

Commercial Horticulture

April 2, 2021

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IPMnet  
Integrated Pest  
Management for  
Commercial Horticulture  
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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](mailto:sgill@umd.edu)

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Ambrosia Beetle Update

By: Stanton Gill

It is a real roller coaster ride this spring with the ambrosia beetle activity.

During the warm spells, we are getting activity, then during heavy rains the flight activity crashes. The heavy winds of early morning of March 29

kept them down in flight. We had two flea beetles in our alcohol traps and four *Xyleborinus saxesenii* on Monday afternoon. The warm period of March 30 and 31 saw them rise up in numbers in our traps. Then, the trap count crashed down with the cold front that came in April 1 and will continue into the cold of April 2. We checked the baited traps in Brookeville and CMREC on Thursday and there were no fresh *Xylosandrus* spp. beetles in the trap.

The cold rain and cold front are keeping flight activity down this week.



*Xyleborinus saxesenii* is active early in the season and has been found in the trap at CMREC in higher numbers so far this season.

## Cicada Program

There was a Zoom program on cicadas geared for foresters on March 31, 2021. Stanton Gill was the presented and answered questions.

Here is the page with the recording link - <https://go.umd.edu/SRa>

### Damage During Recent Storms

Mark Schlossberg, ProLawn Plus, Inc. sent this photo of a broken pine tree that occurred in Owings Mills when we had high winds last Friday.



**With the recent winds and this week's freezing temperatures, there will be a lot of issues with damaged plant material in the area**

**Photo: Mark Schlossberg, ProLawn Plus, Inc.**

### Cold Injury From April 1

By: Stanton Gill

Well, nature is dealing our area an April Fool's joke of an overnight cold snap. In some areas of Maryland such as Northern counties and western counties, you will also see this cold injury occurring on April 2nd with a second night of cold. The warm weather we saw over the last 10 days has caused several plants to come into bloom and some are forcing out new growth. The cold nights will damage many of the flowers and the tip growth will turn brown and dieback over the next 7 -10 days.

We had several landscapers and nurseries growing fruit trees for sale report that their customers' peaches, oriental plums, pears, tart and sweet cherries, and some early flowering apple cultivars



**Oriental plums bloom early and are likely to be damaged by this week's cold temperatures**



have come into bloom in the last week. This cold will kill many of the ovals and the fruit will likely abort in about the next 2 weeks. Many apricots are in full bloom and the extent of damage will be very high tree this year. You will want to mention this damage to your customers because they will ask you later this spring what happened to the fruit on many of their fruit plantings. Note oriental plums come into bloom first, followed by European plum types. The European types may be far enough behind in bloom that they will make it through. If you are growing the native beach plum, it is one of the last plums to bloom and will not be impacted by this April 1st and 2<sup>nd</sup> cold period.



**Peach trees are in flower in many areas this week and will be impacted by the cold temperatures**

## **Protecting a Small Tree With Netting Against Cicada**

By: Stanton Gill

We received several emails asking how to best use netting to protect small trees from female periodical cicadas laying eggs into stems. First off, do not put up the netting until females start ovipositing into branches, which should be in early June for central Maryland. If you leave netting up for too long during the season, you chance distorting new growth and increasing the chance of foliage disease from the poor air circulation.

Use a netting with ¼" or slightly smaller diameter holes. The netting we are using in these photos was from Industrial Netting Distributors. This link <https://www.industrialnetting.com/cicada-netting.html> will take you directly to their website to see sizes and prices. Make sure the netting drapes to the ground and you might want to put some weight on it so the wind does not blow it off.



**One of the netting options to prevent female periodical cicadas from laying eggs on small trees**

The pictures below show a garden center display of the cicada protection netting. The garden center is having customers place the netting at the base of the tree when transplanting it, then pulling the netting up from the bottom to cover the top canopy of the small tree or shrub. This way you can pull up the netting as females start egg laying and remove it when they finish laying.





The tube netting is pulled over the canopy of the tree



The netting will also cover the trunk of this small caliper tree to prevent the females from laying eggs



A demonstration of a small red maple before netting and the tree protected with the netting over it. It is good to weight the netting down at the base to keep the wind from blowing it off. Wait for egg-laying before netting trees.

