UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **May 8, 2020**

In This Issue...

IPMnet
Integrated Pest Management for Commercial Horticulture

extension.umd.edu/ipm

If you work for a commercial horticultural business in the area, you can report insect, disease, weed or cultural plant problems **(include location and insect stage)** found in the landscape or nursery to sklick@umd.edu

Coordinator Weekly IPM Report:
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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)
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)

American Holly Shedding Leaves Now

By: Stanton Gill

At this time of year American hollies generally look terrible, with leaves turning yellow, spotting on old foliage and soon, dropping foliage. It is just part of the process. Every 2 to 3 years the old leaves yellow, senesce, and drop off. New growth will rapidly replace the lost leaves, and the tree will, once again, look terrific. Just alert your customers so they know what is going on. Some customers may worry that their American holly is infected with some disease.

Yellowing of foliage and leaf drop is typical on American hollies every few years
Photo: Stanton Gill

Wheel Bug Egg Masses Needed

Paula Shrewsbury (Entomology, UMD) is in need of unhatched wheel bug (*Arilus cristatus*) egg masses for a research project. The wheel bug egg mass can typically be found on a wide variety of landscape trees such as cherry, zelkova, sycamore, goldenrain tree, Japanese pagoda, maple, crabapple, elm, hornbeam, and are located on the trunk or branches of the tree. If found, remove the egg mass carefully using a knife. You usually need to take a little bit of bark with it. Please mail the sample (in a hard container to protect the egg mass from getting squished or jostled) with the location, date, and host tree (if known) where it was collected to:
Shrewsbury Lab
University of MD - Department of Entomology
4291 Fieldhouse Dr.
4112 Plant Sciences
College Park, MD 20742

Please email Nancy Harding if you are sending in egg masses so I can be sure to pick them up (irregular campus mail deliveries due to COVID). If you have any questions, please contact Nancy Harding at 301-717-9524 (mobile) or nharding@umd.edu.

Two Armored Scales Coming Up in Mid-May

By: Stanton Gill

I examined samples of white prunicola scale on cherry trees and San Jose Scale on apple trees this week. Both are gravid (pregnant carrying eggs). No crawlers yet, but very close. If you have either of these scales, send me a sample this week with the location and what plant it was on so we can let everyone know when we reach the crawler stage. Send to 4496 Jennings Chapel Road, Brookeville, MD 20833.

Elaine Menegon, Good's Tree and Lawn Care, found males of white prunicola infesting the trunk of a cherry laurel in Lancaster, PA.

Males of white prunicola scale are coating this trunk of cherry laurel in Lancaster, PA this week
Photo: Elaine Menegon, Good's Tree and Lawn Care

Virus Symptoms in Bleeding Heart

By: Karen Rane

I noticed strange line patterns on leaves of some bleeding heart plants (*Lamprocapnos spectabilis*, formerly *Dicentra spectabilis*) in my garden this week. The culprit is most likely Tobacco Rattle Virus (TRV), which is a common pathogen of perennials such anemone, hosta, and (to my dismay) bleeding heart. This virus is spread through asexual propagation (divisions) of infected stock plants. The virus can also be spread by certain species of soil inhabiting plant parasitic nematodes. TRV has a wide host range, including numerous weed species, field crops, and vegetables as well as ornamentals. It causes an economically important disease of potato called corky ringspot. Symptoms can vary depending on host, but in herbaceous ornamentals, symptoms include chlorotic mottling, ring spots, and line patterns on foliage. Infected plants may decline over time, producing fewer flowers. Plants may also be infected without symptom development, and propagation of symptomless stock plants has resulted in infected plants being distributed on occasion in the perennial plants trade.

Line pattern on leaf of bleeding heart, typical of TRV infection
Photo: Karen Rane

The only management option for infected plants is to remove them – as with most virus diseases, the plants are systemically infected so removal of symptomatic leaves does not cure the plant.

Tobacco Rattle Virus (TRV) symptoms on peony
Photo: Anette Phibbs, WI Department of Agriculture, Trade & Consumer Protection, Bugwood.org

Tick Control in Landscapes

By: Stanton Gill

When it finally warms up a bit (we were 6 degrees below normal last month), tick activity should be starting up and you may have questions about whether you can spray for ticks under landscape category certification in Maryland. Chris Klimas, Davey Tree Company, inquired about tick control in residential landscapes. Here is his question: "I would like to ask you a few questions about Tick Control – a number of our clients are asking us for these treatments. Am I correct in assuming that a Category 8 – Public Health certification is needed? What if you are providing an organic – oil treatment, like Tick Killz (https://tickkillz.com/)?"

