UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **March 17, 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:
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: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)
Weed of the Week: Chuck Schuster (Retired Extension Educator) and Kelly Nichols (Extension Educator, Montgomery County)
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)

2023 IPM Reports

By: Stanton Gill

We are back online with the weekly IPM Alerts starting today. We look forward to seeing your emails with reports of insect, disease and cultural problems that we can share with readership. Our team of authors is ready to go for 2023.

Rewind on Early Spring

By: Stanton Gill

February and early March may have been mild, but the forecast for the rest of March is cool to darn right cold weather. In the movie called “Ground Hog Day”, the main character was condemned to live over Ground Hog Day until he got it right. This may be happening in 2023 where it looks like spring and then we get to redo it over again and again.

Many early flowering deciduous magnolias have flower petals that look like brown tissue paper from the cold nights. This is mainly on the Eastern Shore and metro areas of Central Maryland where it has been warmer than other areas. Last weekend's cold creamed the flowers rapidly. We expect to see a lot of plant samples coming in with cold injury on the newly emerging growth.

You can probably take the snow plow equipment off your trucks and stockpile all of that ice-melt you bought last fall.

Fairy Rings

By: Fereshteh Shahoveisi, Turfgrass Pathologist, University of Maryland

Fairy rings can affect turfgrass throughout the year in Maryland. This year, I noticed the symptoms in Mid-February in Prince George's County (fairway height turfgrass) and early March in Howard County (home lawn).

Fairy ring type II symptoms on the golf course fairway height turfgrass and home lawns. Photo: By: Fereshteh Shahoveisi, Turfgrass Pathologist, University of Maryland

Cause and Symptoms: The disease is caused by a variety of fungal species that live in soil and decompose organic matter. These fungi release nutrients as they break down organic matter, and this can create circular patterns of lush green grass or mushrooms on the surface (type II and III). The rings or arcs themselves are often several feet in diameter, and they can appear as a series of smaller rings within a larger ring. The fungi that cause fairy rings can create a barrier to water and nutrients, causing the grass in the center of the ring to become thin and dry. In severe cases, the grass may die completely, leaving a barren patch in the center of the ring. There are three types of fairy rings: Type I fairy rings are typically caused by a hydrophobic layer produced by the fungus and appear as a ring of dead turf. Type II fairy ring symptoms occur due to the release of nutrients into the soil by the fungi and it appears as a ring or arc of lush growth of turf. In type III, mushrooms can be seen in circles or arcs. Type III is more likely to occur after heavy rains and prolonged wet durations.

Control: Understanding the different types of fairy ring symptoms can help to take a targeted approach to management. In general, improving soil drainage, using soil surfactants, and aeration is helpful for type I fairy ring management. Aerating the soil with a garden fork or aerator can help to alleviate compaction and improve soil structure while adding organic matter such as compost can provide additional nutrients to the soil. Moderate levels of fertilization can be helpful with type II as it masks the symptoms. Removal of the mushrooms and replacement of the soil can also help to manage fairy rings; however, it does not eradicate the disease. Chemical applications are not normally required for the management of fairy rings in home lawns but several effective fungicides are available which could be used as the last resort.

Boxwood Leafminer Control Failure Summary

By: Stanton Gill

Well, I received 4 emails reporting boxwood leafminer where there was a lack of adequate control from 2022 applications. Three of the four situations reported with poor results were imidacloprid applied as a soil drench at the highest soil rate. One reported poor results with imidacloprid as the high rate applied as a foliar application. One phone call came in from an arborist who also sprayed imidacloprid at the highest label rate in September, with the poorest result he has seen in several years. He reported it working in past years. One email reported that acephate was applied as a foliar spray in September and the results were poor.

Hemlock Woolly Adelgid

By: Stanton Gill

Kevin Nickle, Scientific Plant Service, sent in this picture on March 6 of hemlock woolly adelgid. Females are producing white wax that will cover eggs which will be laid very soon. We expect to see an early crawler period with the warm February and March weather.