## Cicadas – Telling Them Apart

Stanton Gill

On Wednesday, we held a Zoom seminar on the periodical cicada situation. During the seminar, a participant asked how you tell the difference between adult 17-year and 13-year periodical cicada. Gaye Williams, MDA, sent me an email afterwards with this response on how to tell them apart:

“(It) is easy to differentiate species by color. *Magicicada septendecim* has a brown stripe between side of head and wing base and is bigger than the other two. *M. cassinii* and *M. septendecula* are black in that area. They differ in abdominal color. Several of the pics you had were *M. cassinii* or *M. septendecula*. Several sites show differences. Thirteen-year equivalent species have same characters.”

Gaye also noted in regards to another comment that “although cicadas aren't toxic to eat, it is wise to limit amounts, especially for small animals - intestinal difficulties may occur.”

**We will be holding a follow-up seminar, via Zoom, with updates on the cicada situation on May 2, 2021. Details on how to register for this seminar will be in upcoming issues of the IPM alert.**

The Department of Entomology and its Cicada Crew (Drs. Shrewsbury and Raupp, and a group of graduate students) have created a [Cicada Crew UMD website](#) that answers questions about periodical cicadas and will help everyone learn more about these amazing insects.

## **Cedar Rust Complexes**

By: D.L. Clement and K.K. Rane

### **Key Points**

- Cedar-apple rust, cedar-quince rust, cedar-hawthorn rust, Japanese-cedar rust, and pear trellis rust are diseases that require plants from two different families in order to complete their life cycle: plants from the Cupressaceae family (red cedar, juniper) and from the Rosaceae family (chokecherry, crabapples, pears, apples, hawthorns, serviceberry/shadbush, and quince). *Juniperus virginiana*, the Eastern red cedar, is the most common rust-susceptible cedar in Maryland.
- The diseases are caused by fungi in the genus *Gymnosporangium*.
- These rusts damage many popular ornamental plants. Colorful leaf spots and twig and fruit malformations are produced on rosaceous plants. Peculiar round leaf galls, twig galls, cankers, and twig dieback are produced on cedar hosts.

### **Problems Caused by Rust Diseases**

#### **Rosaceous Hosts:**

- Highly susceptible, heavily infected rosaceous host trees may suffer leaf loss and become defoliated by midsummer.
- Leaf spots are conspicuous and detract from ornamental value.
- The loss of leaf area due to spotting and defoliation may reduce the vigor of trees, decreases yields, and makes the plants more susceptible to winter injury and other diseases.
- Some infected fruit may drop in June, and the remaining infected fruit may be misshapen, cracked, and subject to secondary fruit rots.
- Cedar quince rust can cause significant twig dieback in hawthorns and serviceberry. Other rusts in this group cause leaf and fruit spots only.

#### **Cedar-Juniper Hosts:**

- Quince-rust galls on twigs may result in branch dieback and distorted growth.
- On cedar hosts, in moist spring weather, gelatinous masses of reddish-orange fungal spores are produced on infected twigs. Galled leaves and twigs may die back resulting in distorted growth. Perennial rust cankers may cause witches' brooms and large swollen cankers.



As we move through April and when environmental conditions are right, we will see *Gymnosporangium* rust galls start to sporulate  
Photo: David Clement, UME-HGI



