UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **March 27, 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)

How It All Works During The COVID-19 Pandemic

By: Stanton Gill

The University of Maryland Extension is currently functioning, but our CMREC office/lab is officially closed. I and my lead technician, Suzanne Klick, will be working remotely via electronic communication. We will continue to put out the IPM Alert each Friday. Please send in any pictures of plant/insect problems and where you found them active, and I will include it in the IPM Alerts. You can email me at Sgill@umd.edu. We will continue to operate the IPMnet website. You can also contact me on my mobile phone at 410-868-9400. If you have samples I need to examine, contact me and we can set up a dropoff location to get me the samples.

Plant pathologists, Karen Rane (rane@umd.edu) and David Clement (clement@umd.edu), will accept disease pictures sent to them for diagnosis. Karen and Dave will cover major diseases in the weekly IPM alert. Karen cannot accept samples since her lab on campus is shut down. Ginny Rosenkranz, Chuck Schuster, Paula Shrewsbury, Andrew Ristvey, and Nancy Harding will continue to contribute to the IPM Alerts during the state of emergency.

Note: Governor Hogan is allowing a grace period for all licenses, permits, and registrations in the state that may be expiring or up for renewal during the state emergency.

How to Make the Most of Digital Plant Problem Diagnostics

By: Karen Rane (rane@umd.edu), David Clement (clement@umd.edu), and Andrew Ristvey (aristvey@umd.edu)

Although the UMD Plant Diagnostic Laboratory is unable to receive packages or drop-off samples due to the UMD response to CoVID-19, we are still working remotely to help our commercial clients deal with plant problems. With the right photos, we can often identify possible causes for plant symptoms or at least narrow down the list of possibilities. It is essential to get the right photos, however. For landscape plant problems, we need to see at least one photo of the plant, tree, or shrub with the surrounding site visible – this allows us to see problems like excessive shading, berms, or swales that could indicate drought or excessive moisture, and other site factors. We also need a few photos of the symptoms of concern. If the entire plant is brown or wilted, it can be helpful to get a photo of the base of the stem, where the plant emerges from the ground or mulch (these photos can indicate deep planting or excessive mulching as a possible problem). It should go without saying (but based on the photos we sometimes receive, clearly it needs to be said!) – the photos must be in focus! Please look at them before you send them, to make sure that the plant in question is easily identified and the symptoms are clearly apparent.

Along with the proper images, we need information on the plant in question – what is the species, how long has it been in the site, when did symptoms first appear, what is the distribution of the problem (all plants of many species showing symptoms, or is it just this one species?), and what if any pest management applications have been made. The UMD sample submission form shows the type of information that is useful for plant problem diagnosis.

Here's an example of a good set of photos for diagnosis, submitted by Heather Zindash, IPM scout:

Figure 1. First photo- Pine showing discolored foliage, mostly on lower foliage. Information submitted with the photos indicated this was a 3-needled pine.
Photo: H. Zindash, IPM Scout

Figure 2 First photo enlarged on computer, showing brown tips on last year's needles (arrow). Sending high resolution photos allows us to enlarge them with no loss of quality.
Photo: H. Zindash, IPM Scout

Figure 3 . Second photo - Closeup of needle. Note protruding spore structures near junction between brown and green tissue (arrow). These structures are typical of Dothistroma needle blight. Photo: H. Zindash, IPM Scout

Here's an example of a photo that is not very helpful for diagnosis:

Figure 4. Dieback symptoms in an unidentified tree with no site context. Photo: K. Rane UMD

Although a picture may be worth a thousand words, there are limits to how far a digital diagnosis can go. Most fungal and bacterial pathogens require microscopic examination, culturing or other lab tests for a confirmed identification to genus and species. Lab testing is also required to identify specific plant pathogenic viruses, even though plant symptoms can be very suggestive of virus infection. However, even with these limitations, digital diagnostic samples can help us to assist landscape managers and growers in suggesting possible causes of plant problems and help choose management strategies.

