

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

Commercial Horticulture

July 13, 2018

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Pest Predictive Calendar



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:

Stanton Gill, Extension Specialist, IPM for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 301-596-9413 (office) or 410-868-9400 (cell)

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), David Clement (Extension Specialist), and Joe Roberts (Plant Pathologist for Turf)

Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County) 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)

Emerald Ash Borer

By: Stanton Gill

As I drive around the state. especially in central Maryland, I am seeing a lot of white ash in tree lines next to roads that are dead or dying quickly. The emerald ash borer is starting to have a major impact on ash. What worries me is that many of these dead ash trees are occurring very near roadways and ash tends to develop brittle branches which drop easily when it dies. I foresee a fair amount of damage showing up when we enter the hurricane season in August and September.

A conference was held this week at the National Arboretum on biological control options for EAB. Deb McCollough spoke on a combination of biological and chemical control options. They were trying out treating around 5% of the trees in a park setting with



Branches on emerald ash borer infested ash trees become brittle and can drop easily

emmamectin benzoate (Triage) injections. They are leaving the other trees and releasing a beneficial parasitic wasp. They are also relying on woodpecker activity. By injecting the large valuable trees in the park, they leave the beneficials to take care of the EAB attacking the other trees. It appears to be having a positive impact so far.

Request for Liriope Samples

By: Karen Rane, UMD Plant Diagnostic Lab

Do you have liriope plants showing leaf spot or crown rot symptoms? There are a number of diseases found on this host, and we are conducting a small survey to determine which liriope diseases are most common in our area. If you see collapsing or spotted liriope (see photos for examples), please send samples to the UMD Plant Diagnostic Laboratory. There is no charge for sample diagnosis, and your samples will greatly help our efforts to identify the most common pathogens to attack this plant in our area. The UMD Plant Diagnostic Lab submission form, and the address to send the samples, can be found at the lab website: https://extension.umd.edu/plantdiagnosticlab

The best sample is a plant dug out of the ground, with some soil still attached to the roots. Put the root ball in a plastic bag fastened at the base of the plant with a twist tie, wrap the plant in dry newspaper, and send it in a padded envelope or sturdy box. For leaf spots, detached symptomatic leaves wrapped dry newspaper will work, too. Send samples early in the week so they arrive at the lab in good condition.

Thanks in advance for your help with this survey!



Liriope crown rot Photo: Karen Rane, UME



Leaf spot symptoms on liriope Photo: Karen Rane, UME

Peachtree Borer Active

By: Stanton Gill

If you are growing peaches, apricots, plums, or cherries in your nursery or have susceptible plants in your customers' landscapes, there is flight activity of the main peachtree borer which is a day flying clearwing moth borer. I am finding an increasing number of adult males in my pheromone baited traps this week. Trees under stress are most susceptible. The extreme hot weather of last week can stress a plant, especially if it is growing in poor quality soils or sandy soils. Susceptible trees can have a protective spray applied to the trunk of either bifenthrin or permethrin (for ornamentals). Acelepyrn has clearwing moth borers listed, but I have not had a chance to test it against peachtree borer yet. The same chemical that is in Acelepryn is in Altacor which is labeled for orchard use.

Elm Leaf Beetle

By: Stanton Gill

Paul Wolfe, Integrated Plant Care, sent in a sample of leaves from a hybrid elm in Bethesda. The leaves had chewing damage on the foliage. Paul said he found elm leaf beetles, Xanthogaleruca (=Pyrrhalta) luteola, in heavy numbers feeding on the elms. We have really not seen much activity out of this beetle for two decades. Paul felt with the planting of hybrid elms resistant to Dutch elm disease, we may be seeing a comeback of the elm leaf beetle.

If you see activity in your area, send me an e-mail at Sgill@umd. edu and let me know on which cultivar it is found and the location.



The holes in this elm leaf are a result of elm leaf beetle feeding



Elm leaf beetle adult Photo: William M. Ciesla, Forest Health Management International, Bugwood.org



Photo: Ward Upham, Kansas State University, **Bugwood.org**

Hopper Burn

Various planthoppers/leafhoppers are active throughout the summer. This week, Steve Clancey, Towncreek Landscaping, brought in a leaf sample showing the stippling from planthopper feeding. The small damaged areas can coalesce into large whitish blotches. Planthoppers are quick-moving which makes control difficult. Feeding by many planthoper/ leafhopper species do not cause significant damage to warrant control. Potato leafhoppers is a species that can cause significant damage to plants such as goldenrain raintree and maple.