The systemic containing imidacloprid works well on this invasive species pest. If you have a smaller hemlock, you can cover foliage with 2- 3% horticultural oil, which would be another option for control.

Female hemlock woolly adelgids produce white wax to cover the eggs. Photo: Kevin Nickle, Scientific Plant Service

Indian Wax Scale on Hemlock

On March 9, a Blades of Green service manager found Indian wax scale on a hemlock in Annapolis. Also look for this large white scale on holly, Japanese maple, winterberry, pyracantha, and camellia.

Control: Systemic insecticides applied to the soil should give good control. If you plan to use insect growth regulators such as distance or Talus, wait until crawlers are active in mid-June to July.

Look for crawlers of Indian wax scale in June. Photo: Blades of Green

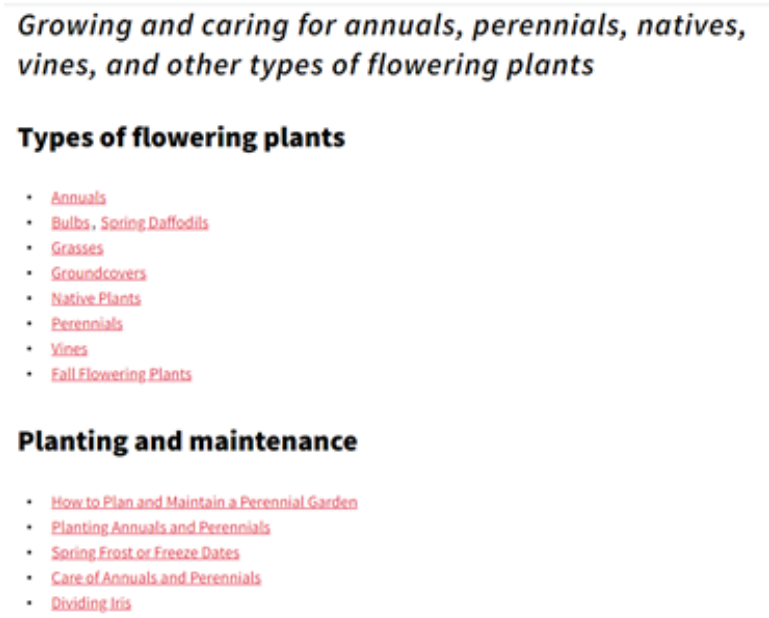
Plant Diagnostic Services at the University of Maryland

By: Karen Rane and Dave Clement.

It's the beginning of the growing season, and a good time to review the options for plant problem diagnosis assistance from the University of Maryland. There are two entities for help with plant problems.

For Homeowners and Master Gardener Clientele:

The Home and Garden Information Center (HGIC) is a web-based resource that provides information on growing ornamentals and vegetables for home gardeners and Master Gardener clientele. Information is presented in broad categories such as Yard and Landscape and Food Gardening, with subcategories on specific plants and gardening topics. In addition, there is an "Ask Extension" section https://extension.umd.edu/programs/environment-natural-resources/program-areas/home-and-garden-information-center/ask-extension on the HGIC home page that allows gardeners to upload photos and descriptions of plant problems. HGIC staff examine these inquiries every day, and send answers to clients via email, usually within 24-48 hours.



