UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **March 25, 2022**

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 sgill@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)

Cold Front Coming In

By: Stanton Gill

NOAA Weather is reporting that temperatures are going to dip into the 26-28 °F temperature range on Sunday and Monday. Many of your customers' fruit trees that are in bloom are going to suffer cold damage. Later in the season, your customers are going to note that their fruit trees are not bearing well this season. It will be tied into this cold front.

The below freezing temperatures coming Sunday and Monday are going to damage plants

With a lot of plant material coming in from the south, it might have new growth coming out in the landscape or holding yard. The forecasted cold temperatures will damage this new growth. If possible, cover the plant material Monday and Tuesday night to prevent damage.

Ambrosia Beetles Activity

By: Stanton Gill

On March 17 and 18, the temperature warmed up into the 60 – 70 °F range. We had several emails and calls asking if *Xylosandrus* species of ambrosia beetles were flying yet. We have alcohol-baited Lindgren traps with Richard Uva monitoring on the Eastern Shore at Federalsburg, Marie Rojas monitoring in Upper Montgomery County, Andrew Ristvey at the Wye Research and Education Center in Queenstown, and Ginny Rosenkranz in Salisbury. We have a monitoring site in Westminster and one at the Central Maryland Research and Education Center in Ellicott City. We found native species of ambrosia beetles in two of the traps sites last week, but none on Monday or Tuesday (March 21 and 22nd). It has been rainy on Wednesday and Thursday so ambrosia beetles are not flying in the last part of this week. If we pick them up over the weekend or early next week, we will put out a special IPM Alert to let you know of activity.

Marie Rojas, Darnestown and Frederick area, and Rick Uva on the Eastern Shore sent in a report early this morning. Neither are finding ambrosia beetle adults in their baited Lindgren traps. The cooler, wet weather has suppressed any ambrosia beetle flight activity.

Fall Armyworms – Problem This Spring

By: Stanton Gill

In August and September of 2021, on the East Coast and in the Mid-west, lawn companies noticed their customers' lawns were bare of turfgrass. The fall armyworm, *Spodoptera frugiperda*, which is a southern species, was carried north as adult moths to many states on the East Coast and in the Mid-west. The fall armyworm has been labeled a large-scale invasive. It is called 'armyworm' because in its larval stage, individuals gather in huge masses, like human armies, which can destroy large tracks of crops. It is native to South and North America. It is an invasive that America has shipped to Africa.

The moths laid eggs in turfgrass and the larvae consumed huge amounts of leaf area in lawns turning them brown over a period of about 4 – 5 days. There was grass seed shortage and prices of grass seed increased 2 to 3 times normal prices. This made it tough for companies to try to green up their customers brown lawns last fall. There were unusual weather patterns with strong southerly jet streams in 2021 that carried this Lepidopterous species out of the South into the Mid-west and East Coast.

Since this caterpillar is semi-tropical, it should not overwinter in most areas that it invaded in 2021. **Do not automatically treat your customers' lawns this spring for this pest.** With the extreme cold temperatures of January and February (reached single digit temperatures several times in 2022) sometimes dropping to 8 °F for multiple days this winter, I do not expect this tropical caterpillar to overwinter here in Maryland. We will watch for it in mid-summer when jet streams can potentially carry this moth north. Watch and observe for caterpillars in late July through August of 2022.

Spring 2022 – Disease Alert

Source: Dr. Kari Peters, Penn State University Extension

The spring temperatures across the region this week are nudging the fruit trees to break their dormant slumber. Bud swell has been observed on our plum and peach trees in Biglerville, PA. The 2022 season is upon us, and disease management should kick into gear.

Growers are encouraged to apply dormant copper sprays on apples and pears for controlling fire blight and apple scab, and possibly other fungal diseases, such as apple blotch and bitter rot. Since peach leaf curl can only be managed when leaves are off the trees, applications should be made prior to bud swell. Depending on your region, check your peach and nectarine trees for bud swell prior to any peach leaf curl spray right now. If bud

swell has occurred, the window for peach leaf curl control has passed since the spores in the buds are no longer vulnerable to fungicides since they are protected due to the bud swell.

While growers are finishing their winter pruning, it is very important to remove any mummified fruit hanging in the trees. This is especially critical for brown rot in stone fruit trees. Mummified fruit left hanging in the trees will become spore factories during the season and cause infection on blossoms and fruit. Fungicides can be overwhelmed with such high inoculum pressure. Consequently, sanitation is important for fruit rot prevention. In addition, be sure to remove any dead wood from your trees since this can also be a reservoir for brown rot spores.