DISEASE	INFECTION ON DECIDUOUS HOSTS	SYMPTOMS	EVERGREEN HOSTS	INFECTION ON EVERGREEN HOSTS
Cedar-Apple Rust <i>Gymnosporangium juniperi-virginianae</i> , indigenous to North America	Infection of leaves, green shoots and fruit apple/crabapple, uncommon on hawthorn	Upper leaf symptoms start as greenish yellow spots that turn orange, often bordered by a red band, lower leaf surfaces develop yellow orange aecial structures early to mid-summer	Evergreen hosts: Eastern-red cedar ( <i>J. virginiana</i> ), rocky mountain juniper ( <i>J. scopulorum</i> ), Chinese juniper ( <i>J. chinensis</i> ), low juniper ( <i>J. communis</i> var. <i>depressa</i> ), prostrate juniper ( <i>J. horizontalis</i> ), Utah juniper ( <i>J. osteosperma</i> ), Pinchot juniper ( <i>J. pinchotii</i> )	Infection of evergreen needles form greenish brown galls the first year and enlarge the second spring year, forming 2-3 inch sized gelatinous galls with long orange spore tendrils after spring rains, spore tendrils gelatinize repeatedly and release spores during rain events, galls die and turn dark, but remain attached, dieback can be severe on rocky mountain juniper
Cedar-Hawthorn Rust <i>Gymnosporangium globosum</i> , indigenous to North America	Infection of leaves, fruit, green shoots, hawthorn, apple/crabapple, occasionally serviceberry, pear, quince, and mountain-ash	Upper leaf symptoms start as yellow spots followed by orange, lower leaf surfaces develop yellow orange aecial structures early to mid-summer	Evergreen hosts: Eastern-red cedar ( <i>J. virginiana</i> ); Rocky Mountain juniper ( <i>J. scopulorum</i> ), low juniper ( <i>J. communis</i> var. <i>depressa</i> ), savin junipers ( <i>J. sabina</i> ), and prostrate junipers ( <i>J. horizontalis</i> ), Greek juniper ( <i>J. excelsa</i> )	Infection of evergreen needles form perennial reddish brown galls that enlarge in spring forming 0.5-one inch gelatinous reddish brown spore swellings , spore swellings gelatinize repeatedly and release spores during rain events, galls remain alive for several years, generally causes little damage on evergreens

DISEASE	INFECTION ON DECIDUOUS HOSTS	SYMPTOMS	EVERGREEN HOSTS	INFECTION ON EVERGREEN HOSTS
Cedar-Quince Rust <i>Gymnosporangium clavipes</i> , indigenous to North America	Infection of thorns, green shoots and fruits in 480 species in the rose family including apple/crabapple, hawthorn, pear, quince, chokecherry, cotoneaster, and serviceberry, and mountain-ash	Usually no leaf spots, leaf veins and petioles become swollen and cause distorted leaves that defoliate, infected leaf petioles, green shoots and thorns are girdled by dark colored cankers, causing die-back to a bud or side-shoot, yellow orange aecial spores are formed in swollen tissue mid-summer-autumn	Evergreen hosts: Eastern-red cedar , ( <i>J. virginiana</i> ) Rocky Mountain juniper ( <i>J. scopulorum</i> ), common juniper ( <i>J. communis</i> ), prostrate juniper, ( <i>J. horizontalis</i> ), and savin junipers ( <i>J. sabina</i> ).	Infection of evergreen needles and shoots, forms 0.75 inch perennial swollen stem cankers with darkened roughened bark that elongate each year, forms gelatinous red orange spore masses on the bark during spring rains, infection causes thinning of foliage and twig dieback, infection also decreases the winter hardiness of Eastern red cedar
Japanese-Cedar Apple Rust <i>Gymnosporangium yamadai</i> First reported in North America in 2009 in Delaware	Infection of leaves	Upper leaf symptoms start as yellow, lower leaf surfaces develop aecial horns early to mid summer	Evergreen hosts: Chinese juniper ( <i>Juniperus chinensis</i> ) Infection of evergreen twigs forms small galls that form gelatinous orange spore bearing structures	Infection of evergreen twigs forms small galls that form gelatinous orange spore bearing structures
Pear Trellis Rust <i>Gymnosporangium sabinae</i> First reported in Washington state in 1997 and reported in Connecticut in 2012	Infection of leaves, young fruit and green shoots on ornamental flowering pear (Bradford), Asian pears as well as fruiting pears	Upper leaf symptoms yellow spots followed by red-orange, young fruit and twigs can also be infected. the lower leaf surfaces develop blister-like swellings that develop aecial structures late summer early fall	Evergreen hosts: Eastern-red cedar ( <i>J. virginiana</i> ), <i>J. chinensis</i> , <i>J. sabina</i> , and <i>J. scopulorum</i>	Infection of evergreen twigs forms swollen stem cankers that from gelatinous orange spore masses during spring rains