I asked Kelly Love of MDA to comment and here is here response: "Tick applications are considered general pest (7A) or can be considered public health as well (8). If you have either of these certifications you are legal."

Giant Asian Hornet Found in Washington State

By: Stanton Gill

The Asian giant hornet, *Vespa mandarini*a, is very big at 1.8" in length for females. We do have large *Vespa* species in Maryland, but none this large. It would be rare to find this moving into your house unless it was attracted to a light at night, if it was even present on the East Coast. This hornet nests in the ground, much like yellow jackets, not in houses, garages, or house structures. The head capsule is very distinct and is yellow-orange. The triangle shape of the apical margin of the clypeus (part of mouth parts - like an upper lip on a human) on a female are distinct. The mandibles are also orange, but have a black tooth that is used for digging. The head tends to be a light shade of orange that some describes as orange-yellow. The antennae are brown, but the basal area (called the Scape or Scapus) is a yellow color. The eyes and ocelli (light sensing photo receptors found just above the eyes) are dark brown to an almost black color. The abdomen alternates between dark brown and yellow or orange that kind of matches the color of the head capsule. Wings are gray. Many other female wasps and hornets (*Vespa* species) overwinter in people's houses and we are sure they will probably find these overwintering females and assume they could be the terrible giant Asian hornet.

Whitney Cranshaw, Colorado State University, provided a link to information and photos on the Asian giant hornet and methods being used to respond to its presence in the US that are part of the USDA ARS New Pest Response Guidelines for *Vespa manarinia*, Asian Giant Hornet.

Brown Rot Blossom Blight on Cherry

Dave Clement, UME, found brown rot blossom blight infection on cherries last week. In the April 10, 2015 IPM Report, he included the following information: Brown rot is a fungal infection that first attacks the cherry tree's flowers later in spring, just as the flowers are starting to fade. Spores appear as minute black speckles on the flower petals. As the spores progress, they kill the limb from the branch tips. Kwanzan cherry tree flowers infected with brown rot blossom blight will wilt and turn brown. The blooms remain on the tree where a brownish-gray fungus grows on them. The symptoms look like fire blight, but cherries are not susceptible to that disease.Management of this disease in orchards relies on good sanitation and proper timing of protectant fungicides. However, in ornamentals, this disease is a new problem and has not been studied extensively. Pruning blighted shoots back to healthy tissue during dry weather may help, but it is difficult if large numbers of shoots are blighted. For specimen trees, fungicides such as chlorothalonil and propiconazole applied as foliar sprays starting when blossoms first open may help protect trees from the blossom blight phase of the disease. Refer to product labels for rates and timing information.