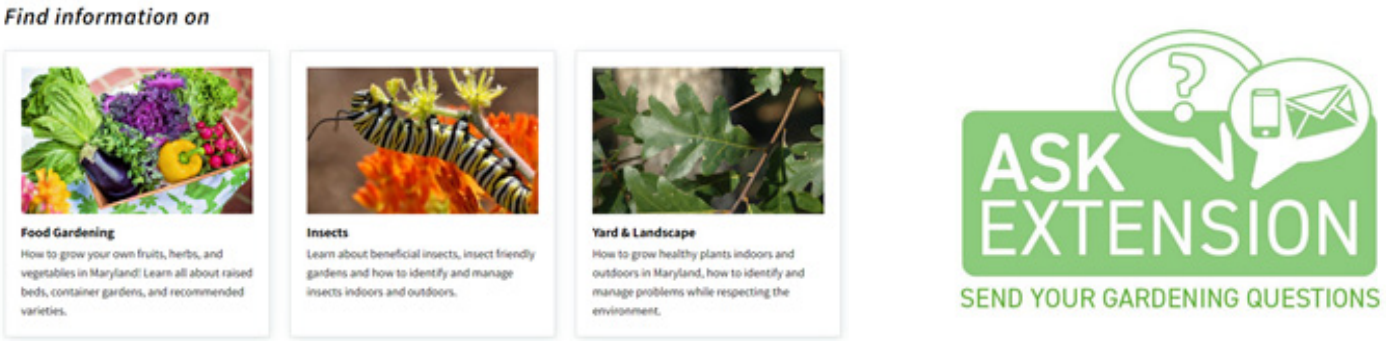


Figure 1. Screen shots from the UMD Home and Garden Information Center website showing broad categories and sub-headings where the general public can find gardening information.

For Commercial Clientele (including Extension educators, Growers, and Green Industry Practitioners

The University of Maryland Plant Diagnostic Laboratory (UMDPDL) focuses on plant problem diagnostics for commercial clientele such as Extension educators, growers and green industry practitioners in Maryland and throughout the Mid-Atlantic region. The lab is located on the main UMD campus at College Park, MD. Diagnosticians collaborate with campus specialists in plant pathology, entomology and horticulture to identify pests, diseases and cultural/environmental stress factors on plant samples from all commercial commodities (agronomic crops, fruits, vegetables as well as ornamentals). More information on sample collection as well as the sample submission form can be found at the UMDPDL website.

Figure 2. Examples of good sample packaging for samples sent to the UMDPDL. Entire plants, with the roots and soil enclosed in a plastic bag fastened at the base of the stem, are the best samples for diagnosing plant problems. Plants should be packaged securely and sent in a crush-proof container with completed submission form enclosed separately from the plant samples.
Photos: G. Ruhl, Purdue Univ.

Insect Diagnostics and Nutrient Problems

By: Stanton Gill and Andrew Ristvey

For **commercial horticulture operations,** you can submit insect samples to the CMREC lab (Central Maryland Research and Education Center) at 11975 Homewood Road, Ellicott City, MD 21042, A**ttn: Stanton Gill**. You can submit electronic, clear, in focus and close-up pictures to Sgill@umd.edu. For **commercial horticulturist with suspected nutrient or water issues** submit samples to WYEREC, Wye Research and Education Center, 124 Wye Narrows Drive, Queenstown, MD 21658, **Attn: Andrew Ristvey**. Contact Andrew at ristvey@umd.edu to inquire what electronic pictures or sampling needs to be done for an accurate diagnosis.

New Apple Cultivar Releases

By: Stanton Gill

Cornell University and their Experiment Station has been releasing new apple cultivars for the last 80 years. This year, they are releasing 3 new cultivars that could work in well in your customers home orchards. One has excellent disease resistant to Apple scab and the others have what Cornell breeder describe as “crunch, complexity and a new twist on an American classic”.

‘Cordera’ is the one with the best resistance to apple scab and to add to this excellent flavor. I ordered 10 of the next one for my orchard and I love the name: ‘**Firecracke**r’. This apple ripens in mid-October. I ordered mine on Geneva 41 understock, so they will need staking to keep the trunk straight. It was listed as NY109 while in the development and evaluation stage. I got a chance to taste test this one and this cultivar is perfect for eating, baking, and cider-making. Firecracker has a partial russet skin, with a nice red color overlying a yellow and it has a unique combination of acidity and sweetness that produces really complex and evolving flavors. Disease resistance is very good with this new release. It is almost as aromatic as another cultivar I grow called ‘LudaCrisp’ which came out of the Mid-Atlantic Apple Association breeding program.

‘Pink Luster’, is the third one that Cornell released to the market this year**.** This cultivar was 23 years in the development and evaluation stage. It ripens in mid-September and should be a good choice for an early apple. It looks a little like ‘Pink Lady’ apple but has a distinct mild tart flavor and very smooth enjoyable skin texture.

