

Commercial Horticulture

September 13, 2024

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Beneficial of the Week:

Tachinid flies

Weed of the Week: Goldenrod and mare's tail ID

Plant of the Week: *Panicum virgatum* (switchgrass)

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 sgill@umd.edu

Coordinator Weekly IPM Report:

Stanton Gill, Extension Specialist, IPM and Entomology for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 410-868-9400 (cell)

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)

Improving Your Diagnostic Skills in Disease and Insect IPM

Bring your disease and insect damaged plants to the IPM diagnostic session on September 25, 2024 from 1:00 – 3:00 p.m. This will be held in the Central Maryland Research and Education Center at 4240 Folly Quarter Road, Ellicott City, MD.

David Clement, Karen Rane (retired), and Stanton Gill, of the University of Maryland Extension will help guide you through the major insect and disease diagnostic process using the new Entomology and Pathology lab.

Bring samples from your nursery, greenhouse, or customers' landscape to this hands-on session.

This session offers 4 credits for Maryland pesticide recertification for Categories 3A, 3B, 3C, and PVT.

Go to our [IPMnet Conferences page](#) for a link for information and to register.

Please Note:

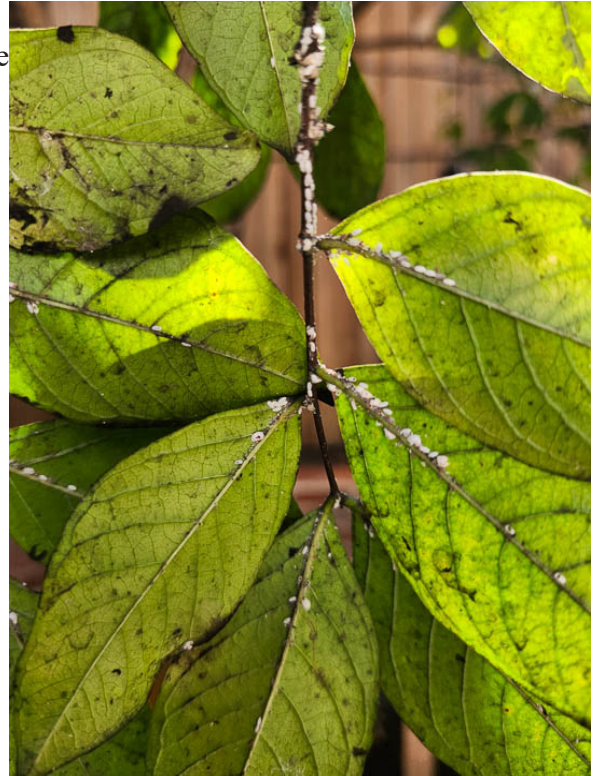
**There will not be a report next week on
September 20, 2024.**

Video: Crapemyrtle Bark Scale and Predators

Sheena O'Donnell and Christa Carignan, UME, produced a short video on CBMS and some of its predators. You can view it at <https://youtu.be/eQzrVFoM6EY?feature=shared>.

Crapemyrtle Bark Scale

Sam Fisher, Bartlett Tree Experts, found a very heavy infestation of crapemyrtle bark scale in Washington D.C. this week. This scale produces large amounts of honeydew on which sooty mold grows making plants unattractive in the landscape. We are still studying the life cycle of this scale in Maryland. It is important to monitor plants closely at this time of year to see if crawlers are still active. If present, crawlers can be treated with Talus or Distance.



Crapemyrtle bark scale can reach high levels. Look for predators to determine if treatment is necessary.

Photo: Sam Fisher, Bartlett Tree Experts

Arborvitae Problems Feedback

By: Stanton Gill

Starker Wright of Burkholder Plant Health Care PA sent in a comment last week. In the email, he said that back in 2021 their company submitted a sample from dying arborvitae to Penn State entomologist, Dr. Michael Skvarla. The beetle was identified as the bark beetle, *Phloeosinus canadensis*. Skvarla noted though this genus of beetle is generally not aggressive, they will damage stressed or weakened trees. They are reported to enter the bark of dying, weakened plants or trees with broken limbs.