## Management Strategies

1. Separate alternate hosts. Avoid planting susceptible apples near susceptible junipers. Although spores from juniper galls can travel up to a mile or more in wind-driven rain, planting alternate hosts close together will increase the chances of infection. Handpick and destroy cedar galls before the spore-producing tendrils are formed. Cedar galls are most conspicuous and easy to see in wet weather when the orange spore tendrils are extruded. After the orange tendrils are produced, it is too late to prevent spore dispersal.
2. Select resistant varieties of rosaceous (apples, pears, crabapples) plants.
3. Timing is critical for fungicide applications to manage these rusts on rosaceous hosts. The sprays have to be applied when spores are being shed from the junipers, usually starting in mid to late March in our area. No chemical control is usually advised to prevent infection of landscape junipers. Infection of the junipers is potentially occurring all summer and into the fall from spores produced on the apples, hawthorn, etc. which would require many sprays all season. The period during which the rosaceous plants are infected is short (from the start of the infection period through May). Spray susceptible crabapples, apples, quince and hawthorn with a labeled fungicide, following label information on rates and spray intervals. Also, note that commercial orchards have different fungicide labels for edible cherries and these are not interchangeable with landscape usages.

## Fresh Sapsucker Damage Showing up in Landscapes

Scott Osborne sent in an email with comments about sapsucker damage: “Another item I noticed in the latest IPM report was picture evidence of sapsucker damage to viburnum. As an fyi, both of our Lace Leaf Japanese maples have also been "attacked" by sapsuckers. In 15+ years these two trees have never before had this problem. I had Bartlett inspect the damage and Gregory Schmidt said he has never seen this kind of damage to this species by birds. Fortunately I witnessed the culprit (yellow-bellied sapsucker) working the trunk on one tree. Greg also said that hopefully the total bark stripping of the outer layer around the tree (like girdling??) wouldn't harm it, but he recommended treatment of the wounds during our IPM visits. Greg also recommended covering the trunk wounds. The bird(s) have subsequently damaged other branches of the two trees. So, in addition to preventing any additional damage by cicadas, netting will also deter these pesky sapsuckers. Can't figure out why the sapsuckers are doing this as the trees were healthy. Most of this damage was done during January. Weird, at least to me.”

## Monitoring for Scale Insects

**Before trees fully leaf out, scout plants closely for scale populations. Monitor populations to time applications during crawler periods.**

**Photo: Elaine Menegon, Good's Tree and Lawn Care**





## Beneficial of the Week

By: Paula Shrewsbury

### Bees, bees, and more bees!

Over the last 15 years or so, there has been an amazing amount of research and outreach conducted addressing various aspects of bees. All this research has resulted in a tremendous increase in our knowledge and the availability of information about bee health, threats to bees, bee behavior, the ecosystem services provided by bees, identification of plant resources and other practices to conserve bees, and more. I am not suggesting that we know everything or even enough about bees yet!

I would like to talk about solitary bees. Solitary bees differ from their cousins the European honeybee that maintain perennial colonies that survive from year to year, and bumble bees that have annual colonies that a queen restarts every spring. Honeybees and bumble bees also have division of labor within the colony (ex. foragers, soldiers, brood care, etc.). With solitary bees, each individual female maintains her own individual nest where she raises her own brood. There are several groups (families) of solitary bees. This past week, the mason bees (family Megachilidae) in Columbia MD emerged from their galleries and are busy collecting pollen. Mason bees nest in hollow stems of plants, reeds or galleries in wood left behind by wood boring insects. I also found a few active ground nesting bee holes (Columbia MD) indicating they are beginning their activity. For this article, I will focus on ground nesting bees. Notably, seventy percent of native bee species in the United States are ground nesting.

### Ground nesting bees: Are they a beneficial or a pest?

When it comes to ground nesting solitary bees the answer may be in the eyes of the beholder! Today, I would like to discuss plasterer bees which are a group of solitary bees in the family Colletidae, sometimes referred to as colletid bees that nest in the ground. One of the most common species of ground nesting bees in northeastern North America is *Colletes inaequalis*, but there are several other common species.