Also, late dormancy is the time to apply oil for controlling certain insects. During dormant sprays, it is okay to mix oil and copper. Since minimal green tissue is present, the risk of phytotoxicity from the copper-oil mix is very low. Consequently, emergence of green tissue will want to be monitored when this combination spray is used.

Since peach leaf curl can only be managed when leaves are off the trees, applications should be made prior to bud swell. Depending on your region, check your peach and nectarine trees for bud swell prior to any peach leaf curl spray right now. If bud swell has occurred, the window for peach leaf curl control has passed since the spores in the buds are no longer vulnerable to fungicides since they are protected due to the bud swell. If bud swell has not occurred, ziram, chlorothalonil (e.g. Bravo), and copper are peach leaf curl control options. Copper applications to manage bacterial spot are recommended.

Boxwood Mites

Heather Zindash, The Soulful Gardener, reported that boxwood mites are active in Bethesda. Hexygon (a mite growth regulator) will work well at this early stage and will give long term control. Another option is using 2-3 % horticultural oil.

Boxwood spider mite eggs and mite found in March
Photos: Heather Zindash, The Soulful Gardener

Looking for Nurseries Growing Arizona Cypress

By: Stanton Gill

We are seeking people who are successful in growing Arizona cypress. The Latin name is *Hesperocyparis arizonica,* previously known as *Cupressus arizonica*. If you are growing the Arizona cypress in your nursery, send me a picture or two. We have reports that it is hardy in Anne Arundel, Frederick, and Calvert Counties, but we are interested if it is hardy in counties of Maryland that are further north and west.

This plant grows rapidly and has nice blue foliage. It appears to be fairly resistant to foliar diseases. This plant could serve as good alternative to the 'way over used' *Thuja* 'Green Giant' and Emerald Green Arborvitae that everyone is growing. We see these two plants showing up in a huge number of new landscapes. As we see pests crop up on this limited palette of plants, it is going to be disastrous when a major disease or insect moves in on this monoculture of plant material. We need some diversity of the landscape and in the nursery with alternative plants that serve as a good barrier plants to block out views of neighbors.

Growing Hybrid Osage Orange?

By: Stanton Gill

Three years ago, they released a male Osage orange into the nursery trade. It is *Maclura pomifera,* Osage orange male thornless, 'White Shield'. If you are growing this plant in your nursery, please contact me. We would like to shoot a couple of pictures of this tree cultivar. Contact me at Sgill@umd.edu

Spotted Lanternfly Q and A

Answers provided by Kenton Sumpter, MDA

Q: Do we need to recertify?

A: No, currently all SLF permits are reauthorized by the MDA each year.

Q: What is the permit for?

A: The permit is a regulatory tool that promotes best management practices for spotted lanternfly. Lanternfly is transmitted via human transportation pathways. The spread of lanternfly can be slowed if residents and businesses are aware of how to identify the insect and what can be done to manage it.

Q: Do I need a permit to operate my business?

A. No, the permit is a regulatory and educational tool. It is not a requirement to do business.

Q: Where can I find a list of regulated articles?

A: The list of regulated articles can be found in the quarantine order named "Definitions" section J.

Q. **Are control measures typically necessary?**

A. The necessity of control measures varies by type. Public engagement is something we consider very necessary. Effective outreach and public awareness will help to slow the spread of lanternfly and keep the public informed. Businesses can be coopted into managing their own property through the permitting process. While a civil penalty exists for violators, the permit is really an educational tool that arms businesses with the knowledge they need to identify lanternfly and destroy it. Chemical controls undertaken by municipalities and higher-level government might not really be feasible. Lanternfly can quickly establish in the landscape as well as in human communities which makes it nearly impossible to develop a management program for. Concentrating control efforts on the primary host of lanternfly, the tree of heaven, is the best way to try and reduce populations. Using systemic insecticides on tree of heaven can kill large numbers of lanternfly and removing tree of heaven can make properties less appealing to hungry lanternfly.

Q. Does the State offer any assistance with control measures by providing guidance, funding and / or services?

A. The state is very willing to provide training, permitting, outreach materials, and in some cases insecticidal treatments. Treatments are contingent on the size of the lanternfly population. Small populations are treatable because they can more easily be eliminated. Large populations that span entire cities or counties are essentially unmanageable. USDA PPQ is also available for insecticidal treatments. They would likely be the entity performing any treatments involving contact or systemic insecticides.