Brown rot blossom blight infection on cherry
Photos: Dave Clement

Sycamore Anthracnose

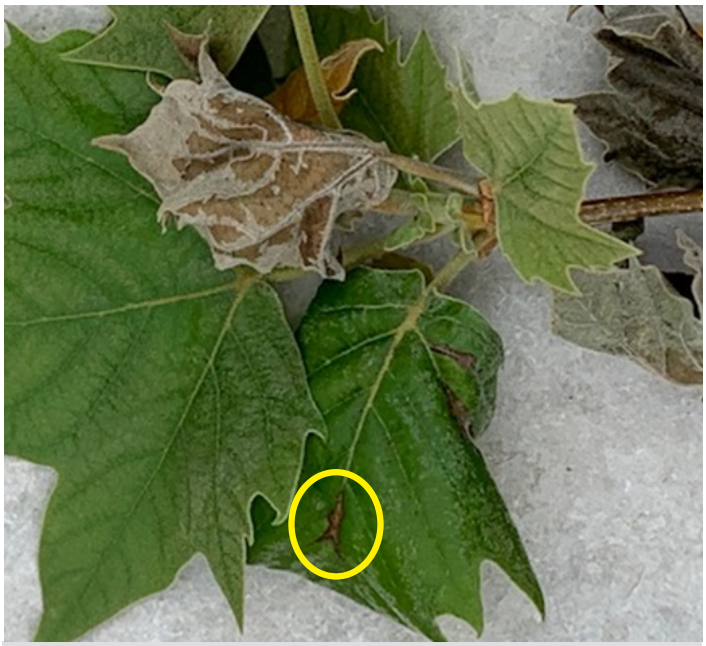
By: Rachel Ross and Karen Rane

We are receiving several reports of anthracnose occurring now on American sycamore. The recent weather, cool and wet, has been favorable for fungal infection. Symptoms may include shoot dieback, branch cankers, and necrotic areas on the leaves that appear primarily along leaf veins. The fungus overwinters in twig cankers. Symptoms can appear severe, but this disease rarely affects the overall health of mature trees.

Fig. 1: Shoot dieback due to sycamore anthracnose
Photo: John Hochmuth

Once infections occur, there are no control options. As the growing season progresses, new foliage will replace the growth that has been lost to anthracnose, and trees will regain most of their canopy. Cultural practices to maintain tree health (irrigation during long periods of dry weather, avoiding root disturbances) can be beneficial. Pruning out cankered branches may help the tree's appearance, but it's not clear how this affects disease development in subsequent years. Young trees in nurseries or small, newly planted trees may benefit from fungicides (such as mancozeb, propiconazole or certain copper products) applied just before bud break and repeated according to label directions to protect newly developing foliage. For managing anthracnose in large, high-value sycamore trees, some arborists in our area report good results with a trunk injection of Arbotect (late summer/early fall injection for managing disease the following year). Consult product labels for detailed instructions.

Fig. 2: Anthracnose symptoms on sycamore foliage resulting in thin crown in spring
Photo: J. Estrada, Savatree



Anthracnose symptoms on leaves – note dark lesions along leaf veins (circled)
Photo: J. Estrada, Savatree

Ambrosia Beetle Activity

By: Stanton Gill

Since I put out the alert on Tuesday, we had cool and cloudy weather with rain which suppressed flight activity of ambrosia beetles. One nursery manager in central Maryland reported: "We found two ambrosia hits when we checked our bolts on 5/4. Today, 5/7, we found 14 hits." Keep in mind, he did not send in the bolts so it could be any species of ambrosia beetle hitting the bolts on Thursday.

Brian Dahl, Pope Farm, sent in a report from his bolt traps in Derwood: "I did an afternoon sweep of bolt traps and Lindgren trap. I have 14 perimeter bolts traps and 1 interior bolt trap and here are the counts (see below) from May 5 and May 7." Brian will be dropping off the beetles to my house, but I have not examined them yet. This morning, Brian reported "about 5 or 6 redbuds in nursery field that got hit; leaving as trap trees (5 yr old, sub grade trees not worth spraying). Found about 1/2 dozen container redbuds in pot-in-pot that are hit. Gearing up now to treat."

Frass from ambrosia beetles starting to be pushed out of trunk
Photo: Sam Hammer, Good's Tree and Lawn Care

Note: The May 7th are additional new ones.

	May 5	May 7	
Trap #1:	0	13	
Trap #2:	3	13	
Trap #3:	0	9	
Trap #4:	0	7	
Trap #5:	0	20	
Trap #6:	0	3	
Trap #7:	10	7	
Trap #8:	13	(I accidentally missed this one today)	
Trap #9:	12	8	
Trap #10:	6	1	
Trap #11:	6	12	
Trap #12:	7	5	(interior trap)
Trap #13:	28	5	
Trap #14:	16	13	
Trap #15:	16	18	

Sam Hanmer, Good's Tree and Lawn Care, found active ambrosia beetles plus bleeding canker on a beech in Harrisburg on May 7. Marie Rojas, IPM Scout, reported that ambrosia beetles were drilling into Cercis canadensis in Montgomery County on May 7.

A major cool front is moving into the area with temperatures dropping to 32 °F on Friday and Saturday. I don't expect to see much ambrosia beetle flight activity over the weekend and in the early part of the week.