Plasterer bee emerging from the ground nest she has dug and provisioned with pollen for her brood.

Photo: M.J. Raupp, UMD



Above are the tumuli (opening with soil mounded around it) of nesting burrows of plasterer bees in a home lawn. Aggregations of these solitary bees are common in lawn areas with sandy soil and/or thin turf.

Photo: P.M. Shrewsbury, UMD

**What's the benefit?** Plasterer bees are excellent early season pollinators of a diversity of plants. These early season pollinators feed on pollen and nectar from about 38 different early blooming trees, shrubs, and herbs such as *Acer* (maple), *Vaccinium* (blueberry), *Liriodendron* (tuliptree), *Prunus* (cherries), *Ribes* (gooseberries, currants), *Malus* (apple), and *Amelanchier* (service berry, shadbush).

Plasterer bees construct subterranean nests by excavating burrows in the soil. The opening of each burrow (tumuli) are surrounded by a mound of soil. These bees are referred to as plasterer bees because they line their burrows with a polymer-like secretion. Most soil nesting colletids make a main burrow that have up to several lateral cells or galleries underground. Each cell is provisioned with food by the female adult bee that is a mixture of pollen and nectar for her offspring. This mixture may be a semi-liquid mixture of pollen and nectar or some species make a loaf of “bee bread” with pollen and nectar. Once a cell is has food, the female oviposits (lays an egg) in the cell, and then seals the cell with soil. When the larvae hatch from the egg they have a nice meal to feast upon.

Adult plasterer bees are hairy and somewhat cute. They are not aggressive and are not known to sting people. They are univoltine (1 generation / year) and adults are usually active from early-mid March to early-mid-May. When [adults emerge from the ground](#) in March they mate and then females begin foraging on flowers. To get the food back to the nest, most bees carry nectar in their crop (a special sac-like chamber in their digestive tract). Most solitary bees have an area of stiff hairs, called a pollen brush or scopa, into which pollen grains are pushed. These hairs are located either on the underside of the abdomen or along the hind legs. It is a win-win situation. Plasterer bees get pollen for food; flowers get pollinated.

**Why would anyone consider these cute little bees a pest?** Although plasterer bees are solitary bees, they are referred to as gregarious nesters meaning it is common to see numerous, sometimes hundreds, of bee burrows in the ground in the same location. Basically, these bees can exploit a favorable habitat when they find one. Plasterer bees like areas of lawns where the soil is somewhat sandy and well drained, and the turf is thin (ex. unhealthy), especially south facing sites. Many homeowners find “hundreds” of soil mounds in their lawn unsightly. In addition, people who are not familiar with solitary bees or the fact that they will not sting, tend to get a little anxious when they see hundreds bees flying around their yards. Be sure to inform your clients, friends, etc. that these little guys are great pollinators and not aggressive – so no worries! Even though the soil mounds are unsightly in the lawn you do not want to actively kill plasterer bees. I recommend two practices to reduce the abundance of plasterer bees in a lawn. Both attempt to make the lawn habitat less favorable for the bees to use as nesting sites. One is to renovate the lawn area by reducing the amount of sand and over-seed to thicken the stand of turf. Now would be a good time to do this since bees are foraging and creating new nests. You would like them to go somewhere else and make their nests. Also this is a pretty good time of year to renovate lawns in general. The other practice that I have been told works but have not tried myself is to heavily water the area where the bees are nesting, making the site unfavorable and the bees will search out other nesting sites. Again this is the time of year to do this to have the least detrimental impact on the bees. Hopefully, you can conserve these excellent pollinators and keep your clients happy!

**For more information see:**

Xerces Society: <http://www.xerces.org/blog/ground-nesting-bees>

Bug of the Week - Plasterer bees: <http://bugoftheweek.com/blog/2020/4/13/spring-sunshine-heralds-the-appearance-of-plasterer-bees-colletes?rq=ground%20nesting%20bees>



## Weed of the Week

By: Chuck Schuster

As I write this article, it is sleeting outside in Glenwood MD. Soil temperatures have been up and down, and above the critical temperature in some areas for crabgrass and Japanese stiltgrass to have started the germination process, yet I have not received any reports of sightings yet. Today (Thursday 4-1-2021) the starting air temperature in one location was 42 °F at 6:30 a.m., and soil temperatures in the mid 40's. The forecast for the next 24 hours is a decrease in air temperatures to the mid to upper 20's as the lows, which will cause a slight dip in the soil temperatures.

