UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report
for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **April 3, 2020**

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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 sklick@umd.edu

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Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)
Weed of the Week: Chuck Schuster (Retired Extension Educator)
Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)
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Assassin Bugs

Heather Zindash, IPM Scout, found a wheel bug (an assassin bug) egg mass at site in Poolesville. These bugs are general predators and have multiple generations per season.

Look for wheel bugs to hatch in late April into early May
Photo: Heather Zindash, IPM Scout

May 22, 2020 Beneficial of the Week Excerpt by Paula Shrewsbury:
One of the more common assassins is the wheel bug, *Arilus cristatus*. This particular assassin bug gets its common name, wheel bug, because of the spoke bearing, wheel-like structure on its pronotum (section behind the head) on the adult. They are large bugs with adults reaching 1- 1.5". Wheel bug adults and immatures are generalist predators that feed on a diversity of insects such as caterpillars, planthoppers, sawfly larvae, aphids, and beetles. Last autumn, female wheel bugs were laying clusters of 10-40 eggs on the bark of trees. Now that winter is over and the warm weather is here the eggs will be hatching and you should see numerous red and black nymphs on the bark of trees and moving onto the

stems and foliage. Nymphs and then adults are active through most of the growing season helping to control pest insect populations. If you see these red and black nymphs on your trees, consider yourself lucky. With their voracious appetite and knife-like beak they will help keep some of the plant feeding insects from reaching damaging levels. Other common assassin bugs include those in the genera *Zelus* or *Pselliopus*. If you come across one of these assassin bugs, watch it carefully and you may see it "assassinate" its lunch.

Pine Bark Adelgid

Heather Zindash, IPM Scout, found pine bark adelgid, on a dwarf white pine while scouting a shrub that was showing internal/old needle drop in D.C.. This adelgid overwinters as nymphs on the bark of its hosts. Pine bark adelgid has several generations per year.

Monitoring: Visually monitor the bark and larger branches of pines for fluffy white wax. It often starts at the base of needles. Black wingless adults will be within the wax along with yellow eggs. When populations are high, trunks of trees can be almost covered with white wax. Trees can generally tolerate relatively high levels of this pest. They are sucking insects so they remove plant sap.

Control: Pine bark adelgids are often kept at low populations by a number of different generalist predators (flower fly larvae, lady beetles). Horticultural oil can be applied now or at most times of the year to reduce populations of adelgids. The horticultural oil should help conserve the natural enemies to help prevent adelgid populations from returning to high levels. Wait for egg hatch if you decide to apply a chemical.

Pine bark adelgids overwinter as nymphs on bark
Photo: Heather Zindash, IPM Scout

This pine bark adelgid nymph is active under the white fluffy wax. Also look for predatory flies underneath the wax.
Photo: Heather Zindash, IPM Scout

Boxwood Psyllid

Heather Zindash, IPM Scout, found the white waxy coating of boxwood psyllids on boxwood shrubs in Washington D.C.. In Maryland, we usually get reports of psyllid activity in early May. Look for boxwood psyllid nymphs feeding on terminal growth of boxwood in a few weeks. The boxwood psyllid causes tip growth to cup and curl. Look for a white, waxy material that the psyllids produce within the cupped leaves. Damage is rarely significant enough to warrant treatment. Materials such as Avid, Endeavor, Altus, or Acephate should all control this insect.

Boxwood psyllid nymphs produce white fluffy wax on the tips of boxwood plants
Photo: Heather Zindash, IPM Scout

Gymnosporangium Rusts Again: Cedar Quince Rust

By: Karen Rane and Rachel Ross

As we wrote in the March 20 edition of the Landscape IPM alert, Gymnosporangium rusts are active now on their evergreen hosts. This time, we feature the telial structures of cedar-quince rust (*Gymnosporangium clavipes*), which are not quite as obvious as the large, round galls of cedar apple rust. Cedar quince rust produces orange spore masses on twigs and branches of the Juniperus host (such as eastern red cedar, common juniper and others). In the off-season, these areas look like roughened patches of bark, but in the spring, an orange ooze emerges from the cracks, containing spores that are spread to broadleaf rosaceous hosts (in this case, hawthorn, quince, serviceberry and aronia) through wind and rainsplash. The fungus infects twigs and developing fruit of the rosaceous host, causing twig dieback and fruit infection, with fungal structures developing in mid- to -late summer. Spores (aeciospores) from those structures then infect Juniperus species, completing the cycle.

