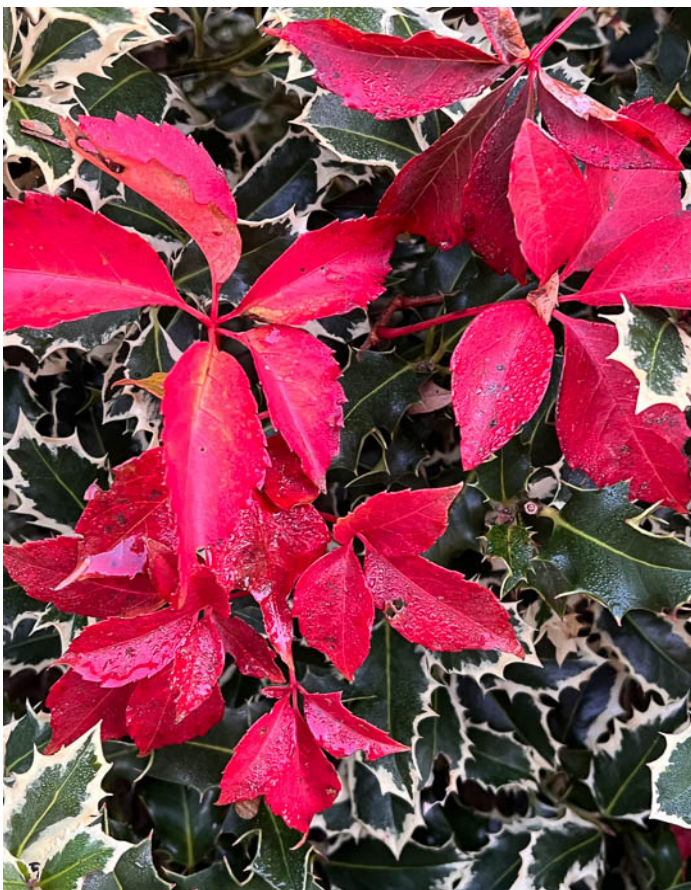
Common groundsel

Photos: Bruce Ackley, The Ohio State University, Bugwood.org

Plant of the Week

By: Ginny Rosenkranz

Parthenocissus quinquefolia is also known as Virginia creeper, a native deciduous woody vine that can be called a weed or a beautiful native vine. The vine prefers to grow in full sun to partial shade and rich moist but well drained soils, but it is also tolerant of many different soil conditions. Full sun will best support the brilliant fall color. Plants can grow 30-50 feet vigorously up almost anything as it needs no support, clinging to bark, wood, brick or stone with sucker disks or holdfasts which are located at the ends of each tendril. The sucker disks adhere to walls or bark of trees without the use of penetrating rootlets, so they do not damage brick or stone buildings or trees. If there is nothing nearby to climb up the Virginia creeper can spread out on the ground 5-10 feet wide creating a light groundcover. Each palmate leaf is made up of 5 leaflets with a toothed margin and a pointed tip. Each leaflet expands up to 6 inches long. The leaf emerges in early spring with green and purple coloring, turning a dull green in summer. When cool nights are followed by warm days, the leaves turn to crimson red or reddish purple, glowing among green plants that don't change color in the autumn. In late spring, small greenish flowers grow in open branched clusters that mature in the autumn into bluish fruit about ¼ inch round. Both the flowers and the fruit are often covered by the foliage and are never noticed until the leaves fall off in the autumn. Native birds feast on the berries in the fall and winter. These lovely native vines can be planted on slopes to control erosion, as a ground cover or as a climber on trellises, arbors, fences and trees. No serious disease or insect pests.