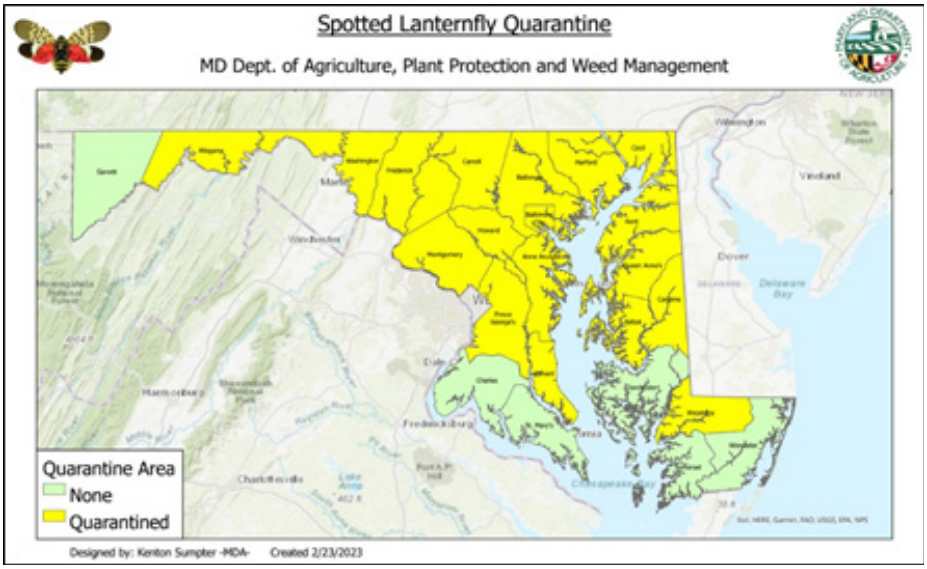
Aiding in these new varieties' ability to catch on is that all three are an “open-release” to orchards across the country, meaning growers can dive right in without any licensing exclusivity.

Spotted Lanternfly Update

By: Paula Shrewsbury, UMD

The 2023 season is underway and it is time to continue the updates on spotted lanternfly (SLF), *Lycorma delicatula* (Hemiptera: Fulgoridae). Hopefully, between Stanton Gill, myself, and all of you we can keep each other informed on relevant SLF information. There are two topics I want to bring up at this time. One is the expansion of the SLF quarantine in Maryland, and the other is targeting egg masses for control now.

Last week, the Maryland Department of Agriculture announced the **expansion of the SLF quarantine** within the state from 10 counties to 17 counties, as well as Baltimore City. SLF quarantine counties include: Allegany, Anne Arundel, Baltimore, Calvert, Caroline, Carroll, Cecil, Frederick, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, Talbot, Washington and Wicomico, and Baltimore City. See the most recent MDA SLF Quarantine map. The quarantine restricts the movement of regulated articles that might contain the spotted lanternfly in any of its life stages (egg masses, nymphs, and adults). Some examples of regulated articles include plants, plant boxes, pallets, vehicles, and landscaping, remodeling and construction materials or waste. Businesses, municipalities, and government agencies that move of any regulated item within or from the quarantine zone must have a specialized permit. Stanton will speak more on this topic next week. In the meantime, if you want more detailed information go to: https://news.maryland.gov/mda/press-release/2023/03/06/maryland-department-of-agriculture-expands-spotted-lanternfly-quarantine-zone/ and https://extension.psu.edu/slf-permit-training-md.