Telial gall of cedar-quince rust on juniper. Photo: R. Ross

Pruning cankered stems and branches on junipers may help to reduce inoculum in the immediate area but spores can travel long distances, so this does not eliminate the disease entirely. It is difficult to manage this disease with fungicides in the landscape – spore production from the juniper galls can last for several weeks, requiring repeated applications to protect the rosaceous in the spring and early summer. For more detailed information on this rust disease, check out these references:

Univ. of Massachusetts fact sheet: https://ag.umass.edu/landscape/fact-sheets/cedar-quince-rust
Virginia Tech fact sheet: https://www.ppws.vt.edu/extension/plant-disease-clinic/disease-advisory/201505-Gymnosporangium_Rusts.html
Missouri Botanical Garden fact sheet: http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/pests-and-problems/diseases/rusts/cedar-quince-rust.aspx

Ambrosia Beetle Update

By: Stanton Gill

My alcohol traps did not pull anything at the end of this week. Marie Rojas, IPM Scout, found one in a trap in Montgomery County. Brian Dahl, Pope Farm, found 12 beetles in his trap since Wednesday. The beetles from both of these locations have not been identified yet. The cool and windy weather appears to be keeping flight down for ambrosia beetles.

We are using Lindgren funnel traps with alcohol lures to monitor for ambrosia beetles

Preventing Damage from Cherry Shot Hole this Year

By: David Clement

After landscape cherries have flowered, they become susceptible to foliar diseases that will cause premature leaf defoliation later this season. The common foliar diseases on cherries are collectively called "shot hole diseases" because of the "holes" left behind after the infected leaf tissue falls out. This is a "catch-all" symptomatic phrase and the two pathogens that commonly cause these symptoms are bacterial leaf spot caused by the bacterium, *Xanthomonas pruni*, and cherry leaf spot caused by the fungus, *Blumeriella jaapii*.

Foliage of cherries infected with shot hole disease
Photos: David Clement

Symptoms

Foliar symptoms begin as brown or reddish-brown leaf spots (see top right photo). Both diseases are favored by wet weather (we tend to have wet springs) and infected leaves will turn yellow and drop from the trees in mid-summer if infection is severe. These diseases will also continue to infect leaves throughout the growing season if rainy weather persists.

Management

- Remove older heavily damaged or poorly growing trees.
- Try to adjust tree spacing and use proper pruning to allow better air circulation to promote faster leaf drying.
- Remove and dispose of fallen leaves in the fall to reduce overwintering pathogens.
- On high value trees or trees with a history of severe fungal leaf spot disease the use of fungicides may help. But, fungicides will not work if the leaf spot is caused by the bacterium, *Xanthomonas pruni*. Be aware however, that these treatments will only provide preventative disease management or slow down the rate of disease development and will not cure already infected leaves. In most cases trees recover from these diseases and no treatment is necessary. If you decide you want to treat the tree contact a licensed arborist.
- Spraying has to start as the new leaves are expanding and continue while rainy periods persist. A practical approach might be to apply two sprays, just as leaves are expanding and again when new leaves have reached full size. This approach will reduce the amount of disease and could give extended control in typical years.

Landscape and In-Ground Nursery Spring Nitrogen Recommendations

By: Andrew Ristvey

Last fall, I wrote up some recommendations for fall fertilization of landscape trees. Now six months later, it's time to think about spring fertilization. There is some information about recommendations for specific species for nursery production in the science literature, but in general, plants have been lumped into feeding categories like heavy feeders, medium feeders, and light feeders. This categorization was primarily based on their observed growth rate. Fertility goals or management is also commonly based on objectives like maximizing growth (in nursery production or recently established in landscape) or for maintaining acceptable aesthetic levels in mature landscape plantings. In my opinion, the most efficient and environmentally sound method for fertilization is based on soil tests (for nutrients other than nitrogen), leaf tissue analyses, and the fertility goal.