Elsinoe corni (Spot Anthracnose) Disease on Dogwood

Dave Clement found Elsinoe disease infecting dogwoods last week. In the May 4, 2018 IPM Report, Dave included the following information: Symptoms of spot anthracnose, appear as tiny (less than 1/8" diameter), circular lesions with purple borders and lighter, almost white, centers on bracts and leaves. This disease is caused by the fungus *Elsinoe corni*. In general, white cultivars of dogwood are more susceptible than pink cultivars. In seasons when environmental conditions are conducive to disease, spots on bracts and foliage may be numerous, and leaves or bracts become puckered or distorted around the spots as the leaves expand. *Elsinoe corni* survives the winter on twigs, in buds, or on infected fruit and leaves that remain on the tree. New infections occur in early spring. In most years, spot anthracnose causes little damage. However, in very cool, wet springs, symptoms can be severe.

Symptoms from *Elsinoe corni* (spot anthracnose) disease can be severe in very cool, wet springs
Photo: Dave Clement

Management: In most years control is not necessary. Spot anthracnose can be controlled preventatively with chlorothalonil or thiophanate methyl plus mancozeb. Spraying should begin as buds begin to open and repeated when the bracts have fallen, four weeks after bract fall, and in late summer after flower buds have formed.

Cottony Taxus/Camellia Scale (*Pulvinaria floccifera)* Activity

By: Stanton Gill

We are receiving several reports of *Pulvinaria floccifer*a, a soft scale, found mainly on Chinese holly, camellia and Taxus yews that are starting to produce their white egg sacs. This activity is just before egg hatch and the crawler period. The overwintering 2nd instars are cream to tan, elongate oval, and relatively flat. Young females have a dark stripe down the middle and mottling at the sides. Older scales are dark brown. Eggs are laid in an ovisac produced beneath and behind female. Ovisacs are two or more times longer than the scales and are relatively flat, white, and fluffy. Females overwinter on twigs or leaves and lay eggs in mid to late May in most of Maryland.
You can use systemic insecticides such as Dinotefuran, or Altus now. The other option is to wait until crawlers and apply Distance or Talus.

Cottony Taxus/camellia scale is starting to produce eggs at a site in D.C.
Photo: Sam Fisher, Bartlett Tree Experts

Tough Plum

By: Stanton Gill

Back in 2006 Richard Uva, now co-owner of Seaberry Farm, visited my orchard. He and his wife, Wen Fei, were moving down from Cornell University, where they worked as Extension specialists. Richard introduced me to beach plums, *Prunus maritima,* at that time and gifted me two of the native plums. Beach plums are some of the rare edible fruit native to the East Coast beach area and grow from Maine to Maryland with heaviest populations in New Jersey and Massachusetts. The native species has beautiful white blooms that cover the tree in May. The straight species of beach plums produces a fruit that is the size of a large blueberry that ripens in late August to mid-September. The fruit makes a wonderful jam or jelly. If you look on-line, you will find suggestions on how to do this process.

Beach plums are in flower on May 7 in central Maryland
Photo: Stanton Gill

Richard grafted a couple of cultivars ('Premier' and 'Hancock') with bigger fruit that are the size of quarters to fifty center pieces. Since then, I have been chip budding these trees in late August to make more for our orchard. What I like about the beach plum is it adapted to our Maryland climate, and it flowers so late I have rarely seen it damaged by late frost. The flower display is spectacular each year. I am surprised that more growers in the industry have not started growing beach plums. Anyhow, you can find suppliers selling the straight species and it would be a good plant to move into the Maryland nursery market. That said, it is in full flower right now, and of course, a freeze warning is coming in for the next two nights. So much for late flowering and avoiding freeze injury. It is a tough year in 2020.

Cold Injury

We are continuing to receive repors of cold injury on plants. Marie Rojas, IPM Scout, found "LOADS of cold injury on a variety of plants in Frederick and Montgomery counties including on *Styrax, Stewartia (pic), Cercidiphyllum, Tilia,* and *Acer davidii*.

Cold damage is evident on this maple
Photo: Marie Rojas, IPM Scout

Crape Myrtles

By: Stanton Gill

Thanks to all of you who sent in emails reporting on crape myrtle growth this spring. It looks like, based on the emails, Southern Maryland and Eastern Shore sites are seeing new growth emerging. In the city areas, we also had reports of some leafing out. I hope that the freeze on Friday and Saturday does not damge this new growth. Other areas continue to see delay in crape myrtles leafing out. It is one late season for this plant.