I contacted Michael Skvarla via email and he suggested this beetle found in PA is probably not a beetle we would find in Maryland. Here is what he suggests: "As far as I can tell, it's the first record of this species in Pennsylvania and the southern-most record of the species to date (see ranges at [GBIF](#) and [BarkBeetles.info](#)). So it's not a species I'd jump to for declining arborvitae further south in MD or VA. If the trees are in the Appalachians, then that might make more sense as there will be cooler temperatures at higher elevations. Another species you might consider is camphor shoot borer (*Cnestus mutilatus*). In 2021, Starker sent me some hemlock and arborvitae samples from the same locality that had them. It was rather surprising since I usually see them in deciduous trees and [BarkBeetles.info](#) doesn't list any conifers as hosts. It doesn't seem to be a regular occurrence."

If you remove a freshly dying arborvitae and find small beetles in the tissue, you can place them in alcohol in a pill bottle and get samples to us at the CMREC lab. We will get these identified to see if this beetle is involved with the great number of dying arborvitae.

Spruce Spider Mites

By: Stanton Gill

With the cool weather showing up last week, spruce spider activity has increased on spruce, junipers, and Leyland cypress. A 2% horticultural oil can be applied to all but blue spruce to control these mites.



Spruce spider mite and eggs.
Photo: Ward Strong, BC Ministry of
Forests, Bugwood.org



Spruce spider damage on hemlock.
Photo: Suzanne Klick, UME

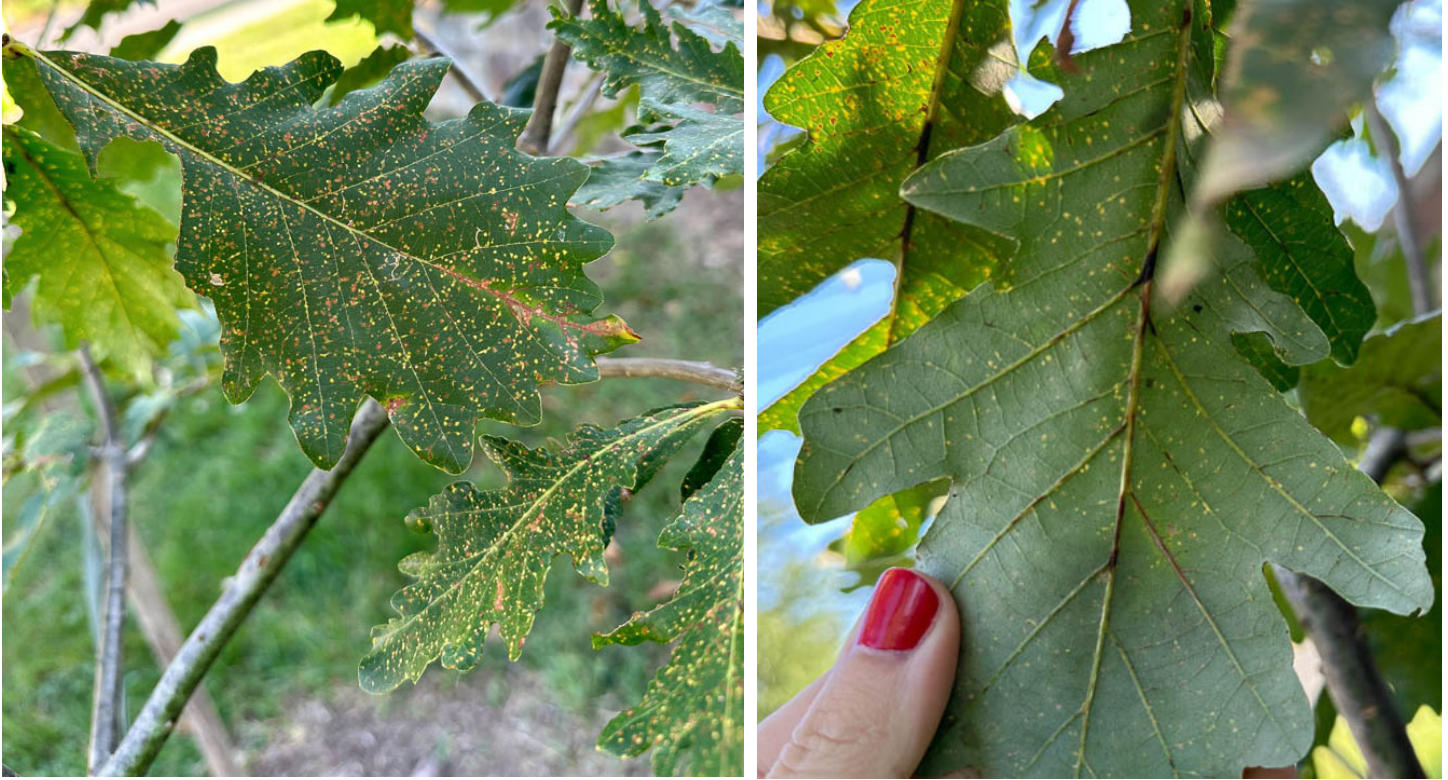
October 16, 2024 Cut Flower Program

Location: CMREC, 4240 Folly Quarter Road, Ellicott City, MD 21042

Go to our [IPMnet Conferences page](#) for a link for
information and to register.