Not only should we be concerned with soil-nutrient content, but soil properties, both physical and chemical. Obviously pH is the most important factor when considering nutrient availability. Another important factor is

the soil's potential fertility, especially regarding cation exchange capacity and buffering capacity (to resist pH change). Often these capacities are due to the physical characteristics of the soil including texture class and structure. We cannot forget about the biological aspects of the soil. Micro-organisms are essential in nutrient cycling. However, in a cultivated nursery production zone, where soil is often disturbed, biological and other soil-health factors (like structure) may not have as large of an effect on plant growth as they do with less disturbed soil in a mature landscape. Many other contributing factors have not been fully studied, like soil type or geographic location. For instance, large textured soils (sandy to sandy loams), slow release or split application fertilizers are recommended to reduce leaching loss.

There is not a large amount of research on landscape and in-ground shade tree nursery fertility, but the most recent recommendations available all agree that spring fertility is important for good healthy growth. Nitrogen (N) applied in the spring is found to go mostly to growing tissue and some to storage. Nitrogen is the principle nutrient of growth and drives yield. All other nutrient application should be adjusted according to the amount of N applied. This includes what nutrients are already in the soil and available, and whatever needs to be added to bring nutrient levels to optimum availability.

For nursery production, past recommendations for fertilizing trees was based on area, i.e. application of between 2 to 4 lb of actual N per 1000 sq/ft. Newer guidelines from Ted Bilderback at NC State, suggested fertilizing on a per plant basis except for field preparation at a broadcast rate of 50 lb N per acre along with any nutrients required, as indicated from the soils test. The following growing season after planting, apply 0.25 to 0.5 oz N per plant, placed as a side dress within the root zone. The same amount can be used for fall fertilization if needed the first year. The rate is doubled the second year, but in split applications, two-thirds being applied initially and the last third before the end of June. The third full growing season and afterwards, double the rate again to 1.0 to 2.0 oz N per plant in split applications. Use the high end of the range for vigorous species and cultivars and the lower end of the range for slower growing ones.

In the landscape, new tree or shrub plantings should not receive fertilizer since these plants should have been well fertilized while in production. The focus is establishing roots which do not grow well if exposed to a lot of N. In this case irrigation is the primary requirement for quick establishment. For newly established shrubs, each should receive 0.25 to 0.5 oz N and afterwards when mature, 0.25 oz N. For newly established small trees, apply 0.5 to 0.75 oz N and 0.5 oz for mature maintenance. For newly established large trees, 2.0 to 4.0 oz N around the root zone and 2.0 to 3.0 oz thereafter. Rates can be adjusted if visual N deficiency occurs or tissue tests dictate. Mills and Jones (1997) Plant Analysis Handbook II, has leaf tissue nutrient ranges for a large variety of landscape plants.

Form of N can have an effect on soil pH. Nitrate-based fertilizers increase soil pH and ammonium based fertilizers reduce pH. Urea initially increases pH then drops it, resulting in a little to no acidification depending on soil type. Organic matter (OM) in the soil also contributes to N availability. If your landscape soil has over 3.1% OM, a reduction of up to 2/3 of the recommended N rate can be made.

Nitrogen application recommendations summary based on fertility goals.

Nursery	**N rate**	**Method**
Pre plant	50 lb N per acre	Broadcast
Planting	---	Per plant
Fall fertility (if needed)	0.25 to 0.5 oz	per plant
1st Spring	0.25 to 0.5 oz	per plant
2nd Spring	0.5 to 1.0 oz	per plant/split application
3rd and subsequent	1.0 to 2.0 oz	per plant/split application

Landscape shrubs	**N rate**	**Method**
Newly planted	----	---
Newly established to 2nd year	0.25 oz – 0.5 oz	per plant
Established	0.25 oz	per plant

Landscape Trees (small)	**N rate**	**Method**
Newly planted	---	---
Newly established to 2nd year spring	0.5 to 0.75 oz	per plant
Established	0.5 oz	per plant

Landscape Trees (large)	**N rate**	**Method**
Newly planted	---	---
Newly established to 2nd year spring	3.0 to 4.0 oz	per 100 sq/ft root zone
Established	2.0 to 3.0 oz	per 100 sq/ft root zone

Phosphorus (P) fertility will depend on the soils test, therefore your fertilizer will also. Accurate P recommendations are complex. Ideally, optimal P availability is around 50 to 100 ppm (Mehlich 3 extraction). Studies have shown that little to no P needs to be added to the soil if tests are above 75 ppm P. Even though there are no state regulations for landscape fertilization, being careful of nutrient application is wise. If you have any questions, feel free to email me aristvey@umd.edu.