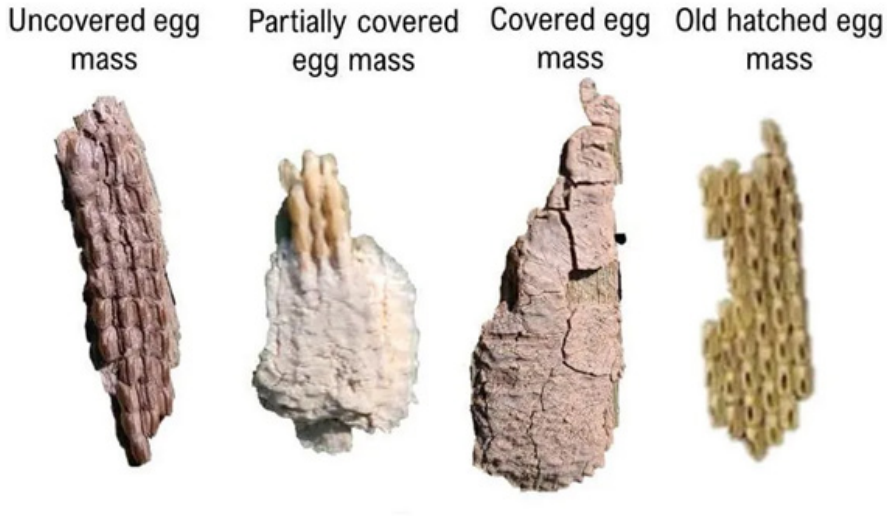
Recently revised Maryland Department of Agriculture spotted lanternfly quarantine map. (from https://mda.maryland.gov/Documents/SLF%20Quarantine%202023.pdf)

SLF overwinter as eggs and at this time of year egg masses are the only stage you will see. Eggs of SLF are reported to hatch around 270 DD, which is usually around late April / early May. So be sure to be monitoring for egg hatch at this time. Until then, **now is a great opportunity to target the egg masses to help reduce SLF populations.** Egg masses are covered with a gray-brown substance, flat, and laid on many surfaces, most commonly trees but also structures, stone, wood, and other locations in the landscape and nursery (see images). On trees, egg masses are usually laid on the underside of tree branches, where abundant numbers of egg masses can be found on numerous branches. Note many egg masses will be above easy reach. Below is what I wrote last fall about targeting overwintering SLF egg masses for control and should be a useful review.

Target SLF egg masses during the dormant season. An additional management tactic to put in your SLF management plan during the dormant season is to **target the overwintering egg masses**. Physical removal by scraping the egg masses off their substrate will provide the highest rate of mortality (all the eggs you remove die). Unfortunately, research has found that less than 2 percent of egg masses laid on trees are at a reachable height. Research conducted in Greg Krawczyk's lab (Penn State Extension) evaluated a number of insecticides and their ovicidal action against SLF eggs (2018 to 2022). Although many synthetic insecticides were evaluated, they found that the most effective products were oils (ex. horticultural oil). All studies were done on intact egg masses (with covering) (see image) between February and April. Greg and his colleagues found: "*When oils*

were applied at a solution of at least 3 percent, they were effective in killing up to 75 percent of treated eggs. One of the most important parts to getting effective control is to ***make sure you have good coverage and apply the oil solution directly to the egg masses****. The only plant-based oil, soybean oil, had similar control of SLF egg masses when applied at a 50% concentration. Oils, when applied at the correct time and with good coverage, can offer some control of egg masses and have very little non-target effects. The use of oils provides not only a safe, environmentally friendly option but also provides control to some egg masses that are not accessible for physical removal or smashing. However, for egg masses that are within a reachable area, smashing or scraping the egg masses will provide greater efficacy than the ovicides currently available*" (from What should you do with SLF egg masses?). As always when using dormant oils, follow the label instructions.

To learn more about what can be done with SLF **egg masses** (overwintering stage) to suppress SLF populations, review the Penn State Extension article "What should you do with spotted lanternfly egg masses?" This includes information on physical tactics and chemical (ovicidal) options.



Variations in spotted lanternfly egg masses including color (yellow, gray, brown) and their covering.
Photo: Heather Leach, Penn State Extension

Spotted lanternfly egg masses on a red maple in a residential landscape in Washington County MD.
Photo: Josh Warner, Antietam Tree and Turf

Beneficial of the Week

By: Paula Shrewsbury

It's planting time: Select plants to provide season long food resources for pollinators and natural enemies as you design your landscapes and nurseries!