Q. What are other local government agencies doing to prepare?

A. Most county governments are distributing outreach materials in public spaces to raise the public's awareness of spotted lanternfly. Very few, if any, are engaging in insecticidal treatments. Most are very resource limited and do not possess the capability of spraying for spotted lanternfly.

Q. Should I request funding for treatments to be done by a professional contractor in next fiscal year's budget? If so, is there a typical percentage of trees that are affected? Is there a formula to figure cost per tree?

A. The decision to contract a pest control specialist is entirely up to you. Spotted lanternfly is a significant nuisance in the communities where it has become established, however; it is not associated with plant mortality. This means that while residents will have to deal with flying insects and honeydew showers, there will not be any die off of ornamental plants or garden plots. Spotted lanternfly has a wide host range, but it does prefer some species more than others. Tree of heaven is the primary host; grape species are very often fed on; black walnut is a preferred host; red maple; silver maple; sycamore; willow species; and eastern white pine are also frequent host species. Other plants will be fed on. In Ocean City, in particular, there are substantially fewer of these species than in central Maryland. Unfortunately, we do not have a calculator for insecticide cost per tree. It would be a matter of the chemical you chose to use, the label rate at which the chemical was applied and the DBH of the tree receiving the application. We recommend that you only apply insecticide to tree of heaven between July and September. Female tree of heaven do produce flowers in early spring and pollinators can be hurt by applications occurring before July. We also recommend limiting insecticidal treatments to tree of heaven to reduce non target kill of other insect species.

Have More Questions???

Thank you to everyone who submitted questions for this Q and A section on SLF. Please ask more questions if you have them. Send them to Stanton Gill at sgill@umd.edu. Kenton will continue to answer them in this IPM report.

Vole and Mole Activity

By: Stanton Gill

Mark Schlossberg, ProLawn Plus, Inc., sent in pictures on March 9, 2022 of a customer's lawn along a driveway edge. Voles and moles both burrow up to the surface with warmer weather to gather twigs and other material to line their nest.

Voles are frequently mistaken for moles, shrews, and mice. Moles have greatly enlarged front feet, with prominent digging claws. Moles also have no external ears and very small eyes. Shrews are smaller than voles, and have long, pointed snouts and pointed front teeth, with their eyes and ears nearly hidden in their fur. Voles have rounded, blunt snouts, and their front teeth are chisel-shaped. Their eyes and ears are readily apparent. The distinction between voles and mice is less obvious. The best way to distinguish them is by tail length. Mice have long tails that extend nearly half their body length, whereas voles have short tails.

Voles eat a wide variety of plants, most frequently grasses and forbs. In late summer and fall, they store seeds, tubers, bulbs, and rhizomes. They eat bark at times, primarily in fall and winter, and will also eat grain crops, especially when their populations are high. Occasional food items include snails, insects, and animal remains. Voles are active day and night, year-round, with peak activity occurring at dawn and dusk. They do not hibernate. Voles may breed throughout the year, but most commonly in spring and summer. Generally, they have 1 to 5 litters per year. Moles are insectivorous, eating insects, and make their burrow.

Voles and moles both burrow up to the surface with warmer weather to gather twigs and other material to line their nest
Photos: Mark Schlossberg, ProLawn Plus, Inc.

White Pine Weevils

Bob Trumbule reported that white pine weevils are active in Baltimore/Carroll County as of March 21. Adults were being caught in tedder traps that he set up. White pine weevils overwinter as adults. To prevent damage, treat terminal growth when the adult activity is noted on conifers or in traps. Avaunt insecticide is labelled for weevil control in nurseries.

Penn State has an article posted online on using Tedder traps to monitor for white pine weevils.

White pine weevil adult
Photos: Sandra Jensen, Cornell University, Bugwood.org

Sightings in the Landscape

Yellow-bellied sapsucker damage
Photo: Brian Scheck, Maxalea, Inc.

Deer damage on aucuba in the landscape
Photo: Mark Schlossberg, ProLawn Plus, Inc.