Fern Scale on Liriope

By: Rachel Ross and Stanton Gill

Yellow spotting is occurring now on liriope. These yellow spots are associated with feeding of the fern scale (*Pinnaspis aspidistrae*). Feeding may also result in stunted growth and leaf drop. Pruning of top growth is ineffective in eradicating this scale as females tend to burrow within the crown of the plant. Crawlers emerge along with the new shoots. Systemic insecticides such as Altus, dinotefuran, and acephate (Orthene) have shown to be effective. This scale is typically introduced through plant materials shipped from southern states. Thorough inspection of any plants shipped from the south will help to avoid introduction.

Figure 1. Yellow spots on liriope leaves. Photo: R. Ross, UMD

Figure 2. Fern scale on liriope associated with chlorotic spots. Photo: R. Ross, UMD

Allium Leafminer Active and Spreading in Maryland

By: Jerry Brust, UME

Onions, leeks and garlic are early season garden crops that many homeowners like to have in their garden. Unfortunately, there is a new pest of these early season crops, the allium leafminer, *Phytomyza gymnostoma*. Adult flies will be active in Maryland for the next 4-6 weeks. This pest was first observed in Maryland in Cecil County in 2017 and then in Baltimore County last year, but now the fly's tell-tale marks of small round white dots in a row have been found by a sharped-eyed onion grower in Prince George's County. This pest was originally found in Lancaster County Pennsylvania in December 2015. Unfortunately, it is my guess that the pest is now probably in many northern/central areas of Maryland.

New transplants or seedings of onions or leeks should be watched closely for the tell-tale signs of the fly's damage which are made by the female's ovipositor. When eggs hatch the larvae at first mine leaves and then move down to the bulbs and leaf sheathes where they feed and eventually pupate. At this time pupae undergo a summer aestivation and only emerge again in late September. Penn State has a great deal of good information about the new pest which can be found at: Penn State Allium Leafminer Pest Alert page. Growers should look for these tell-tale signs on any newly planted Allium species, but especially on leeks. You can cover any Allium planting with row cover to keep the flies off or if needed treat with insecticides. Penn State has found efficacy using neonicotinoids (Scorpion, Assail), diamides (Exirel), spinosyns (Entrust, which is OMRI-labelled), and pyrethroids. A spreader-sticker is recommended when applying insecticides to any Allium crop.

Damage caused by allium leafminer
Photo: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org

Fruit Tree Update

By: Stanton Gill

Anyone want good news in a time of mainly bad news? Of course you do. You and your customers got through pretty much a frost free and lack of freezing temperature period over the last 3 weeks. As a result, their flowering and fruit set on plums, peaches (both which peaked this last week in bloom in most of southern Maryland, Eastern Shore, and central Maryland) was excellent. This is rare in Maryland - even apricots fared pretty well, weatherwise, for fruit set this season. Consequently, you will need to take in the next two to three weeks. The fruit will need to be thinned for your customers, so they will have good size on the fruit this summer.

Pears are in full bloom this week, and so far, the weather has not been favorable for fire blight

Meanwhile, I contacted Kari Peter, Fruit Plant Pathologist at the Penn State Biglerville Experiment Station, to get a disease situation update. Spore count for scab is still high and cedar apple rust is still active this week. Powdery mildew is also active with sunny days and cool nights. The fungicide sprays mentioned in last weeks IPM report should be continued this week.

Pears are in full bloom in central Maryland this week and have peaked on the Eastern Shore and southern Maryland. So far, the good news, is it has not been really good weather for fire blight activity which is always good news with regard to pears.