Additional Scale Activity

Marie Rojas, IPM Scout, is finding various scales in nurseries in Frederick and Mongomery Counties:

Oak lecanium scale on *Quercus bicolor* and **European fruit lecanium scale** on *Carpinus* 'Frans Fountaine': Look for crawlers at the end of May into early June.

Maskell scale (eggs under covers): Look for crawlers now.

Minute cypress scale on *Chamaecyparis nootkatensis* 'Pendula': Look for crawlers now through early June.

Obscure scale on *Quercus rubra* and *Q. coccinea*: Marie reports that she has "noticed oscure scale on many of the oaks in various nurseries. It always seems to be there, in low levels. I also usually see lots of parasitism (exit holes) on them. I rarely have seen it in really high numbers." Look for crawlers from late June through early September. If necessary, a dormant rate oil this fall or at the end of next winter can be applied to keep this scale suppressed.

Control for Scale Crawlers: Apply pyriproxyfen (Distance) or buprofezin (Talus) mixed with 0.5 - 1% horticultural oil for control.

Oak lecanium scale is along the stem of this *Quercus bicolor*
Photo: Marie Rojas, IPM Scout

Snail Damage

A resident in Salisbury found a snail on the underside of a leaf of a potted gerbera plants in a shady spot in the garden. The snail damage was significant on several leaves. Predators of snails and slugs include frogs, toads, and glow worms.

A snail was found feeding on gerbera leaves in a shady spot of the garden
Photo: Salisbury, MD resident

Spirea Aphids

Kenneth Miller, Howard County Recreation and Parks, found aphids on spirea. A lady bird beetle adult and a larva were also present. This aphid is also reported on crabapple, apple, hawthorn, quince, and pear. Monitor these susceptible plants this week. Usually early in the season, predators keep spirea aphid under control.

Spirea aphids are active early in the season on spirea. The black arrow marks an aphid giving birth.
Photo: Kenneth Miller, Howard County Recreation and Parks

Monitor for lady bird beetle larvae and adults around aphid populations
Photo: Kenneth Miller, Howard County Recreation and Parks

Woolly Aphids on Hawthorn

Marie Rojas, IPM Scout, found woolly aphids causing leaf folding/ purpling on *Crataegus* 'Winter King' in Frederick County this week. Look for natural predators like lacewings, lady beetles, hover flies, parasitic wasps, and birds to determine if any control measures are necessary. Gold finches commonly feed on these aphids. Look for signs of parasitized aphids - they stop producing wax and become discolored (mummified). A circular exit hole made by the parasitoid can sometimes be seen in the aphid mummy's upper surface.

Woolly aphids are active on hawthorn this week; they cause curled and distorted foliage
Photo: Marie Rojas, IPM Scout

Paper Wasp on Peony Bud

This paper wasp is feeding on the sugars produced by the peony bud. Ginny Rosenkranz had noticed several wasps foraging for the sugar secretions from peonies.

A paper wasp feeds on the sugars produced by a peony bud
Photo: Ginny Rosenkranz

Beneficial of the Week

By: Paula Shrewsbury

Brown lacewings consume aphids and more

A brown lacewing adult likely searching for pollen or prey on a flowering plant
Photo: M.J. Raupp, UMD

Over the last two weeks or so, I have been observing an infestation of aphids on my *Monarda* plants (perennial) in my garden. First the population was small, but I noted aphid mummies (aphids parasitized by a wasp) on the plant, so I did not squish them as a control measure. Then the populations started to grow and spread on my plant and I started to second-guess my decision not to hand remove or squish the aphids. But I decided to take my own advice (I am sure many of you have heard this). *With aphids, wait and the natural enemies will come!* Well, I was right. On Wednesday, I was observing the aphids and realized that there were more aphid mummies on the plants than un-parasitized aphids. Then I found brown lacewing larvae feeding away on the aphids. This was an exciting day for an entomologist! Most brown lacewings are in the genus *Hemerobius* (Neuroptera: Hemerobiidae) and are related to the more commonly observed green lacewings. Many brown lacewing species are found in arboreal habitats on deciduous trees and conifers. There are 58 species known in North America. The adult brown lacewing, less than 8mm (< ½") in length, is light brown in color with dozens of veins running through its wings, and appears slightly hairy. Adults are attracted to