Plants provide resources in the form of nectar and pollen for beneficial insects such as pollinators and omnivorous natural enemies, in addition to alternate prey for natural enemies. Numerous studies have shown that more diverse plantings (higher plant species richness and greater vegetation complexity) provide a greater diversity of resources and therefore support a greater abundance and diversity of beneficial insects. Research has also documented that many beneficial insects are in decline and their overall diversity and abundance are at risk, along with the ecosystem services they provide (ex. biological control, pollination). One of the simpler ways to mitigate ongoing declines in beneficial insects is to incorporate plants that provide floral resources (nectar and pollen) and alternate prey that will attract and sustain beneficials. Green industry professionals and the public in general should know which plants provide resources that help to conserve beneficial insects. Knowledge on and implementation of these practices can be used to improve profits and quality of life. For example, trees, shrubs, and flowering plants can be marketed at higher prices for their added benefit of supporting beneficial insects. Secondly, you can be stewards of the environment by recommending and installing plants and/or designing landscapes that favor pollinators and/or natural enemies. Conservation practices also help to retain ecosystem services provided by insects such as pollination and biological control. "Natural" biological control helps reduce pest outbreaks and reduces economic and environmental costs (less pesticides are needed) associated with the management of landscapes and nurseries.

One thing to remember is that not all plants are created equal in the nutritional value of their nectar and pollen. Over the past 20 plus years, numerous research studies have been conducted evaluating the attractiveness and nutritional value of woody and herbaceous ornamental plants, both native and non-native, to pollinators and natural enemies. There are several good research-based resources as to which plants are best at conserving pollinators and/or natural enemies. At the end of this article I provide a list of these resources and their web links. This is definitely not an inclusive list but these are some of the sources I have found to be useful.

In addition to choosing the appropriate plant species for conserving pollinators and natural enemies, there are several other factors to consider. For example, plants should be selected so at least a few species of plants are in bloom at any time throughout the entire season. Most challenging are plants that bloom very early in the season (some trees fulfill this niche) or very late in the season. For example, the solitary "tube nesting" mason bees become active around the middle to end of March in MD. These early season solitary bees have been seen foraging on maples (*Acer* spp.), witch hazel (*Hamamelis x intermedia* 'Arnold Promise'), and Oregon grape (*Mahonia aquifolium*) to name just a few early blooming plants. Also, a clump or cluster of the same

***Silphium perfoliatum* flowers support a diversity of insect fauna (Lepidoptera, Hymenoptera spp.). Note that almost every flower head has at least one insect on it!**
Photo: P.M. Shrewsbury, UMD

flower species are more attractive than isolated plants. Flowers should vary in their floral architecture as big flowers (ex. Compositae) will attract different insects than small flowers (ex. Umbelliferae). Diversity is good!

Since lack of optimal floral resources are only one of several factors that negatively influence pollinator and natural enemy health, also keep in mind other measures to reduce detrimental impacts on beneficials. Practicing IPM, including implementing management tactics other than pesticides, or selecting pesticides that have been shown through research to have less detrimental impacts on beneficials, are all part of the "strategy" to protect pollinators, natural enemies, and biodiversity to create resilient and sustainable landscapes and nurseries.

Syrphid fly (predator) adult on a Shasta daisy flower feeding on nectar and pollen. Syrphid fly females require pollen to produce eggs. Photo: P.M. Shrewsbury, UMD

Below are web-based resources on flowering trees, shrubs, and herbaceous plants that have been shown through research to provide optimal floral resources for pollinators and/or natural enemies (note this is not an inclusive list), in addition to other recommendations to conserve and protect beneficials while managing key pest insects (ex. pesticide selection, timing of application, formulation):

Highbush blueberry, *Vaccinium corymbosum*, provides early season floral resources for beneficials and you get the benefit of yummy fruit.
Image from: New England Fruits: *Vaccinium corymbosum*. By Arthur Haines