Control: Depending on the plant and planthopper species, assess whether control using a systemic insecticide is necessary. Materials include Altus, Acelepryn, and Mainspring. The stippling on this leaf is caused by the feed-Dinontefuran can be used, but be sure to follow the label carefully and time the treatment so it will not be in the plants when they are in bloom.



ing of planthoppers/leafhoppers. This damage is often called hopper burn.

Scale on Winged Euonymus

By: Stanton Gill

Heather Zindash, Mainscapes, Inc., brought in a winged euonymus covered with an armored scale. We know some people feel it is good to hear winged euonymus (it is a Maryland <u>Tier 2</u> invasive plant) has a scale problem. In certain situations, winged euonymus may have its plus sides, but obviously not in all landscapes where it can escape and pop up in unwanted areas.

I just look at the bugs - you can make a judgement call on the worth of the plant. The armored scale she brought in is *Lepidosaphes yanagicola* (Kuwana), commonly called the firebush scale. In heavy populations, it can cause defoliation of the shrub. If you hate this shrub, then this damage is a blessing. If you like or love this shrub, then the crawlers should be out very shortly.



Firebush scale is an armored scale that can cause significant damage to winged euonymus

Normally, they are out by the end of June in central Maryland, but the cool wet spring delayed their emergence. **Control:** If desired, use Talus or Distance.

Dog Vomit Fungus

We are still getting reports of dog vomit fungus. Connie Bowers, Garden Makeover Company, found it growing at the base of elephant ear plants and starting to climb up the stem which makes it look more like a plant disease. Is anyone else seeing it climbing up on plants and not just confined to the mulch? Connie noted that she received a report from someone who was seeing it on ponytail plant. Dog vomit fungus (which is actually a slime mold) shows up in mulched areas in spring and summer, usually after soaking rains. This slime mold is bright yellow and slimy when it is starting its fruiting stage. It becomes duller and crustier as it continues its development. Although unsightly, it is harmless so no control is necessary.



Dog vomit fungus is encircling the base of elephant ear stems Photo: Connie Bowers, Garden makeover Company

Fall Webworm: Second Generation

Marie Rojas, IPM Scout, is finding the second generation of fall webworms hatching in Frederick County and Montgomery County. Marie reports that the caterpillars are feeding on *Betula papyrifera* Renaissance

Reflection®, *Nyssa* 'Wildfire', and *Parrotia persica*. Fall webworms have a wide woody plant host range. They feed within the webbing which is around the tips of branches. There are two color forms of the caterpillar: one that is yellowish white with a black head and one that is brown with a red head.

Control: If possible, prune out webbed terminals. Bt, horticultural oil or insecticidal soap can be used for early instars. Other control options include spinosad (Conserve), Acelepryn, and Mainspring (from Syngenta Company). There are many predators and parasites that help keep this native pest below damaging levels.

Second generation fall webworms are feeding within the webbing



Cypress Twig Gall Midge

Marie Rojas, IPM Scout, found an infesttion of cypress twig gall midge on *Taxodium distichum* (bald cypress) in Derwood this week. This gall is formed by a fly in the family Cedidomyidae. These galls seldom cause enough damage to warrant control. If the aesthetic appearance of the tree is an issue, then prune out the galls.





Cypress twig gall midge can make a tree look unsightly, but usually do not impact overall tree health Photos: Marie Rojas, IPM Scout

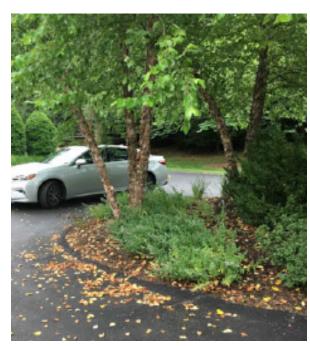
River Birch - Foliage Dropping

By: Stanton Gill

Mark Schlossberg, ProLawn Plus, Inc., sent in pictures this week of a 'Heritage' river birch dropping a lot of foliage. Connie Bowers, Garden Makeover Company, is also seeing premature leaf drop on 'Dura-Heat' river birches at two locations. Connie noted that this cultivar usually does better than 'Heritage' in this area's heat and humidity. 'Heritage' and 'Dura-Heat' are river birches that were loving the weather in spring with the excessive rain. When the hot and bright sunlight showed up it stressed the plants and now many are dropping their foliage. We have seen landscapers place river birches in a lot of upland planting situations. They are really adapted for moist areas. You can expect heavier than normal leaf drop if your customers' trees are growing in hot, dry areas of the landscape, like next to driveway.