We are getting reports from garden center operators that fruit and vegetable sales are dramatically higher this spring. The Covid-19 virus has many people planning on producing their own fruits and vegetables this year. Interesting to see the uptick in interest.

Sapsucker Damage

By: Stanton Gill and Karen Rane

Abigail Evans sent in a picture to Karen Rane and me this week. It is a viburnum with large wounds on the trunk. We receive similar pictures every spring of this injury on leatherleaf viburnums, Chinese hollies, Deodora cedars, and red maples. Sapsuckers cause this injury, and in most cases, it is the yellow-bellied sapsucker. The birds attack living wood to get at the sap inside. The feeding can kill a tree by girdling. Yellow-bellied sapsuckers are listed and protected under the Migratory Bird Treaty Act. You cannot predict on which trees they will feed, so control with wire mesh or netting really is not practical in most cases. In addition, it is most difficult to cover a trunk with many side branches. Prune off the branches above the wound. Fortunately, a leatherleaf viburnum will recover with new growth that will replace old damaged trunks.

Sapsucker damage on viburnums is often reported to us each year
Photo: Abigail Evans

Interesting Observations

By: Stanton Gill

Paul Wolfe, Integrated Plant Care Company, called in his observation that squirrels are cutting off flowers and small fruit on Cleveland select and Bradford pears in the Rockville area. This same sort of behavior was noted in other years on zelkova, but involved them cutting off branches and dropping them to the ground. There was no major damage, but Paul was interested if others are seeing similar action form squirrels.

The other thing he observed was deer feeding in Rockville on pachysandra. Most deer shy away from this plant that gives off an awful aroma when cut.

An Interesting Disease and Insect Tolerant Tree

By: Stanton Gill

In 2019, we lost a lot of trees from the excessive rains of 2018 and spring of 2019, followed by the drought from late July to October 2019. We are always on the look out for tough trees that survive in urban landscapes. We found one in the thornless osage orange (*Maclura pomifera* 'inermis'). Most of you know the osage orange as a fast-growing tree that reaches heights of 30-50 feet. Many urban foresters reel when you suggest this tree because of the thorns and the fruit. There is good news in that this tree is dioecoius (two houses – male and female trees) and only female trees produce fruit. There are at least three thornless male trees now available in the nursery trade: 'White Shield', 'Park', and 'Wichita'. 'White Shield' is thornless even when very young and is preferred. The wood of *Maclura* is very dense and storm and decay resistant, yet the tree is very fast growing which are characteristics that fit an urban tree perfectly. The foliage is a deep glossy green and shows no signs of deterioration even in severe droughts. Fall color is on display a little later, but is a lovely clear or golden yellow. The habit is often wider than tall with the bark having an interesting orange cast. It fits in an IPM approach because osage orange is virtually pest-free and highly deer resistant. I will say this again – highly deer resistant. The tree 'White Shield' was introduced into the market in 2017. I called a couple of the wholesale suppliers of liners, and they are completely sold out for 2020. If you are nursery grower and obtained one of these male clones that are thornless, please contact me at Sgill@umd.edu.

Beneficial of the Week

By: Paula Shrewsbury

Digging in landscape beds will find some good beneficials: Centipedes

Spring is here and a lot of us are working in landscape beds – digging, weeding, planting, mulching, moving stones, and more weeding of course. I am always amazed at the number of insects and other arthropods that are crawling around the ground, many of which are beneficial. This week, as I was working on the stone border of one of my landscape beds, I came across quite a few arthropods that had lots of legs: millipedes and centipedes. Both millipedes (Class Diploda) and centipedes (Class Chilopoda) belong to the subphylum Myriapoda which means "many footed".

A centipede found in my landscape bed. Note the characteristic 1 pair of legs per body segment and flattened appearance to the body.
Photo: M.J. Raupp, UMD

Today, I will write about **centipedes**. Centipedes are sometimes referrred to as "hundred legger" which is misleading because most do not have a hundred

legs. The common garden centipede has about 15 pairs of legs when full grown. Centipedes characteristicly have one pair of legs per body segment (*see image*) (unlike millipedes which have two pairs per segment). Their bodies are elongate with many segments (15 to 173 segments), similar to a millipede but more flattened. As centipedes grow, they add on more body segments and legs at each moult, a process called anamorphy. The largest species of centipede, *Scolopendra gigantea*, can reach 12" in length. No worries! This giant centipede is tropical and does not occur in the U.S. Our common garden centipede usually does not get bigger than two inches. They can live up to 5-6 years.