Oak Phylloxera

Kaitlyn Camp, Casey Trees, found oak phylloxera on a *Quercus bicolor* in Washington DC. on September 9. Oak phylloxera are aphid-like insects that have sucking mouthparts. They cause round spots that start out yellow and turn brown. These yellow and brown spots will be on both the upper and lower sides of the leaves. Although unsightly, control is not necessary. There are various predators such as lacewings and lady beetles that feed on this insect.



Oak phylloxera damage is visible on the upper and lower leaf surfaces.
Photos: Kaitlyn Camp, Casey Trees

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/>

Beneficial of the Week

By: Paula Shrewsbury

Lots of tachinid flies buzzing around... and that's a good thing

This time of year, there is usually a lot of activity by parasitic tachinid flies. Tachinid flies are true flies (Diptera) in the family Tachinidae. There are over 1,500 known species of tachinid flies and they can vary in size (3 - 20 mm; 1/12 – 4/5 of an inch) and color (black, grey, and orange). In general, most tachinid flies are robust and have stout hairs on their head and body. At first glance, some species look similar to the common housefly (except for the stout hairs) but they are very different insects. Although there are other flies that are also parasitoids, Tachinid flies are one of the most important families of parasitic flies providing biological control of numerous insects that are pests in ornamental, turfgrass, agricultural, and natural systems. Tachinids are parasitoids of many caterpillars, sawfly larvae, beetle adults and larvae, earwigs, grasshoppers, and some true bugs. We know that tachinid eggs are not uncommon to find on (eggs; see image) or in (larvae) Japanese beetle adults. The feather-legged tachinid fly (see image) is known to attack brown marmorated stink bug. Although it kills the stink bug, the tachinid unfortunately does not successfully develop in this exotic bug. Unfortunately, some tachinid fly species attack monarch caterpillars. The white-faced tachinid fly is relatively common, just over 14 mm (½”), has a white face, red eyes, and stout black bristles sticking out of its reddish-black abdomen (see image). Adult white-faced flies, like most tachinids, feed on nectar from flowers. They lay their eggs on the underside of a caterpillar host. The egg hatches and the larvae burrow into the caterpillar, consuming the insides and killing it. They parasitize caterpillars such as fall armyworm, tent caterpillars, fall webworms, cutworms, corn earworm, tomato fruit worm, giant leopard moth or giant wooly bear, and Angus's Datana.



A white-faced fly (*Archytas metallicus*, Tachinidae) feeding on the floral resources provided by wingstem (*Verbesina alternifolia*) flower, is also known to feed on a diversity of flower species. This demonstrates that “if you grow the right plants, natural enemies will come”. Note the bristly hairs on the abdomen that are characteristic of tachinid fly adults.

Photo by S. Bahr, UMD

Tachinid flies have interesting and variable egg laying strategies. In some species, eggs are laid on foliage near a host insect, the eggs are consumed, unknowingly, by the herbivorous host insect when it feeds on the foliage, then the maggots hatch inside the host insect where it feeds, killing the insect. Some species lay eggs in soil if their host is a soil insect like white grubs. In other species, tachinid females have long ovipositors that they use to pierce the skin of the host insect and insert her eggs into the host's body. In yet other species, the adult tachinid glues her eggs somewhere on the outside body of the host, eggs hatch, and the maggots penetrate through the insect's cuticle into its body where it then consumes the inside of the insect and kills it. This strategy is the most common strategy we see for tachinids, for example with Japanese beetle adults (see the image). [Click here to see a video on Tachinid flies](#). When monitoring for pest insects and damage, we should always look for signs of natural enemies, which includes the white eggs (<1mm; 0.04”) of tachinids attached to the outside of an insect's body.