In some areas, the turf and woodland borders are blooming with lesser celandine. Other areas have seen this herbaceous perennial already having completed its bloom cycle for the year. Lesser celandine, *Ficaria verna* L., also known as fig buttercup and pilewort, is a perennial flowering herbaceous plant that is flowering currently in many of the warmer soil locations. This spring ephemeral arises early in the season, often near forest fringe areas and creates a dense carpet thus preventing native ephemerals that include bloodroot, wild ginger, and others from surviving. The dense growing pattern makes this plant an invasive weed that competes and eliminates native understory plant species. It is also a plant that competes in turf areas if allowed, causing the turf to become very thin. When lesser celandine dies off later in the spring, it leaves bare spots for summer germinating weeds to move in.

This plant has a basal rosette of dark green and shiny stalked leaves that are heart- to kidney-shaped. The flowers arise above the leaves on a delicate stalk, are yellow in color, and occur with eight petals (rarely more). The center of the flower will be slightly darker in color. Most flowering occurs in this region from early March through May. The plant will present with pale cream colored bulblets that occur along the stem axils that will become noticeable with close observation after the flowering period is complete. These bulblets make mechanical removal difficult. Lesser celandine spreads primarily by vegetative means through abundant tubers and bulblets (Photo 1). No other cultural or biological control agents are currently noted for this plant. It is considered invasive in many areas. It should be noted that this plant may be misidentified as marsh marigold *Caltha palustris*, which does not produce the tuber like the one found on lesser celandine.

Control of lesser celandine is difficult. Cultural methods for control of this plant is limited to mechanical removal only. Manual methods can achieve success with small patches, but will take careful removal of all bulblets and removal from the site to either a landfill or other means of destruction. This will be extremely difficult in larger turf areas. When doing manual removal, attempt to reseed the area to prevent the germination of the summer grassy weeds in these bare spots. Chemical control can be achieved



**Photo 1: Lesser celandine spreads mainly by tubers and bulblets**

**Photo: Daniel McPeak**



**Close-up of lesser celandine flowers**

**Photo: Ginny Rosenkranz, UME**



**Lesser celandine can quickly take over an area**

**Photo: Chuck Schuster, UME-retired**

using glyphosate (Rodeo from Corteva and Roundup Custom from Bayer are labeled for wetland areas) products early in the season, mid-February to early April, as long as the air temperature is 50 °F, and no rain is anticipated within 12 hours. Waiting beyond this period of time may cause damage to many native wildflowers that share some sites. In this area, it is recommended to wait until half the plants are in bloom to start control.

In turf/lawn settings, products containing at least two of these herbicides have been found effective. The herbicides to look for are MCPA, triclopyr, and dicamba that will remove many broadleaf weeds. Use caution with these products near ornamentals, and the potential for volatilization does exist in warmer temperatures. These are not products that should be considered near delicate landscapes or vegetable gardens. Glyphosate products are non-selective and will destroy desired plant species. Some glyphosate will take seven to fourteen days, adequate soil moisture, and air temperatures for noticeable plant changes to occur.