Look on woody plants for the eggs masses of praying mantids. The three on the left are eggs of the native, Carolina praying mantid, and the two on the right are of the introduced Chinese praying mantid
Photo: Steve Clancy, Town Creek Landscaping

Watch for Possible Allium Leafminer in Landscape Allium Species This Spring

By: Jerry Brust, UME

The Allium leafminer *Phytomyza gymnostoma* is an invasive pest that has been in the mid-Atlantic for many years now attacking Allium crops such as onion, garlic, leeks, and others. It also has been known to attack ornamental Allium species, but usually not to a great extent. Normally, Alliums are so pest free very few people consider any potential problems (I found this quote in an article about growing Alliums for cut flowers: "They are also practically immune to disease and insect problems, and rodents and deer rarely bother them"). An exception to this came to me last year when a cut flower grower sent me pictures of their Allium flower bed (fig. 1). The damage was astonishingly severe. There was probably some soil and foliar disease problems too, but upon close inspection of the photo, we were able to see the tell-tale marks that are made on Allium foliage by the female adult flies, which consists of several small white dots in a row (fig. 2).

Fig. 1 An Allium cut-flower bed severely damaged by Allium leafminer
Photo: Jerry Brust, UME

Life History: When the eggs hatch, the larvae at first mine leaves and then move down to the bulbs and leaf sheathes where they feed and eventually pupate. This feeding on the leaf and bulb can open the plant up to infections from disease organisms. This is what I think happened in this particular cut flower bed. The pest slowly built up over the last few years in the spring and the fall and degraded the bulbs until the plants just collapsed. The pupae undergo a summer aestivation (they are not active) and emerge again in September and

Fig. 2 Tell-tale marks of linear white dots made by an adult female Allium leafminer
Photo: Jerry Brust, UME

October. It is this second generation of Allium leafminers that is usually the most severe. The pupa of this 2nd generation stays in the soil at the base of a plant and overwinters, in the spring adult flies will emerge and start the cycle over again. This pest can be a potential problem anywhere there are Alliums in the same spot year after year.

Management: Fortunately, it can be fairly straight forward to tell if your Alliums are being attacked by looking carefully (starting in April and May and then again in September and October) at your Allium plants for the white dots in a row on the foliage. If the white dots are found you can reduce any damage caused by the larvae that hatch from these oviposition sites—white dots, with the insecticide spinosad (Entrust, which is OMRI-labelled) that should be applied two weeks after the dots are first seen and following that with a 2nd application of spinosad 2-3 weeks later. A penetrant adjuvant (an oil) is recommended when applying insecticides to any Allium crop. DO NOT apply insecticides until you see the white dots as you may never have Allium leafminer show up on your Alliums, and if it does, you need to time the applications for best control.

Beneficial of the Week

By: Paula Shrewsbury

Solitary mason bees are buzzing!

Since many pollinator species are in decline, it is important to conserve these beneficial insects. Therefore, I will be discussing various pollinators throughout the season. Today, I would like to spend some time on solitary bees, in particular the mason bees since they are active NOW. Solitary bees differ from their social cousins the European honeybee that maintain perennial colonies that continue from year to year, and bumble bees that have annual colonies which a queen restarts every spring. Honey bees and bumble bees also have division of labor within the colony (ex. foragers, soldiers, brood care, etc.). With solitary bee species, each individual female maintains her own individual nest where she feeds and raises her own brood (young). Although each female is responsible for raising her own young, these bees are gregarious and will happily live in close proximity to one another, Some solitary bee species build nests in the ground and others nest in "tubes" such as hollow stems of plants or old borer galleries in wood left by beetles or other insects.

Male horned face mason bees emerge from galleries in wood where they overwintered. The bee chews through the mud seal that the mother bee closed the gallery with last year
Photo: P.M. Shrewsbury, UMD

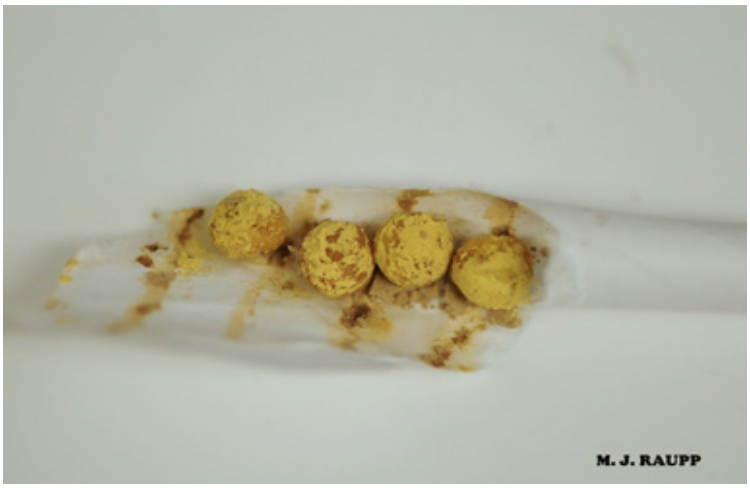
Last week on March 18th, at my house (Howard County) mason bees (family Megachilidae) began emerging from their overwintering galleries! This historically happens around St. Patrick's Day give or take a week for mason bees. In general, mason bees are early spring pollinators, but a few species emerge in late spring or early summer. Mason bees nest in hollow stems of plants, reeds or galleries in wood left behind by wood boring insects. Mason bees get their name because of their habit of making brood compartments in their galleries that are separated by mud.