lights and are often seen around porch lights. Larvae are alligator-like in shape and their sickle-shaped mandibles are smaller than those of green lacewings. The life cycle includes the egg (laid singly or in small groups, not on stalks as with the green lacewing), three larval instars (immature stages), and a pupal and adult stage. For some species of brown lacewing, there is no diapause or overwintering stage and they can be active quite early in the season (~March). Both the adults and larvae are voracious predators of many soft-bodied insects such as aphids, adelgids, scales, and some insect eggs. Adults are long lived, have a high reproductive capacity, and can consume many prey in its lifetime. These characteristics suggest brown lacewings have a great potential as biological control agents. As I watched the brown lacewing larva found on my *Monarda*, it was voraciously consuming one aphid after another. Brown lacewings are generally not commercially available, as is its relative the green lacewing.

Brown lacewing larva in search of prey
Photo: M.J. Raupp, UMD

These beneficial insects need to be conserved so they can increase the level of biological control they impose on pest insects. Provide plants with flowers (pollen and nectar resources; see bulletin), use other IPM tactics like hand removal or pruning, and only apply pesticides when and where they are warranted and be sure to select those that have low impacts on natural enemies (see bulletin).

Weed of the Week

By: Chuck Schuster

Cool damp soils are found in most areas of the region this week. Cooler than normal temperatures are allowing many fall germinating weeds to continue to grow and show themselves in the turf and landscape.

Star-of-Bethlehem will continue blooming into June
Photo 1: Connie Bowers

The weed of the week came from questions noted to my Facebook page and sent to me through various methods. Star-of-Bethlehem (summer snow-flake), *Ornithogalum umbellatum* is a native of North Africa and Eurasia. It is a weed found in landscape, turf and nursery settings that has escaped cultivation and can be found statewide. This plant emerged in many areas as early as mid-April this year and is still blooming in many landscapes and turf settings. It will continue to bloom through early June. This perennial grows as tufts or clumps in lawns and landscapes which are typically considered to be undesirable. With its waxy cuticle, it is often mis identified as either wild garlic (*Allium vineale* L.) or wild onion (*Allium canadense* L.). It is a perennial with fleshy grass blade-like leaves. These leaves can grow up to one foot in length and will have a whitish grooved midrib. Leaves are hollow, one quarter of an inch wide and up to one foot in length. The root system is a bulbous. The plant can reproduce by way of seed to a minimal extent, and by way of bulb division (photo 2) or remaining vegetative structures after attempting mechanical removal. The flower structure is bright, somewhat waxy and white yet occasionally bluish, star-shaped, with six petals, each

having a distinctive green stripe on the underside. The center of the flower is yellow green. The flower stalks are leafless. The flowers of this plant will be on a six to nine inch tall single flower stalk arising from the center. The cluster will produce five to twenty flowers measuring one inch across. The seed will be found in a three-lobed capsule which will contain several oval black seeds. Once it has been mowed, it is difficult to distinguish it in turf settings. This plant reproduces primarily by way of bulblets that develop surrounding the parent bulb.

Controlling Star-of-Bethlehem is challenging. Glyphosate products supply a very poor control, less than 30% of plants sprayed will be eliminated. 2,4-D products alone can cause an increase in the number of bulbs. Carfentrazone (Quicksilver) has shown good control when applied at the highest label rates, applied at the two ounce /acre rate and repeated three weeks later was found to provide greater than 90% control at thirty days post application. Sulfentrazone (Dismiss) is also labeled for this weed. Diquat (Reward) at three week intervals will supply control but damages surrounding plants. In turf avoiding mowing after herbicide application will improve efficacy of the products used.

Bulb division is one way that star-of-Bethlehem reproduces
Photo 2: Chuck Schuster