Regardless of the egg laying strategy, all tachinid flies are internal parasitoids of their hosts as larva and they exit the host body to pupate. If you ever see a Japanese beetle adult that looks like its abdomen has been “blown out”, it was likely killed by a tachinid fly. Tachinids can have one to multiple generations a year. Some tachinid species have been introduced in classical biological control programs to control exotic pest species such as Japanese beetles. At this time, there are no commercially available Tachinids for use in augmentative biological control. Adult tachinid flies have sponging-lapping mouthparts that they use to feed on sweet liquid such as nectar from flowers and honeydew from aphids and soft scales. This adult food resource (nectar) suggests conservation biological control efforts to build tachinid populations can be used. In our studies on the use of flowering plant conservation strips to conserve beneficial arthropods, we frequently observe tachinid fly adult activity on flowers. Keep working towards conserving natural enemies to help the beneficial insects suppress pest insects.



Feather-legged tachinid fly adult. This tachinid species usually attacks true bugs (Hemiptera: Heteroptera), including squash bugs, leaf-footed bugs, plant bugs, shield-backed bugs, and stink bugs. Note the orange abdomen, large yellow-orange halteres (pair of structures in place of hind wings of true flies), and the feather-like hairs on their back legs.
Photo: Aaron Schusteff; BugGuide.net



Note the white tachinid fly eggs glued to the beetle's pronotum (section behind the head) by an adult tachinid female. Eggs will hatch and larvae will burrow into the Japanese beetle and feed on its insides resulting in its death.
Photo: V.J. Hickey, BugGuide.net

Weed of the Week

By: Chuck Schuster, UME (Retired)

A question was asked recently - how does one determine the difference between Marestalk (Photo 1), sometimes called horseweed, or Canada fleabane and goldenrod (Photo 2). Marestalk, *Conyza canadensis*, and goldenrod *Solidago spp*, can appear to be very similar. Some factors can help us distinguish the two apart. One quick method is to look at the leaves of the plant in question. Horseweed leaves will present with the widest area near the tip starting narrow and getting larger (Photo 3), while goldenrod leaves will be found being widest near the base or middle of the leaf getting narrower from the base of the leaf.

Marestalk is an annual and will have a taproot, while goldenrod is a perennial and will produce a diffuse root system sometimes with an underground rhizome. Carefully pull a plant out of the soil and look to determine if there is a taproot. Goldenrod can grow to heights of up to 6 feet as can marestalk. Goldenrod has green stems. Goldenrod leaves will not be divided. Goldenrod is not the source of most allergy issues. Goldenrod has nectar and attracts pollinators that will gather the heavy pollen grains. Goldenrod is often used in cut flower arrangements. Goldenrod is tolerant to many different soil conditions.

A single marestail plant can produce well over 200,000 seeds annually, which are disturbed between August and October. The seed is smaller than dandelion, and can travel up to three-quarters of a mile. Prevention becomes difficult when surrounding areas allow it to go to seed. Marestail will tolerate many different soil conditions, wet, dry, compacted, but is not shade tolerant. Marestail has demonstrated resistance to glyphosate and ALS herbicides in some areas. Goldenrod is a perennial that is most common in abandoned hayfields. It is well-controlled by systemic broadleaf herbicides, especially synthetic auxins (Group 4) applied in the fall. Frequent mowing of hayfields will favor grasses over goldenrod.

Fertility management in turf to promote thick turf and proper mowing helps keep this weed under control. Marestail will respond to pH management keeping the soil in the desired range for most cool season turf. It prefers a lower pH. Dicamba, Dimension and 2,4-D are all very effective in turf settings. Be mindful to the issues with herbicides that have volatilization related issues. In landscape beds, post-emergent non-selective herbicides (glyphosate) Prizefighter (Ammonium Nonanoate) can be effective if used when the plant is small and actively growing. Resistance to glyphosate has been noted in many regions in the US including in Maryland. Use the maximum label rate to prevent resistance when possible. Other options for control of this weed in landscape and nursery settings will include pre-emergent use of dichlobenil (casoron), oxyfluorfen and oryzalin (Rout) and Sureguard have shown good control. Applications can be made in early August to prevent this plant from even starting out. Use of broadleaf weed post emergent materials including 2,4-D have provided adequate control for turf settings, especially when used early in the season when the plant is actively growing and the leaf tissue is soft to aid in chemical uptake. Goldenrod is grown as a cut flower and is used to provide pollinator habitat in the later part of summer.