- Multistate bulletin on *Protecting and enhancing pollinators in urban landscapes for the U.S. North Central Region*

http://msue.anr.msu.edu/resources/how_to_protect_and_increase_pollinators_in_your_landscape

- The Xerces Society: Conservation of diverse arthropods (ex. pollinators, monarch butterflies, natural enemies)

http://www.xerces.org/

- Xerces Society – List of *Pollinator-Friendly Plants – Mid-Atlantic Region* at:

http://www.xerces.org/pollinator-conservation/plant-lists/

- Native plants attractive to natural enemies and pollinators (Michigan State University)

http://nativeplants.msu.edu/
http://nativeplants.msu.edu/resources/publications

Weed of the Week

By: Chuck Schuster, Extension Educator, Retired

As soil temperatures slowly creep upwards into the 40 °F range consistently, work to prevent the Japanese stiltgrass needs to have already begun. Getting a jump on crabgrass, Japanese stiltgrass only requires a 50° F soil temperature to germinate. Some areas of Maryland are already seeing emerged Japanese stiltgrass. Unfortunately, even with temperature drops to below freezing, this plant will, after germination, continue to grow.

Japanese stiltgrass is a real challenge for turf managers, especially those without appropriate tools to be used. Japanese stiltgrass, *Microstegium vimineum*, is a native of Asia, and first appearing in the U.S. in 1919, spreading rapidly throughout the eastern U.S. It is a shade tolerant, requiring as little as 5% available light. It is a summer annual, and is most often found in moist, shady environments. It thrives as an understory plant, but will also move into the full sun and compete with desired turf species. It can be found in forests, turf, ornamental beds, ditches and damp fields.

Note the white midrib on the Japanese stiltgrass leaves
Photos: Chuck Schuster

Pulling up a clump of Japanese stiltgrass one will find a fibrous root system, stems which are erect or reclining and it will root at stem nodes. This rooting at nodes helps it spread prolifically. The leaves are up to four (4) inches in overall length and one half (.5) inches in width and will present with a white mid vein which divides the leaf into unequal halves. It will present with silver hairs down midrib of the leaf blade. The seed head has 1 to 6 terminal spike branches. A prolific seed producer, each plant will produce up to 1,000 seeds annually. Pre-emergent herbicide applications for larger areas are the recommended method of control. The seeds will germinate in March to early April in the average year, which **is *before*** crabgrass. Flowering occurs in September to early October in this region. Prevention of seed production is the first line of defense in the control of Japanese stiltgrass for the following year, which is very difficult as it will seed at very low mowing heights. Some professionals have tried mowing it somewhat high prior to flower formation, then mowing it very short. This may have actually prevented the production of seed in some areas. Remember that each plant can produce up to 1,000 seeds annually. Seeds can remain viable in the soil for up to three years. Wildlife are only marginally interested in this species as a source of food, but help spread it. The sticky, tiny seeds can be spread into other areas on the fur and hooves of animals (deer), by water, shoes, and clothes.

Mowing may be used to limit the spread and development of this weed. It must be kept short from the beginning of the season, this prevents seed head formation. This though is the opposite of what we desire for the desired species of turf in most commercially managed lawns. Chemical control can be accomplished with the use of properly applied preemergence herbicides. Pre-emergent control of Japanese stiltgrass needs to be started very early in the season. One research trail looked at three applications of prodiamine starting in December, with a second application in March and the last application in May. This provided the best control seeing about 83% control as compared to no treatment at all. A single March application was a close second in control with 81%. Remember the early germination of this weed, before crabgrass, and note the rainfall during this period is necessary to activate these products. Control options are similar to that of crabgrass, start early. All pre-emergent products require moisture to activate. Acclaim Extra (Fenoxaprop) has been used successfully as a

post emergence herbicide in turf with Envoy being used in turf and selected ornamental beds. When using post emergent products, air temperatures above 65 °F have been found to provide the best environment for success. Use caution when using Envoy, as it has restrictions because of sensitivity of some ornamentals. Prizefighter (Ammonium Nonanoate) has been tested and is effective in spot spraying of landscape beds. Glyphosate products may be used for spot spraying in landscape beds, remember to use caution as this product will damage ornamentals that come in contact with this product.