From Andrew Ristvey: For suspected plant nutrient problems, try to send me as much information as possible over email. This would include pictures of the affected plant tissue. Be sure that your pictures are in focus which may mean several attempts at getting the right shot. This is especially true for close-ups. Also take any pics that may give clues to the potential problem. This will include wide shots of the area, and the whole plant or plants. Good resolution is also important so we can zoom images, but be careful of the size attachments you send. Our gmail system will allow large files to be sent but are limited to 25 MB. If you can manage the size of the pictures and send a total of no more than 3 pics at a time, that will be good. If you need to send more pics, send several emails. Other information that would be helpful would include soil analyses or information about the history of the plant(s). Please include your phone contact information so we can have a conversation at which point, I'll probably ask a lot of questions.

Ambrosia Beetles

By: Stanton Gill

I checked the traps at CMREC on Tuesday morning, and there were three *Xylosandrus germanus* present. Since we are in lockdown mode, I took the alcohol treated bolts to my house in Brookeville and put them out with the ethyl-alcohol baited Lindgren trap so I can continue to monitor activity in Maryland. I am in contact with the IPM scouts so we should be able to report on activity in other parts of the state.

Brian Dahl, Pope Farm, reported that he had 15 ambrosia beetles in his trap this morning. I have not seen the samples yet for confirmation on species. He also placed out 15 alcohol baited bolts of wood to see if they can attract ambrosia beetles and reduce the population in the nursery. I checked my Lindgren funnel trap baited

with ethyl alcohol this morning and I had 8 *Xylosandrus germanus* and one *X. crassiusculus*. With the warm, humid, and mild weather coming on Sunday (75 - 80 °F), I suspect we will see a fair amount of flight activity from ambrosia beetles. **Now is the time to apply the protective sprays of either bifenthrin or permethrin to protect susceptible trees.**

We had set up with four Maryland nurseries to place out 20 – 30 ethyl alcohol treated bolts of maple in their nurseries to see if we could greatly reduce the activity in their nurseries with these baited ethyl alcohol traps. Thanks to Bob Mead of Mead Tree for cutting up so many wood bolts. Nick Graves had his guys at Ruppert Companies drill out the bolts. Our supply of ethyl alcohol is on the campus of the Univesity of MD and they shut down the shop which cuts off our ethyl alcohol supply for these nursery field trials. We might be able to continue this trial later in the summer if the Covid-19 situation settles down and the ambrosia beetles are still active. Otherwise, this project is delayed until 2021.

George Mozal, ClearRidge Nursery in Union Bridge called. Since I could not get bolts to him, they made their own bolts using vodka as the alcohol source. This source should work since the alcohol content is fairly high in vodka. We suggested locations for the trap bolts in the nursery. He will let us know if the traps are pulling in ambrosia beetles and will get us the bolts later in the season so I can identify which species were trapped.

Lindgren funnel trap with alcohol lure to monitor for ambrosia beetles

Ethyl alcohol was added to the hole drilled into the bolt for monitoring for ambrosia beetles

New Herbicide Chemistry 2020

By: Stanton Gill

Bayer Company and US Corteva Company researchers have found the building blocks for new chemistry for a plant herbicide that kills grass weeds in crops. There has been a desert of new herbicide chemistry coming out over the last 40 years with the potential to replace glyphosate. The new product is 7 -10 years away from being released, but it should provide an alternative to glyphosate. Some of you may not be familiar with Corteva. U.S. Corteva, Inc. (also known as Corteva Agriscience) is a major American agricultural chemical and seed company that was the agricultural unit of DowDuPont prior to being spun off as an independent public company. It is the biggest pure play (stand alone) agricultural organization in the world.

Sooty Mold

By: Rachel Ross and Karen Rane

Spring has begun and as you spend more time outdoors, you may find some of your plants exhibiting a thin, black film-like growth. Sooty mold, which is caused by several genera of fungi, is to blame for this unattractive growth. Sooty mold may appear on many plant species and nearly all aboveground plant material including foliage, twigs, branches and fruit. While unsightly, sooty mold is simply an opportunist and does not directly infect the host plant. The fungi of sooty mold utilize the sweet honeydew left behind by sapsucking insects such as aphids, mealybugs, and scale insects (see photos). Sooty mold fungi produce spores which are airborne and stick to surfaces that are coated in honeydew.

Sooty mold and the accompanying insect populations, if at low levels, pose little threat to the overall health of the host plant. However, if sooty mold covers an excessive amount of the host plants foliage, it can block light penetration and inhibit photosynthesis. To control sooty mold, you need to control the insect pest population, which is the source of the nutrients sooty mold fungi need to grow.