Mason bees are well known for the pollination benefits they provide, especially of early blooming plants (ex. maples, apples, cherries, blueberries, spring wild flowers). It is estimated that just 250-300 mason bees can

pollinate an acre of apples or cherries. A study found that some Canadian mason bees collected significant pollen from wind-pollinated trees in urban habitats including oaks and birches, and the common lawn weed, white clover.

Blue orchard mason bee female bringing pollen back to her nesting tube
Photo: M.J. Raupp, UMD

Mason bee males emerge first (see image) and females emerge a few days later. This phenomenon, called protandry, is relatively common in the world of insects. There is a lot of competition among males to find a mate and males that emerge early in a season are more likely to find and hook up with females. Once a male and female mate, the male bee then hangs out on the female's back for a bit and fights off other males that would also like to mate with his partner. This "guarding behavior" ensures sperm from the original guarding male are used by the female to fertilize her eggs. Mated female mason bees spend many hours and days gathering pollen and nectar from which they create pollen cakes or balls, nutritious balls of pollen and nectar (see image). They fill hollow plant stems or galleries in wood with these pollen cakes. After collecting pollen from plants, the female returns to her nest gallery and enters the nest tube head first, deposits the pollen cake (this may take several trips to get enough pollen for one cake), exits the tube, turns around and enters the tube abdomen first so her ovipositor can reach the pollen cake. She then oviposits (lays) an egg onto the pollen cake which is followed by her sealing that section (makes a mud wall) of the tube or gallery with mud. The female must go out and collect mud that she brings back to make the wall. The female repeats this process until the tube contains several pollen cake – egg compartments and is filled right up to the entrance of the tube. She plugs the entrance with a mud wall and may then search out another nesting site. Eggs that are destined to be females are laid in the back of the tube, and male eggs toward the front (remember males emerge first and there is only one way out). Mason bee adults are active about 4 weeks and the females will fill as many nests (tubes) as she can in that time. The eggs hatch into bee larvae that consume the pollen cake as they develop and grow during summer and fall. They complete their development (pupa and adult stages) during fall, settle down for winter still in their tube, and are ready to emerge just in time for the return of spring. Mason bees do not produce honey, are not aggressive and do not sting. I stand observing the nesting sites in my carport for long periods of time with 100's of bees buzzing and busy around me and am always entertained by these beauties, and yet to be harmed.



Pollen cakes made by a female mason bee in one of her nesting tubes to feed her young
Photo: M.J. Raupp, UMD

Mason bees provide valuable ecosystem services by pollinating a variety of native and non-native flowering plants, many of which are fruits that we consume or flowers of plants in natural and managed landscapes that provide resources and habitat for animals at other trophic levels. However, habitat fragmentation and destruction, and lack of high-quality floral resources are factors that lead to decline of pollinators. For those of you who would like to become active in the conservation of mason bees you can provide solitary bee nesting habitats. At my house I have purchased commercially available "bee tubes" and drilled holes into firewood (see

the image). Not only can you enhance ecosystem services of pollination by providing habitat, but you create a great learning environment for children and adults. I highly suggest you try buying or making habitat for these beneficial, educational and entertaining insects. There are many resources on line that can inform you of best practices for creating habitat and conserving these beneficial insects. Do a web search for mason bees or bee tubes. NOW is the time to set up nesting sites! In addition, many managed landscapes do not have an abundance of early spring blooming plants. If you are adding plants to your gardens identify and select the very early (and very late) blooming plants. A great resource (one of many) that contains lists of plants that are good for pollinators and other relevant information is Protecting and Enhancing Pollinators in Urban Landscapes.

Commercially purchased bee tubes and fire wood with galleries drilled into it (~1/4 – 5/16" in diameter and 4-8" deep) provide suitable nesting sites for a diversity of solitary bees. Different diameter holes attract different species of mason bees (photo by P.M. Shrewsbury, UMD).