Reports are coming in of heavy leaf drop on river birches Photo (above): Connie Bowers, Garden Makeover Company Photo (right): Mark Schlossberg, ProLawn Plus, Inc.



Rusts

Gymnosporangium rust infection has been heavy this year. Marie Rojas, IPM Scout, is finding a lot of plants infected with rust. Heather Zindash, Mainscapes, Inc. saw how problematic rusts can be when spores rained down on a car.



This car is being covered by spores of gymnosporangium rust that has infected this hawthorn tree Photo: Heather Zindash, Mainscapes, Inc.

Bagworms

By: Stanton Gill

While visiting a site in Anne Arundel County, we looked at some *Thuja* 'Green Giant' plantings. They were loaded with small bagworms, about the length of a quarter, with the bag included. Tony Murdock, Fine Pruning, reports that in Frederick City the bagworms are very active this week. Tony Murdock, found one moving along his loppers while working in Frederick. Mark Schlossberg, ProLawn Plus, Inc. is finding them in Pikesville. Marie Rojas, IPM Scout, found bagworms about 1/4" long in Montgomery County and Frederick County and noted that bagworm hatch seems to be staggered this year. These reports bring up a point - the middle of July is still a good time to control bagworms. If you wait until the end of the month, they will be later instars and less susceptible to many pesticide control materials. At this point, materials such as Bt, Spinosad, Acelepyrn, and Mainspring will give good control with minimal impact on beneficial organisms.



Timing of bagworm hatch has varied across the region this year Photo: Marie Rojas, IPM Scout



This bagworm was searching to find a new place to feed by using loppers as a bridge Photo: Tony Murdock, Fine Pruning

Caterpillar Activity

Now is the time of year when we often get reports of various caterpillars active in the area. Craig Greco, Yardbirds, Inc., found tobacco hornworms this week. Common food plants include tobacco, tomato, nightshade, ground cherry, and horsenettle. Jon Schach, Good's Tree and Lawn Care, found active orange-stripped oak worms earlier this week in Palmyra, PA. Look for these caterpillars on oak; they have also been reported on birch, hazel, hickory, and maple.



Tobacco hornwoms are often found feeding on tomatoes Photo: Craig Greco, Yardbirds, Inc.

Brown Patch Disease

Mark Schlossberg, ProLawn Plus, Inc. found brown patch infecting turf in Reisterstown this week. Brown patch is most severe in tall fescue, perennial ryegrass, and bentgrass. Brown patch starts as circular spots and spreads out to turn whole areas brown. You may see grass blades with foliar mycelium in the early morning if it is warm and humid in the early stages of the infection process. Look for brown margins with tan centers on infected foliage. Although lawns turn brown they do recoup later when the weather cools down. To reduce the incidence of brown patch in tall fescue lawns, avoid applying nitrogen in the spring. Nitrogen promotes soft, succulent growth that is more susceptible to infection by the brown patch fungal pathogen, *Rhizoctonia solani*.



Brown patch disease starts as small circular spots Photo: Mark Schlossberg, ProLawn Plus, Inc.

Lace Bugs on Sycamore

David Freeman, Oaktree Property Care, reported lace bugs on sycamore this week in Herndon, VA. Examine the undersides of London plane and sycamore foliage to find the lace bug adults, nymphs and eggs. Control is usually not practical or necessary for most trees, but a systemic can be used. Look for beneficial insects such as lacewings that feed on sycamore lace bugs.

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This sycamore leaf has an adult sycamore lace bug and fecal spots; also look for nymphs when scouting Photo: David Freeman, Oaktree Property Care

Japanese Beetle Update

By: Stanton Gill

Well, we are getting reports of heavy Japanese beetle activity, but it is definitely in certain spots and not widespread. A nursery manager in Montgomery County reports heavy feeding activity on Camphor elms, roses, and apple trees. Beth Propps of Frederick County reports "We have more Japanese beetles this year, right now, than in several years. They are really doing a lot of damage on my river birches, and bald cypress, at the moment. I don't have any grapevines or roses to check. We live in very northern Frederick County, in Emmitsburg, on the PA line." Marie Rojas, IPM Scout, is seeing Japanese beetles in Montgomery County and Frederick County. Caroline Hooks found Japanese beetles feeding on bald cypress. The feeding on this plant produces very unusual damage. Dave Clement reports a lot of Japanese beetle activity in Carroll County and that there is a lot of mating and egg laying going on in the Finksburg area. There are very large numbers of them in Westminster. I treated plums and cherries with Altachor (same chemical as Acelepryn) at 8 oz/100 gallon rate and the control is excellent and holding up for 15 days after treatment. Untreated cannas are suffering heavy feeding damage.