Stanton Gill provided this information about the identity and impact of the scale in the photos:
"These are overwintering 2nd instar stages of the soft scale, *Pulvinaria floccifera*, commonly called Cottony Camellia/Taxus scale. It is a soft scale that excretes incredible amounts of honeydew on which sooty mold grows. It is common on Chinese hollies and *Taxus* species. The females will produce white ovisacs in May and will become very noticeable on the undersides of leaves." For more information on managing this and other scale insects in our region, download the publication "Scale Commonly Encountered in Maryland Landscapes" from the UME Commercial Horticulture IPM website.

Photo 1. Sooty mold on foliage of Chinese holly (*Ilex cornuta*)
Photo: R. Ross, UMD

Photo 2. Cottony camellia/Taxus scale on Chinese holly (*Ilex cornuta*)
Photo: R. Ross, UMD

Garden Centers and Covid-19

By: Stanton Gill

We need your input. Besides maintaining 6 ft from customers and employees wearing nitrile or latex gloves, we are looking for innovative methods you found that help protect your workforce and customers. We would like to share some of these ideas in the next IPM Alert so everyone can benefit. Send input to Sgill@umd.edu. Thanks.

Precautions for Workers in the Landscape and Arborist Industries

By: Stanton Gill

We are encouraging landscapers and arborist workers, when traveling to a job site, to practice social distancing as much as possible. The tendency is to jam several workers into one vehicle to go to and from a job site. It is also important for everyone to frequently and thoroughly wash their hands before eating snacks or meals. Many field workers load up with chips and soft drinks in the morning on the way to work sites and consume these foods at various times during the morning and afternoon between lunch and dinner. They need to be sure to clean their hands before they eat these snacks.

Some landscape workers are taking their children to workplaces since they do not have child care. This action is a bad idea for insurance reasons and because the children will be riding in vehicles in close contact. Some other alternative method needs to be developed to help the workers deal with taking care of their children separate from the workplace.

Penn State Coronavirus Best Management Practices for the Green Industry

https://extension.psu.edu/coronavirus-best-management-practices-for-the-green-industry

The Green Industry and the Corona Virus-Covid 19

Mark Schlossberg, ProLawn Plus, Inc., contacted Maryland Agriculture Secretary Joe Bartenfelder about the status of lawn care companies as an essential or nonessential business. Mark received a response from Bartenfelder's government relations manager stating that lawn care is considered EXEMPT for now and companies will be allowed to operate. Arborists, landscapers, Sod (agriculture) and exterminators are specifically exempted. Mark learned that they are also including lawn care, golf course maintenance and sports turf in the landscaping category. Mark also noted that this situation could change at any time so pay attention to the news. The exemption list is available at https://governor.maryland.gov/wp-content/uploads/2020/03/OLC-Interpretive-Guidance-COVID19-04.pdf.

The **Maryland Nursery, Landscape, and Greenhouse Association** is providing information on Coronavirus Covid-19 for the green industry at https://www.mnlga.org/covid-19-resources.

LCA of MD/DC/VA also has information on their website at https://www.lcamddcva.org. There will an LCA State of the Industry Webinar: COVID-19 on Monday, March 30 | 3:30 pm–5:00 pm EDT. Registration is required.

Tree Fruit Pest and Disease Resources

By: Karen Rane

Landscapers who are caring for fruit trees as well as ornamentals need additional information specific to tree fruit pests and diseases. Clients may have unrealistic expectations for fruit quality, especially if they want to produce fruit organically. If clients are agreeable to conventional pesticides, products labeled for ornamentals are often not labeled for use on food crops, and products labeled for fruit production have different application rates and timing issues (such as preharvest intervals). An excellent resource for timely Tree Fruit information for the Mid-Atlantic region is Penn State's Tree Fruit Production website (https://extension.psu.edu/forage-and-food-crops/fruit). Current alerts, pest and disease recommendations, as well as detailed information on specific tree fruit issues can be found here. Those caring for fruit trees should check this site often for up-to-date tree fruit information.