Mowing after the start of flowering will not be effective, once flowering occurs seed production happens quickly. Once seeds mature the plant will complete its lifecycle and die.

Plant of the Week

By: Ginny Rosenkranz

Star magnolia is an early season blooming tree, which can be a problem when there is a cold snap after flowers open Photos: Ginny Rosenkranz, UME

Magnolia stellata or star magnolia is one of the first magnolias to bloom in the early spring. This small tree can grow 20 feet wide and tall, with elegant, smooth gray bark. The buds are covered with a soft dense fuzz that in winter is very decorative. The lightly fragrant flowers open in a soft pink, then as the 12- 25 tepals expand, they might be pink or white on the back and white on the inside of each tepal. Depending on the cultivar, the tepals will continue to lengthen, becoming strap like, sometimes wavy, then spread open and often relax into a droop. Because the flowers open so early in the spring, they are often victims of the cold winter blasts, turning the tepals brown to black, looking like toasted marshmallows. The flowers are always in bloom before the foliage emerges, creating a delicate lace that covers the inter tree for weeks. As spring warms up the alternately placed oval leaves emerge, expanding 2-4 inches long. The leaves are dark green above and light green on the underside. Cold hardy in USDA zones 4-9, this magnolia thrives in full sun with organically rich, well-drained soils. There are numerous cultivars that have darker pink buds or pure white buds, some are more fragrant and some have more tepals than others. Star magnolias can be grown as a shrub or as a tree, left to branch from the ground or limbed up to create a graceful tree. Flowers that have their sepals and petals fused into one structure is called a tepal, and star magnolias and tulips have tepals, not petals. *Magnolia stellata* is mostly disease and insect pest free with only an occasional scale.

Degree Days (as of March 15)

Abingdon (C1620)	24	Annapolis Naval Academy (KNAK)	49
Baltimore, MD (KBWI)	74	College Park (KCGS)	65
Dulles Airport (KIAD)	70	Ft. Belvoir, VA (KDA)	65
Frederick (KFDK)	42	Gaithersburg (KGAI)	53
Gambrils (F2488, near Bowie)	70	Greater Cumberland Reg (KCBE)	32
Perry Hall (C0608)	26	Martinsburg, WV (KMRB)	25
Natl Arboretum/Reagan Natl (KDCA)	93	Salisbury/Ocean City (KSBY)	88
St. Mary's City (Patuxent NRB KNHK)	130	Westminster (KDMW)	70

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 calculatorThresholds 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 **24 DD** (Abingdon) to **130 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.

Euonymus leaf-notcher caterpillar – egg hatch **(37 DD)**
White pine weevil – adult first activity **(84 DD)**
Eastern tent caterpillar – egg hatch **(86 DD)**
Boxwood spider mite – egg hatch **(141 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.

Conferences

Go to the IPMnet Conference Page for links and details on these programs.

36TH ANNUAL LAHR NATIVE PLANTS SYMPOSIUM
Saturday, March 25, 2023, 9:30 a.m.–3:45 p.m.
Native Plants: From the Wild to the Garden
Location: Administration Building Auditorium, U.S. National Arboretum
Reserve your spot now! $100 (FONA members $80)
View the full program here.

May 10, 2023
MAA Arborist Walk
Contact: Danielle Bauer Farace

June 16, 2023
Montgomery County Procrastinator's Conference
Location: Montgomery County Extension Office

June 20, 2023
Cut Flower Program
Location: Castlebridge Farm, Ellicott City, MD

IPM Report Indexes for 2022

The subject indexes (left column on the web page) for the 2022 Landscape and Nursery IPM reports are now updated.

Commercial Ornamental IPM Information
extension.umd.edu/ipm

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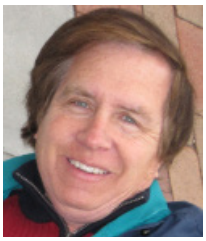

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