"Bee" sure to click on the hyperlinks in this story to see interesting videos of the various mason bee behaviors. Thanks to Mike Raupp (UMD) for his YouTubes.

Weed of the Week

By: Chuck Schuster

Cool soils are found in most areas of the region this week. Depending on where you live in the state, you can find soil temperatures from the mid 40 °F to the low 50 °F. We are starting to see spring weeds germinating in some limited areas west of the Bay. Soil moisture varies a great deal currently. Cooler than normal temperatures are allowing many fall germinating weeds to continue to grow and show themselves in the turf and landscape. The next several days will have low temperatures for this time of year. Japanese stiltgrass has been found in the Potomac area.

The root system of star-of-Bethlehem is bulbous
Photo 1: Chuck Schuster

The weed of the week this 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 have a whitish grooved midrib, are hollow, one quarter of an inch wide and up to one foot in length. The root system is bulbous, and the plant can reproduce by way of seed to a minimal extent, and by way of bulb division (photo 1) 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 (photo 2). The center of the flower is yellow green. The flower stalks are leafless. The flowers of this plant are 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 is produced in a three-lobed capsule which will contain several oval black seeds.

Star-of-Bethlehem in bloom
Photo 2: Connie Bowers, The Garden Makeover Company

Once it has been mowed, it is difficult to distinguish 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.

Plant of the Week

By: Ginny Rosenkranz

Magnolia stellata or the star magnolia is always the first flowering tree to bloom after the silver and red maples. It can grow 15-20 feet tall and wide with branches that arch down to the ground if not limbed up, and a rounded crown. Star magnolias prefer full sun to part shade and rich, moist well-drained soils, but are not fond of soil extremes of too wet or too dry. If the plants are exposed to strong southern winds, the tree's form will reflect that with a steep slope. The star-shaped flower begins as a white or slightly pink tube-shaped bud that opens to 12- 20 fragrant tepals that can be pure white or tinged with pink that center around a tight group of tiny petals. As the 3-4 inch flowers mature, the strap-like tepals spread and then reflex. Cultivars that should be considered include ‘Centennial’, ‘Pink Stardust’, ‘Royal Star’, and ‘Waterlily’ which have larger flowers opening to 5 or more inches wide with 20-50 fragrant tepals. These early blooming trees are winter hardy from USDA zones 4-8, and although they may get frostbite on the first few flowers, the tree has so

Star magnolia in full floral display in the landscape
Photo: Ginny Rosenkranz

many buds that will continue to bloom for almost 3-4 weeks. After the flowers are finished their show, the dark green leaves emerge. The leaves will turn a bronze yellow in autumn. In the winter, the silhouette of the smooth grey bark tree revels the broad branches and often many water shoots.

Close-up of a star magnolia flower
Photo: Ginny Rosenkranz

Degree Days (as of March 23)

Aberdeen (KAPG)	54
Annapolis Naval Academy (KNAK)	90
Baltimore, MD (KBWI)	106
College Park (KCGS)	83
Dulles Airport (KIAD)	108
Ft. Belvoir, VA (KDA)	127
Frederick (KFDK)	68
Gaithersburg (KGAI)	84
Gambrils (F2488, near Bowie)	97
Greater Cumberland Reg (KCBE)	50
Martinsburg, WV (KMRB)	69
Natl Arboretum/Reagan Natl (KDCA)	150
Salisbury/Ocean City (KSBY)	157
St. Mary's City (Patuxent NRB KNHK)	169
Westminster (KDMW)	100

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

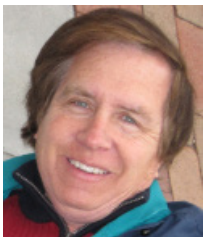
PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
Callery pear	First bloom	Columbia (March 23)
Forsythia	Full bloom	Columbia (March 18)
Bloodroot (*Sanguinaria canadensis*)	First bloom	Clarksville (March 23)
Spicebush (*Lindera benzoin*)	First bloom	Ellicott City (March 24)

Conferences

MAA Pest Walk
May 17, 2022
Details will be available later in the spring

Drone Training Program
July 28, August 4, and August 11, 2022
Details will be provided at a later date

CONTRIBUTORS:



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Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery, Landscape, and Greenhouse Association, Professional Grounds Management Society, and FALCAN for your financial support in making these weekly reports possible.

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