Insects on Fruit Trees Are a Month Ahead of Schedule in 2020

By: Stanton Gill

The unusual warm winter and early spring is resulting in several of the fruit insects starting activity up to a month early. Grzegorz Krawczyk, Extension Entomologist at the Penn State Biglerville Experiment Station, sent out an an update on Friday morning. Several of you manage fruit tree plantings for your customers and should be aware of action to take now. If your customers have had problems with pear psylla on pear trees in the past, you need to know the adults overwinter and will be active with the warm weather this weekend. With the 75 °F predicted temperatures coming on Sunday, they will be in flight and laying eggs on tip growth of pears. A 2 - 3% horticulture oil will suppress them and coat any eggs they lay. This treatment will reduce damage later in the season. Do not make the oil applications if the pears are in bloom.

In earlier IPM Alerts in 2019, I let you know about the increase of the armored scale commonly called San Jose scale that is found on fruit trees. You can still squeeze in a 2 - 3% horticulture oil application on cherry trees (before flower buds open), on peaches (we are really close on opening of peach blooms so do it before they open) and apples and pears.

Oriental fruit moth is a major problem on peaches and apricots. The adult oriental fruit moth starts flight just about the time peaches are in full bloom. They lay eggs on newly emerging foliage after flower. The larvae bore into tip growth on peach and apricots. An application of Bt or Spinosad (Delagate is one brand name) will help control this lepidopterous pest. Add a spreader sticker so the rains of April will not wash it off easily. Red banded leaf roller and spotted tentiform leafminer adults will be active in the next week. They lay eggs on the foliage surrounding apple bloom clusters. A 1 % rate of horticultural oil after apple bloom will kill some eggs laid on the cluster of leaves surrounding the fruit cluster. These caterpillars feed on the newly developing apples, scarring the outermost tissue that shows up as the fruit matures. Applications of Bt or Spinosad will also suppress these two caterpillar pests.

Disease Control Options on Fruit Trees

Peaches and oriental plums are in full bloom in central Maryland. Blooms on fruit bearing sweet cherries are just starting to show white buds. On the Eastern Shore, fruit has set on both peaches and oriental plums in the Easton area.

It is critical to get your cover fungicide sprays on now to protect from scab and rust diseases. Chemical applications of Captan and Manzate combined with a spreader sticker to help the material stick at this wet time of spring. If your customers want to try biofungicides, Bioworks Company (New York State) and Certis (Columbia, MD) have a couple of biofungicides you can try. We trialed a couple of these biofungicides from these companies in 2018, but it was the worst year for disease pressure and not an ideal testing year. Even the conventional fungicides performed poorly in the trial. With the heavy and frequent rains in 2018, the disease pressure was tremendous. In our trials in nurseries and orchards, the biofungicides held up for a couple of weeks, but the constant rain finally got the best of them resulting in poor disease control. This season may be different, and it could be an option if your customers do not want to use conventional fungicides.

Keep in mind, all of the great pathologists from whom I have learned over the years tell me any disease control is best applied as a preventative. Once a disease is established, fungicides and biofungicides will generally result in poor control.

Hemlock Woolly Adelgid

Elaine Menegon, Good's Tree and Lawn Care, found hemlock woolly adelgids in Harrisburg, PA on March 18. Heather Zindash, IPM Scout, found eggs and crawlers on hemlock in Dickerson on March 20. Look for fluffy white wax resembling cotton balls located on hemlock twigs at the base of the needles. The cottony masses cover the adult female body and her eggs. Newly hatched nymphs are reddish-brown with a white fringe near the front; and settled crawlers are black with a white fringe around the body and down the back. There are two generations a year. Hemlock woolly addelgid damage plants by inserting their stylet mouthpart into the phloem of the tree and removing plant fluid.

Control: Spray trees with 2% horticultural oil or insecticidal soap to target crawlers or newly settled crawlers. Systemic insecticides can be applied as a basal trunk application.