Virginia creeper. *Parthenocissus quinquefolia* var. *englemannii*. showing off its bright fall color.
Photos: Ginny Rosenkranz, UME

Degree Days (as of October 25)

Abingdon (C1620)	3739
Annapolis Naval Academy (KNAK)	4128
Baltimore, MD (KBWI)	4167
College Park (KCGS)	3955
Dulles Airport (KIAD)	4030
Ft. Belvoir, VA (KDA)	3829
Frederick (KFDK)	3819
Gaithersburg (KGAI)	3618
Gambrills (F2488, near Bowie)	3885
Greater Cumberland Reg (KCBE)	3381
Perry Hall (C0608)	3645
Martinsburg, WV (KMRB)	3035
Natl Arboretum/Reagan Natl (KDCA)	4555
Salisbury/Ocean City (KSBY)	4097
St. Mary's City (Patuxent NRB KNHK)	4637
Westminster (KDMW)	4140

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

Pest Predictive Calendar “Predictions”

By: Nancy Harding and Paula Shrewsbury, UMD

In the Maryland area, the accumulated growing degree days (DD) this week range from about **3035 DD** (Martinsburg, WV) to **4637 DD** (St. Mary's City). 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**)

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

Advanced Fruit Class for Landscapers With Customers With Fruit Trees

By: Stanton Gill

There is an increasing number of landscapers reporting that their customers want fruit plantings installed into their landscapes. Which cultivars do you select with the greatest disease and insect tolerance, which understock do you chose for different fruit trees, how do you prune, stake and train the fruit planting for maximum production are all common questions I get during the season. A 2-credit class is being offered during a mini-semester, at night from 5:30 – 9:30, via Zoom and Blackboard through Montgomery College. The class is Advanced Fruit Production with IPM emphasis It starts in mid-December of 2023 and ends the 3rd week in January 2024 with evening classes on Tuesdays and Thursdays. There will be 4 Saturday lab sessions covering pruning and training systems with hands-on lab sessions in the field.

You can sign up by going to the Montgomery College, Germantown campus web-site and look under the winter min-semester courses. The class is listed under HORT listing of classes. The class is listed on their website simply as “Fruit Production”. [How To Apply and Register | Montgomery College, Maryland](#). After you do, you should get an email from college giving you a student ID number. Once you have done that - relatively easy to sign you up. If you have any problems contact me at Sgill@umd.edu.

Conferences: Go to the [IPMnet Conference Page](#) for links and details on these programs.

December 8, 2023

Advanced IPM Conference

Location: Carroll Community College, Westminster, MD

December 12, 2023

Maryland Turfgrass Council Conference and Tradeshow

Location: Turf Valley Country Club, Ellicott City, MD

December 20, 2023 (morning only)

Turf Nutrient Management Session

Location: CMREC, Ellicott City, MD

2024 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 8 - Thursday, January 11, 2024 from 8:00 am – 3:00 pm

Lab dates: Monday, January 8 - Thursday, January 11, 2024 (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

January 10-12, 2024

MANTS

Location: Baltimore Convention Center

January 16 and 17, 2024 (date change from earlier)

Maryland Arborists' Association Conference

Location: Howard Community College, Columbia, MD

January 26, 2024

FALCAN Conference

Location: Frederick Community College, Frederick, MD

February 8, 2024

25th Anniversary - Manor View Farm & The Perennial Farm Education Seminar

Location: Valley Mansion, Cockeysville MD

Speakers: John Stanley (Green Industry International Business Consultant), Vinnie Simone (Planting Fields Arboretum, NY), Janet Draper (Smithsonian Gardens) & Stanton Gill (UMD Extension)

Registration information available soon.

February 14, 2024

Eastern Shore Pest Management Conference

Location: Wicomico Civic Center, Salisbury, MD

Information and Registration: <https://www.eventbrite.com/e/2024-eastern-shore-pest-management-conference-tickets-726283502507?aff=oddttdtcreator>

February 15 and 16, 2024

Chesapeake Green Horticulture Conference

Location: Maritime Institute, Linthicum Heights, MD

February 29 and March 1, 2024

Biological Control Conference for Greenhouses, Nurseries, and Landscapes

Location: Central Maryland Research and Education Center, Ellicott City, MD

Commercial Ornamental IPM Information

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

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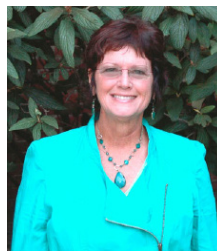
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