Star-of-Bethlehem grows in clumps in turf and landscapes
Photo 3: Connie Bowers

Plant of the Week

By: Ginny Rosenkranz

Tiarella cordifolia or foamflower is a spring blooming native herbaceous perennial that thrives in part to full dappled shade with organically rich moist soils that never dry out. Cold hardy in USDA zones 4-9, foamflower cannot handle wet soils in the winter which makes it a bit difficult to find the perfect landscape spot. Soil pH should be between 6.2 to 6.5 for best growth and flowering. The plants form a clump that is 1 foot tall and 1-2 feet wide. Foamflower can spread rapidly by underground runners or stolons. The flower buds are dark to light pink and mature into pure white to light pink star shaped flowers. These tiny flowers are arranged along a thin straight stem or raceme, often compared to a wand, and rise about a foot above the foliage. Flowers have long stamens which gives the flowers the light and airy or foamy look. Flowers mature into small dried fruit capsules that look a bit like a tiny crow or tiara, tiny tiara or tiarella. Cordifolia means heart-shaped which describes the shape of the leaves that in the warmer area are semi evergreen. Leaves grow from a crown that is on the surface or just under the soil. Each bud on the crown grows into a leaf on a long petiole or becomes the flower spike or a stolon. The glossy bright green heart-shaped leaves have 3-5 lobes and often have a darker green to a burgundy colored veins. The whole leaf will turn a bronze red in the cooler temperatures of autumn and winter. Cultivars are numerous and include ‘Iron Butterfly’ which has deeply lobed foliage with broad dark markings along the veins, ‘Black Velvet’ which is also deeply lobed with black vein markings and blue white flowers,

and ‘Butterfly Wings’ with lacy dissected foliage and black markings in the center of the leaf. There are other cultivars and some have lightly fragrant flowers. Foamflowers are perfect for a woodland or shady native garden that provides the rich, moist soils the plants need. The leaves are usually left alone by rabbits and deer, but that depends on the populations of those pests. Black vine weevils and although rare, foliage nematodes, can harm the plants.

Foamflowers thrive in part to full dappled shade with organically rich and moist soils
Photos: 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 188 DD (Aberdeen) to 423 DD (Patuxent River Naval Base). 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.
- Boxwood leafminer – adult emergence (249 DD)
- Spruce spider mite – adult/nymphs (276 DD)
- Azalea lace bug - egg hatch 1st gen (281 DD)
- Pine needle scale - egg hatch 1st gen (283 DD)
- Hemlock woolly adelgid - egg hatch 1st gen (300 DD)
- Spirea aphid - adult/nymph (326 DD)
- Lilac borer - adult emergence (350 DD)
- Emerald ash borer – adult emergence (421 DD)
- Fourlined plant bug - egg hatch/early instar (435 DD)
- Basswood lace bug – nymph (462 DD)
- Lesser peachtree borer – adult emergence (468 DD)
- Maskell scale – egg hatch 1st gen (470 DD)
- Oystershell scale – egg hatch 1st gen (486 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 May 6)

Aberdeen (KAPG)	188
Annapolis Naval Academy (KNAK)	270
Baltimore, MD (KBWI)	312
Bowie, MD	354
College Park (KCGS)	270
Dulles Airport (KIAD)	299
Frederick (KFDK)	256
Ft. Belvoir, VA (KDA)	349
Gaithersburg (KGAI)	262
Greater Cumberland Reg (KCBE)	213
Martinsburg, WV (KMRB)	205
Natl Arboretum/Reagan Natl (KDCA)	411
Salisbury/Ocean City (KSBY)	355
St. Mary's City (Patuxent NRB KNHK)	423
Westminster (KDMW)	302

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

Phenology

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
Chionanthus virginicus (Fringe tree)	First bloom	May 6 (Bowie at 354 DD)
Robinia pseudoacacia (black locust)	First bloom	May 3 (Salisbury)
Syringa patula 'Miss Kim' (Manchurian lilac)	First bloom Full bloom	May 2 (Bowie - 316 DD) May 6 (Bowie - 354 DD)

CONFERENCES

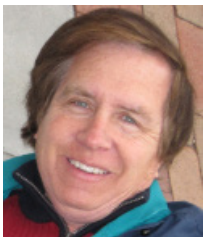
June 3, 2020
Eastern Shore Pesticide Recertification Program
Location: This program will be conducted on-line.

Program Recertification:
Maryland - 2 (Forestry), 3A, 3B, 3C (Turf, Ornamental interior, Ornamental exterior), 5 (Aquatics) 6 (Right of Way), 7 (general pest), 10 (Research and Demonstration), 13 (Arial) and Private Applicator
Delaware - 2, 3A, 3C, 5, 6, 10

To register, go to: **https://2020esprocrastinator.eventbrite.com**

June 20, 2020 - Has been postponed until 2021
Maryland Christmas Tree Association Summer Meeting

CONTRIBUTORS:



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