Female hemlock woolly adelgids produce fluffy, white egg masses Photo: Elaine Menegon, Good's Tree and Lawn Care

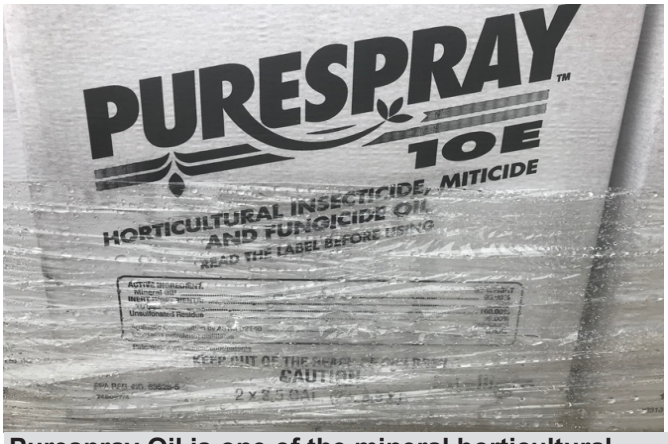
Look for the reddish hemlock woolly adelgid crawlers to time horticultural oil and insecticidal soap applications Photo: Heather Zindash, IPM Scout

Horticultural Oil

By: Stanton Gill

Well, last November and December did not have many good opportunities to apply dormant rates of horticultural oil. So, by default, it looks like spring will be our next best bet. For the oil to work, insect respiration needs to be up, and for this to occur we need temperatures between 50 – 55 °F for a couple of days in a row. We want the insect respiration rates to be up for the oil to work as a suffocant before it evaporates.

I had a couple of inquiries on the various horticultural oils on the market. I asked Dan Gilrein from Cornell University Extension to put in his comments.



Purespray Oil is one of the mineral horticultural oils available on the market

Here are Dan's comments:

"My understanding is that plant-based oils tend to decompose over time especially if exposed to the environment and sometimes polymerize (like linseed oil) over time. I think those aspects vary among oils. They also tend to be more expensive than paraffinic (petroleum-derived mineral) oils.

Paraffinic horticultural oils are distilled from petroleum according to various specifications to eliminate aromatic molecules and sulfur and produce a product with a specific range of molecular 'chain' lengths, which also enhances plant safety while optimizing efficacy. The mineral oils on the market vary somewhat in these distillation specifications, with some having components in the longer chain end of the spectrum used in more strictly dormant-stage applications on plants where their lower volatility and greater persistence can be helpful (more effective) for mite eggs that are only transpiring a minimal amount. Some other products can be used both at dormant stage and also on green foliage, but generally are not so persistent. Efficacy can be affected by factors like how much the mite eggs are respiring (prob. temperature-related), but also be affected by application rate, application method, coverage, and other factors.

The 'mineral oil' at hardware stores and pharmacies is not labeled as a pesticide so not sold for that purpose. It also doesn't contain the emulsifying agents/dispersants needed to mix with water for spraying and it is not distilled to the same specifications of hort oils designed for use on plants. None of the vegetable or paraffinic hort. oils are sprayed on plants at full strength and they shouldn't be.

Vegetable oils sold in grocery stores are also not labeled as pesticides and shouldn't be used as such though a few hort oil products do contain a vegetable oil as the active ingredient. These also of course include some kinds of emulsifiers so the oil can disperse in water for spraying. Triact/Trilogy (neem oil) is one; there are or were some canola or soybean oil-based insecticides for use on plants. In one test the latter left sticky residue and did not volatilize (or not much) over time. It also caused leaf yellowing/drop. I generally prefer mineral oil-based hort oils when recommending for managing mites and other pests.

At temperature extremes (high, low), no oil should be used on plants since there is a greater risk of plant injury. Some oils and especially vegetable oils become much more viscous at lower temps so handling may be an issue."

Beneficial of the Week

By: Paula Shrewsbury

Predatory mites eat cool season spruce spider mites and others.

Last week we had the first report of spruce spider mites being active on needled evergreens in MD. Now is the time of year that cool season mites like spruce spider mite (on needled evergreens) and southern red mite (on broad leafed evergreens) are active. Fortunately, there are numerous predators that like to feed on plant feeding spider mites, such as predatory mites, lady beetles, dusty wings, and lacewings. Predatory mites are one of the most common predators of spider mites and can significantly impact spider mite populations. Many of the predatory mites attacking spider mites are in the family Phytoseiidae, but there are several other families of predatory mites, and ultimately there are numerous species. The feeding habits of these different species vary. For example, some are specialized mite predators feeding on many species and families of spider mites; others are selective and may feed only on spider mites in the Tetranychidae family; others are generalist predators and may feed on mites and some insects; and others are omnivorous and feed on pollen in addition to prey.