## **Plant of the Week**

By: Ginny Rosenkranz

Spring is full of blooming plants, but one of the most long-lived spring beauties is the daffodil. Daffodils are bulbs that should be planted in the fall about 6 in-7 inches deep into the soil with the base of roots down and the pointed top upwards. They thrive in moist but well drained soils in full sun to partial shade of deciduous trees, and prefer to have dry soils during the summer when they are dormant. The bulbs are cold hardy from the USDA cold hardiness zones 3-8 which means they can thrive in all parts of Maryland. In early spring, the slender dark green leaves emerge when the temperatures start to warm up. Hard frost will not damage either the foliage or the newly emerging flowers, but will 'burn' the flowers that have fully opened. The large 5-6 inch, bright ivory white petals and golden yellow trumpet flowers bloom early to mid-spring on strong stems that are 18-20 inches tall. The flowers can be cut and brought indoors for flower arrangements that can last at least a week. The slightly fragrant flowers are resistant to deer, voles, rabbits, and squirrels because the foliage, flowers and the bulbs are all poisonous. There are some early pollinators like butterflies, moths, bees, and flies who will visit open trumpet flowers. It is not a bad idea to remove the spent flowers, but don't cut down the foliage (or braid it) until the foliage turns yellow. Daffodil 'Las Vegas' is a cultivar, that once planted, will continue to bloom year after year, but should be dug and separated once every 8-10 years. The plants can be grown in decorative pots that can be brought indoors to bloom in the freezing cold of winter. They can also be planted in decorative containers outdoors to bring color to small gardens, condos and apartments, or planted outdoors to naturalize.



**Daffodil 'Las Vegas' should be dug and separated once every 8-10 years**

**Photo: Ginny Rosenkranz, UME**



## 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 **59 DD** (Martinsburg, WV) to **145 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.

- Eastern tent caterpillar - egg hatch (**86 DD**)
- Woolly elm aphid – egg hatch (**163 DD**)
- Spiny witchhazel gall aphid – adult/nymph (**171 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 March 31)

Aberdeen (KAPG)	61
Annapolis Naval Academy (KNAK)	90
Baltimore, MD (KBWI)	104
Bowie, MD	120
College Park (KCGS)	90
Dulles Airport (KIAD)	97
Ft. Belvoir, VA (KDA)	107
Frederick (KFDK)	80
Gaithersburg (KGAI)	96
Greater Cumberland Reg (KCBE)	68
Martinsburg, WV (KMRB)	59
Natl Arboretum/Reagan Natl (KDCA)	145
Salisbury/Ocean City (KSBY)	135
St. Mary's City (Patuxent NRB KNHK)	113
Westminster (KDMW)	118

Important Note: We are using the [Online Phenology and Degree-Day Models](#) site. Use the following information to calculate GDD for your site: Select your location from the map Model Category: All models Select Degree-day calculator Thresholds in: Fahrenheit °F Lower: 50 Upper: 95 Calculation type: simple average/growing dds Start: Jan 1

### Phenology

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
Callery pear	First bloom Full bloom	Columbia (March 27) Columbia (March 31)
Forsythia	Full bloom	Columbia (March 29)
Mayapple	First leaf	Ellicott City (April 1)
Rue anemone	First bloom	Clarksville (March 27)
Spicebush ( <i>Lindera benzoin</i> )	First bloom Full bloom	Ellicott City (March 28) Ellicott City (April 1)

## Conferences

CDC guidelines for Covid-19 may cause changes to the programs below.

### **Maryland Arborist Association Pesticide Recertification Program**

(limited in-person and on-line program)

May 11, 2021

Registration opens on March 30.

Location: Turf Valley, Ellicott City, MD

**More information** is available at [http://www.mdarborist.com/calendar\\_day.asp?date=5/11/2021&event=315](http://www.mdarborist.com/calendar_day.asp?date=5/11/2021&event=315)

### **Pest Management Recertification Program**

(limited in-person program)

June 3, 2021

**Location:** Carroll Community College, Westminster, MD

Details will be available at a later date

### **Greenhouse Program**

July 8, 2021

(limited in-person program)

Location: Catoctin Mountain Growers, Keymar, MD

Details will be available at a later date

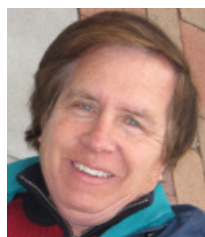


## New IPMnet Website

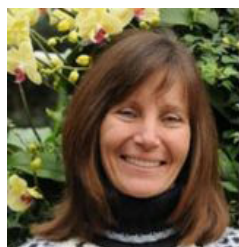
University of Maryland Extension is making changes to its website so the look of the IPMnet site will be different. URLs will be new, too. We will post the new link in a future report. The change is scheduled to take place in April.

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

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