The underside of a centipede showing its poison claw that is used to grasp prey and inject poison to kill it.
Photo: M.J. Raupp, UMD

Centipedes are carnivorous and therefore important predators of other insects and arthropods that are active in or on the ground. They are usually generalists and even eat millipedes. Centipedes can move quickly as they run around the ground hunting for prey. To capture and overcome their prey, centipedes have evolved a deadly set of appendages located on the underside of their head called "poison claws" (see image). These claws are used to grasp prey and inject them with poison to kill it. Yikes! Some centipede species secrete a sticky substance to entangle and immobilize their prey. It is generally a good idea not to hold centipedes since the bite can be painful, especially from some of the larger species of centipedes.

Weed of the Week

By: Chuck Schuster

As I look across the turf I see an abundance of weeds. Temperatures are varying a great deal, with the soil temperature trend generally upward hitting 51 °F many mornings in the last 7 days. Many different weeds are out depending on how warm your soil has gotten. At sites closer to populated areas, one will find chickweed, and henbit. In other areas, it is a wave of hairy bittercress that is showing itself. Dandelions are also starting to show up in the turf.


Hairy bitter-cress

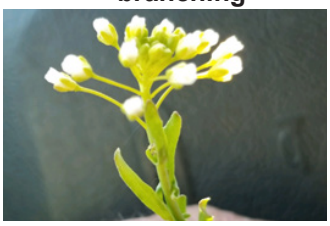
Hairy bittercress, *Cardamine hirsute*, is a weed found throughout the northeast. Currently, this plant is showing itself along many road edges and in many lawns and landscapes. Hairy bittercress is a summer annual but will often be found as a winter annual in landscapes and turf. With the very mild winter it has started out very strongly. Hairy bittercress is one of several weedy plants in the Mustard family that is native to Eurasia. It is not newly germinating now or even within the last several weeks. It has been hiding out as a basal rosette in the turf or even the landscape. Yes, it is an edible plant, with the leaves used by many. Hairy bittercress, has a taproot (photo 2) and erect branches (photo 3) that reach twelve inches in height. This plant has alternately arranged leaflets occurring in two to four pairs. The leaflets are rounded, emerging from a petiole that is hairy. Leaf size decreases as they emerge higher on the stem. The flowers of this weed are in clusters at the end of flowering stems, are two to three mm in diameter, and are made up of four petals (photo 4). The fruit of this weed is a silique, a narrow capsule that is designed to release the seeds held within in an explosive manner, spreading the seed up to eight feet from the plant. In one research study, the average plant produced 68 of these siliques or seed pods with an average of 29 seeds per pod, which is a mere 1,972 seeds per plant to help establish next season's crop. This is a quick growing


Hairy bittercress roots

plant, and can have several crops or generations in one season. Turf mowing height will help control this weed. Short mowing height will promote this plant and sacrifice the desired species of turf grasses. Shade also seems to promote this plant's vigor.

Hairy bittercress branching

Often identification is a problem. Hairy bittercress is sometimes confused with calepina (*Calepina irregularis*), but upon close examination it will be noted that calepina does not have 2 to 4 pairs of round leaflets like hairy bittercress. Waxy bittercress can also be confused with hairy bittercress. The flowers of hairy bittercress have 4 stamens, while the flowers of wavy bittercress have 6 stamens.



Hairy bittercress flowers

Control of this weed is difficult especially with having it germinate this time of year. Cooler temperatures can make post emergent control harder without the plant being in active growth. Hairy bittercress control can be accomplished with the use of Pre-emergent products that include oxadiazon (Ronstar), flumioxazin (Broadstar) or isoxaben (Gallery). Post emergent products can provide excellent control in turf. They include 2,4D and triclopyr (Chaser), and Metsulfuron (Blade). Speedzone (tri-mec + Quicksilver) works better in the cooler weather. Use caution with the post emergent products that have potential to volatilize near landscape materials to prevent potential for damage.