Predatory mites have needle-like chelicerae (mouthparts) that they insert into plant feeding spider mites or spider mite eggs to remove the fluids of their prey. Click here for to see a video of predatory mites feeding

on spider mites (referencing this video does not endorse this company over others). Phytoseiid mites are about the same size as spider mites but their bodies are tear-drop or pear shaped, relative to the more boxy shape of many plant feeding spider mites. They tend to be a clear yellow to orange color (depending on species and sometimes prey item). Relative to plant feeding mites, phytoseiids have longer legs and run faster. Remember they must forage or hunt for their food. Predatory mites have a high reproductive rate, they develop faster than their prey, and there are more females than males in the population. All of which allow them to respond numerically to increasing prey densities which means more spider mites leads to more predatory mites which then leads to fewer spider mites, and so on.

A predatory mite (right) in the family Phytoseiidae feeding on a two-spotted spider mite (left). Photo: Jack Kelly Clark, UC Statewide IPM Program, University of California

Predatory mites occur in nature and they can be purchased commercially and released (known as augmentation biological control). Most documented success with augmentative release of predatory mites has been in indoor environments such as green houses or conservatories. However, in outdoor environments such as ornamental landscapes and nurseries, naturally occurring predatory mites are believed to be very effective biological control agents. Plant managers should be aware that some plant and landscape management practices are detrimental to predatory mite populations.

Most important to the success of naturally occurring predatory mites is the selection and use of pesticides that have minimal impact on these predators to help in their conservation and to build-up their densities. Many pesticides in the Pyrethroid class are known to have long term detrimental impacts on predatory mite populations and should be avoided, especially on mite prone plants. Other miticides such as those on the "EPA reduced risk" list (ex. acequinocyl (Shuttle), bifenazate (Floramite), and others) or horticultural oil have been shown to have reduced or little impact on predatory mites. There are also very selective miticides such as hexythiazox (Hexygon) which only targets spider mites in Tetranychidae family and do not harm the Phytoseiid predatory mites. It may take a season or two of "wise" pesticide use to build up effective pest suppressing predatory mite populations but it will happen! Remember to always read the label and follow label instructions on pesticides.

The other important part of conserving predatory mites is to provide optimal habitat and alternative food options. Adding plant species diversity increases the availability of prey and floral resources for predatory mites which helps increase their populations and keep them in the landscape or nursery.

Wise pesticide use and habitat diversification practices will also help to conserve other natural enemies of spider mites, and natural enemies of other pests too. Select and implement IPM practices that will give these good guys a chance to increase their populations and decrease spider mite densities and damage.

Weed of the Week

By: Chuck Schuster

With social distancing being the needed way we deal right now, I am not able to go to the gym and work out. Long walks and runs are filling the exercise need. In my travels, I see the landscape coming out in all its glory. Some plants along the roadside caught my eye and I have been working on proper identification. As always, I want to get a photo and see what plant I have come across. We are running several weeks early on maturity of plants. Today's highlighted plant is one that may create concern by some, but is it really a problem? This plant might be looked upon as Queen Anne's Lace, and a careful look at photo 2 shows the fine pubescence on

the stems that helps characterize it from poison hemlock. Poison hemlock will not have the pubescence on the stems and will have purple blotches on the stem, while Queen Anne's Lace will not have the purple blotches. It is not giant hogweed, though many will try to make that connection. It does not have the proper leaf structure for giant hogweed. It also has the wrong leaf structure for cow parsnips.

It does appear to be fools parsley. I have come across two different descriptions of root structure, one being a taproot, as shown in photo 3, and one being a fusiform root (similar to a radish). If utilizing the taproot description, then we have a good idea of what this plant is. Time will allow blooms to form which will give me more information to do a proper identification. It is a biennial for sure, as it has a strong taproot which it would not if it were an annual. Control of this type of weed will require the use of a systemic selective or even a non-selective product.