Photo 1: Marestail
Photo: Chuck Schuster,
UME-Retired



Photo 2: Goldenrod attracts pollinators.
Photo: Chuck Schuster, UME-Retired

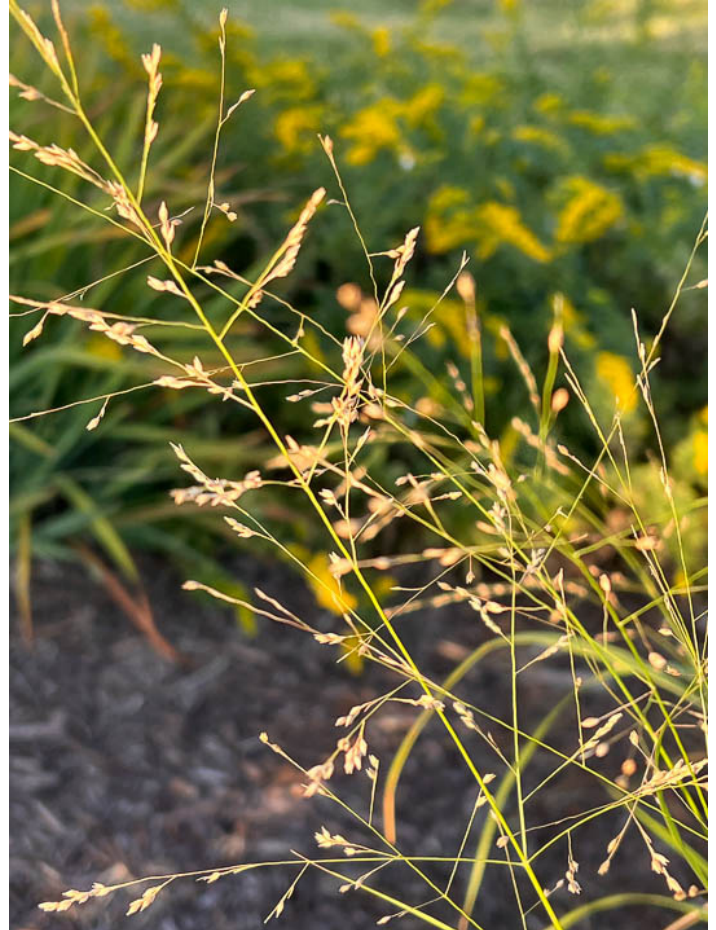


Photo 3: Marestail leaf with widest area near the tip.
Photo: Chuck Schuster, UME-Retired

Plant of the Week

By: Ginny Rosenkranz

Panicum virgatum or switchgrass is a native warm season prairie grass that prefers to grow in medium to wet soils in full sun. Like many native grasses, switchgrass is very tolerant of a wide range of soils, from dry to moist, sandy to clay soils. Over fertilization will cause such rapid growth that the plants will flop over. Switchgrass is a clump forming grass that can spread slowly by creeping rhizomes and grows and maintains an upright vertical shape all year long. Plants grow 3-6 feet tall in clumps 2-3 feet wide with medium green leaves that mature to orange tints in the autumn, then fades to tan in the winter. The narrow leaves have a visible midrib and a bluish cast over the green. Each leaf has a small patch of white hairs where the leaves are attached to the stiff stems. Plants bloom from July into February, with the flower panicles growing up to 6 feet tall. The flower panicles are light and airy, like a soft cloud, starting out with tear dropped shaped seeds that start out with pink tints and turn a soft tan as the seeds mature in the autumn. The seeds persist over the winter, providing winter food for native songbirds and small mammals. As a warm season grass, the clumps should be left alone all winter and trimmed back to the soil in early spring. During the summer growing season, Switchgrass is a host for various skipper butterflies and *Cercyonis pegala* or the common wood-nymph. Plants are cold tolerant in USDA zones 5-9, and are resistant to deer browsing, drought, dry soil, pollution, salt and wet soils and help prevent soil erosion. There are no serious disease or insect pests for this lovely native grass. It can be planted in containers in small gardens, in butterfly, children's, native, pollinator, winter and rain gardens. As an upright plant it can be used as an accent plant, in a mass planting for a screen or privacy hedge, or as a border planting.



The seeds of *Panicum virgatum* (switchgrass) provide winter food for songbirds and small mammals.
Photos: Ginny Rosenkranz, UME

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 **3078 DD** (Martinsburg) to **4147 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.