Hairy bittercress in landscape

Note: When out applying products in turf and landscape be aware that many more people are watching. Many homeowners are home bound and are naturally curious. Take care to apply products as if someone was always watching you. Be ready to answer questions of the property owner as there are a great deal of interested individuals that if we do not share appropriate information will seek it from the world wide web and some of this information is less than accurate.

All photos: C. Schuster, UME, Retired

Plant of the Week

By: Ginny Rosenkranz

Epimedium grandiflorum 'Lilafee' is a lovely spring blooming herbaceous perennial with some interesting common names including bishop's hat, fairy wings, and barrenwort. Common names are usually very descriptive, what the plant looks like or where it grows. In this case the common name of barrenwort lets the grower know that the plants can live in barren areas like under the heavy shade of a tree in an area filled with roots of that tree. They prefer organically rich, acidic soils that can be moist but well drained, and once established the rhizomes can tolerate drought. Plants are cold hardy from USDA zones 5-6, and although they are slow to establish, they are worth the wait for the mounding clumps of heart-shaped foliage from spring through the first hard frost of winter. The mature plants can grow 10-15 inches tall and spread 18-20 inches wide. The compound 2-4 inch leaflets start off a bronze green that matures to a medium green with the outer edges toothed. The dainty airy flowers grow 1-2 inches across with soft lavender petals that have long white.

***Epimedium grandiflorum* 'Lilafee' is a good choice for heavy shade areas**
Photo: Ginny Rosenkranz

Pest Predictive Calendar "Predictions"

By: Nancy Harding and Paula Shrewsbury

In the Maryland area, the accumulated growing degree days (DD) this week range from about 67 DD (Aberdeen) to 179 DD (Reagan National Airport). 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 (37DD)
- Eastern tent caterpillar – egg hatch (51DD)
- Spiny witchhazel gall aphid – adult/nymph (171DD)
- Boxwood leafminer – adult emergence (249DD)

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 April 1)

Aberdeen (KAPG)	67
Annapolis Naval Academy (KNAK)	102
Baltimore, MD (KBWI)	132
Bowie, MD	159
College Park (KCGS)	117
Dulles Airport (KIAD)	141
Frederick (KFDK)	112
Ft. Belvoir, VA (KDA)	162
Gaithersburg (KGAI)	122
Greater Cumberland Reg (KCBE)	110
Martinsburg, WV (KMRB)	96
Natl Arboretum/Reagan Natl (KDCA)	179
Salisbury/Ocean City (KSBY)	153
St. Mary's City (Patuxent NRB KNHK)	179
Westminster (KDMW)	133

Important Note: We are using an online phenology and degree day site (http://uspest.org/cgi-bin/ddmodel.us) 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

Phenology

PLANT	PLANT STAGE	LOCATION
Amelanchier canadensis	First bloom	Salisbury (March 31)
Phlox subulata	First bloom	Columbia (March 26)

CONFERENCES

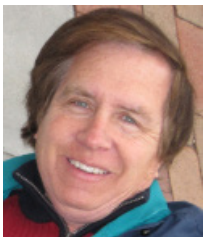
June 3, 2020
Eastern Shore Pesticide Recertification Program
Location: Chesapeake College, Wye Mills, MD

Save the Dates for the IPM Scouts' 4-Day Training Program:
June 2 and 4, 2020 at the Gary J Arthur Community Center, Glenwood, MD
June 9, 2020 at Ruppert Nursery, Laytonsville, MD
June 10, 2020 at Cavano's Perennials, Kingsville, MD

June 20, 2020 (Saturday)
Maryland Christmas Tree Association Summer Meeting
Cawley Family Farm, Denton, MD
For info contact Joncie Underwood
Maryland CTA@outlook.com

Regarding UMD Extension activities, we do not know at this time if the Coronavirus Covid-19 will impact these programs scheduled for later in the year.

CONTRIBUTORS:



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Photos are by Suzanne Klick or Stanton Gill unless stated otherwise.