Photo 1

Photo 2

Photo 3

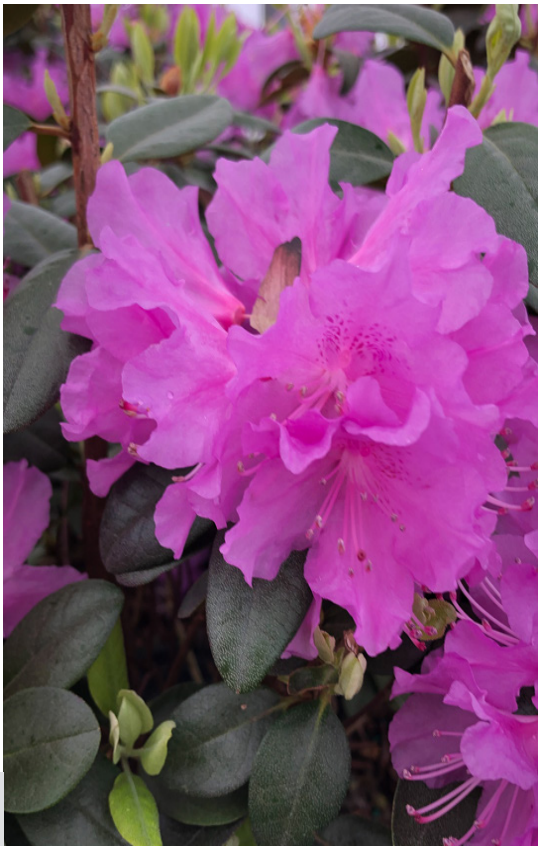
Photo 4

All photos: C. Schuster UME Retired

Plant of the Week

By: Ginny Rosenkranz

Rhododendron 'P.J.M. Elite' is a compact, rounded evergreen rhododendron that becomes covered with clusters of beautiful violet purple flowers that boom in the very early spring and lightly in the late fall as well. The trumpet-shaped flowers look very similar to azaleas, but like all rhododendrons have 10 stamens instead of the 5 that azaleas have. Flower clusters are formed at the tips of the branches and are followed by the new 2-inch evergreen leaves. After blooming, the flower clusters should be pruned off. The glossy dark green leaves can turn a reddish purple in the winter, adding to the 4 seasons of charm. Hardy from USDA zones 4-8, *Rhododendron* 'P.J.M. Elite' only grows 5-6 feet tall and wide and thrives when planted in organically rich, acidic and moist, but very well drained soils in light or dappled shade. Like most rhododendrons, 'P.J.M. Elite' does best when protected from strong winter winds and is kept well away from trees in the Walnut family (walnuts, pecans, hickories, and butternuts). Their roots are shallow and often need a light cover of mulch to maintain soil moisture. They can be planted with other foundation plants, as an evergreen hedge in a shady garden, or in a woodland garden. The name P.J.M are the initials of Peter J. Mezitt, the original hybridizer who crossed *R. carolinianum* and *R. dauricum*



***Rhododendron* 'P.J.M. Elite' is compact plant that grows to 5 - 6 feet**
Photo: Ginny Rosenkranz

var. sempervirens to create the vigorous but compact plants. As beautiful as the rhododendrons are, there are both insect and disease pests that can cause problems. Insect pests include aphids, borers, lacebugs, scale, thrips and whitefly. Diseases include root rot, crown rot, canker, leaf gall, leaf spot and powdery mildew. Planting in the right environment will limit many of the pest problems.

Degree Days (as of March 25)

Abingdon (C1620)	47
Annapolis Naval Academy (KNAK)	82
Baltimore, MD (KBWI)	102
Bowie, MD	125
College Park (KCGS)	92
Dulles Airport (KIAD)	111
Frederick (KFDK)	84
Ft. Belvoir, VA (KDA)	125
Gaithersburg (KGAI)	94
Greater Cumberland Reg (KCBE)	64
Martinsburg, WV (KMRB)	75
Natl Arboretum/Reagan Natl (KDCA)	136
Salisbury/Ocean City (KSBY)	121
St. Mary's City (Patuxent NRB KNHK)	146
Westminster (KDMW)	106

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
Viola sororia (common blue violet)	First bloom	Columbia (March 22)

CONFERENCES

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

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

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

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

Links to Conference Schedules and Registration Details

https://extension.umd.edu/ipm/conferences

2020 MDA Pesticide Container Recycling Program

The brochure for the pesticide container recycling program is available at:
https://mda.maryland.gov/plants-pests/Documents/2020-Pesticide-Container-Recycling-Schedule.pdf

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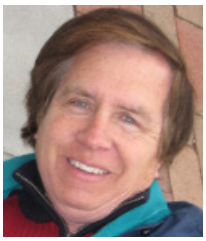
CONTRIBUTORS:



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