Degree Days (as of September 11)

Annapolis Naval Academy (KNAK)	3680
Baltimore, MD (KBWI)	3698
College Park (KCGS)	3674
Dulles Airport (KIAD)	3706
Ft. Belvoir, VA (KDA)	3702
Frederick (KFDK)	3615
Gaithersburg (KGAI)	3419
Greater Cumberland Reg (KCBE)	3306
Martinsburg, WV (KMRB)	3078
Millersville (MD026)	3499
Natl Arboretum/Reagan Natl (KDCA)	4116
Perry Hall (C0608)	3364
Salisbury/Ocean City (KSBY)	3407
St. Mary’s City (Patuxent NRB KNHK)	4147
Susquehanna State Park (SSQM2)	3426
Westminster (KDMW)	3804

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

Operator Certification (FTC) for Writing Nursery Nutrient Management Plans for Nurseries, Greenhouses and Controlled Environments

Thursday, October 3rd, 2024,

9:30 AM to 3:30 PM

Location: Wye Research and Education Center, 124 Wye Narrows Drive, Queenstown, MD 21658

Nursery Operator Certification (FTC) for writing nursery nutrient management plans will be offered to growers who are interested in attaining Farmer Training Certification for writing nutrient management plans. This training program will assist you in writing a nutrient management plan for your nursery or greenhouse operation, or controlled environment. You must write a nursery nutrient management plan if you are an agricultural business and gross \$2,500 or more per year in sales. With this certification, you will be able to sign-off and submit your own plan and annual implementation reports.

This program consists of a Training Day and an Exam/Signoff Day. This training day, **Thursday, October 3rd 2024**, will consist of learning the plan-writing process. After the training day, you will have about 5 weeks, during which time you will study the Nursery Nutrient Management Training Manual and develop your plan. The Exam/Signoff Day will be at a location and on a date **“to be announced”**. This date will also be for reviewing your newly developed plan (or renewing your old plan). You must write a plan for Maryland Dept of Agriculture (MDA) to become certified.

The process is relatively simple for small (or low-risk) operations, so if your operation size is less than 5 acres, we would strongly encourage you to think about becoming a certified operator. If your operation is larger than 5 acres or you run a controlled environment, we would still encourage you to become a certified operator, even though the nutrient management process may be a little more complicated. For nutrient management consultants who wish to learn more about the process for developing nutrient management plans for greenhouses and container crop production, this workshop will offer 6 hours of CEUs.

The cost for this program is **\$40.00** and includes program costs (including lunch) and the MDA exam fee (\$20). For consultants not taking the exam, the cost is \$20. Payment will be required at the beginning of the program. A check can be made out to ***University of Maryland***. A receipt will be available.

If you wish to register, please do so before **September 26th, 2024** by emailing Dr. Andrew Ristvey (aristvey@umd.edu). Add your business name and phone contact number. If you have questions, please email or call me at 410- 827-8056 x113. If you need any accommodations for this program, please contact me by **September 19th**.

Wye Research and Education Center is located on the Eastern Shore of Maryland, about 20 minutes from the Bay Bridge. A map to WyeREC can be found [here](#). Note the circled area on the map; we will be at the WyeREC Office and Lab location. At present, this is scheduled to be an in-person meeting. Face masks are not required, but you are welcome to wear one. We will be learning in a large room and we will be adequately spaced. WyeREC is located in Q.A. County and is subject to local/county health department guidelines. Should we receive word of updates, all registered attendees will receive a link to an online virtual program. We will start at 9:30am, promptly.

University programs, activities, and facilities are available to all without regard to race, color, sex, gender identity or expression, sexual orientation, marital status, age, national origin, political affiliation, physical or mental disability, religion, protected veteran status, genetic information, personal appearance, or any other legally protected class

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

Conferences

September 18, 2024

Urban Tree Summit (Casey Trees and Montgomery Parks)

Location: Silver Spring Civic Center. To register please visit [Urban Tree Summit](#) or <https://urbantreesummit.org/>

September 25, 2024 (12:30 p.m. to 3:00 p.m.)

[IPM Scouts' Diagnostic Session](#)

Location: CMREC, Ellicott City

September 25, 2024

MAA & MOSH Present: Eastern Shore Day of Safety and Health

University of Maryland Eastern Shore, Princess Anne, MD

<https://www.eventbrite.com/e/eastern-shore-event-maa-mosh-present-days-of-safety-health-tickets-997952892967>

October 2, 2024

2024 Truck & Trailer Safety Seminar - Hosted by FALCAN

Urbana Fire Hall, Urbana, MD

<https://truckandtrailer24.eventbrite.com>

October 9, 2024

MNLGA Retail Day

Location: Homestead Gardens, Davidsonville, MD

October 16, 2024

[Cut Flower Program](#)

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

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](#))

Commercial Ornamental IPM Information
<http://extension.umd.edu/ipm>

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