From Kent Honi, an arborist in Minnesota:

"I just wanted to drop a quick line from Minnesota to chime in about Japanese beetles – we too are experiencing a light year for the populations of these insects. Based on observations earlier this year of extensive turf damage from JB grubs, we anticipated a big wave of adults by now, and it has not materialized. If they have not appeared in force by now, I do not anticipate them catching up in the next weeks."



These photos show a close-up and overall view of Japanese beetle damage on bald cypress Photos: Caroline Hooks

Lace Bugs on Azaleas and Pieris

Marie Rojas, IPM Scout, found heavy infestations of lace bugs on azaleas and *Pieris japonica* in Gaithersburg this week. Look for active nymphs and/or adults on the undersides of the leaves of the plants before applying any control measures. Quite often there will be stippling damage, but lace bugs are between generations or gone from the plant and control measures would do nothing. Get good coverage of horticultural oil on the undersides of foliage to reduce populations. Many products are labeled for lace bugs.

Beneficial of the Week

By: Rebeccah Waterworth and Paula Shrewsbury, UMD

Predaceous Plant Bugs

This title sounds a little contradictory, doesn't it? Plant bugs (Order Hemiptera, Family Miridae) include some infamous plant pest species, such as tarnished plant bug, four-lined plant bug, and the garden fleahopper. These species are known to infest and seriously damage food and ornamental crops. A little known fact is that of the 1,750 North American plant bug species, many are predaceous. For example, Paula has worked with one species, Japanese plant bug, Stethoconus japonicus, and studied its role as a specialist predator of azalea lace bug.

While examining yellow sticky cards for predators and parasitoids of brown marmorated stink bug, I encounter a lot of "by catch." Most of the insects on these cards have nothing to do with stink bugs, and for the most part, I can ignore them. For any new insect, I make the decision to identify if I see many specimens of the same species repeatedly on the cards from a particular location. This was the case with the insect for this week's article. My curiosity got the better of me! This bug was too weird, even for me.

Plant bugs are small, mostly from 4-10 mm in length. They have mouthparts or rostrum that pierce their food and suck the contents (Figure 1). Identification is pretty easy with some magnification. The wings have a thick triangle-shaped patch called a cuneus and one or two veins in the thin part of the wing that form cells. In figure 2, you can see the cuneus on each wing – the area below the light colored line. Check out figure 3 (tarnished plant bug) to see the closed cell on the wing.

(Figures 1 and 2) does not have a common name, though it is part of a group of plant bugs called jumping tree bugs. There is a limited amount of



Figure 1. The underside of Myiomma cixiiforme, a species of plant bug. The white arrow is pointing to the rostrum, which extends past the last pair of legs. Photo: Rebeccah Waterworth, UMD



Figure 2. Myiomma cixiiforme is about 2 mm long, much The plant bug featured this week, Myiomma cixiiforme, smaller than most other plant bugs. The white arrow is pointing to the cuneus of the left wing. Photo: Rebeccah Waterworth, UMD

literature about the biology of this insect. Scientists discovered in the late 1970's that this species is a predator of armored scales including obscure scale, Melanaspis obscura, a pest of plants in 12 families, including oaks, elms, and maples. Nymphs (immature stages) and adults feed on female scales by extending their rostrum around and under the scale cover. The rostrum penetrates underneath the body of the scale, which is gradually deflated as feeding progresses. Feeding by several bugs on one scale takes about 1 to 1.5 hours, after which bugs move to additional scales and begin probing and feeding. Females of M. cixiiforme take advantage of the scale covers left behind after the scale has died underneath. They will lay one to four eggs under the covers. Eggs overwinter and hatch in mid-April. There is one generation per year.

While I remain focused on identifying and counting specific taxa, I enjoy stopping to admire and learn about the diversity of the insect world, especially when these ecological associations are fascinatingly gruesome.

Acknowledgements: We would like to thank Dr. Christiane Weirauch, a professor of entomology at University of California at Riverside, for confirming the identification of our specimens.



Figure 3. Tarnished plant bug, *Lygus lineolaris*, is another species of plant bug. The white arrow is pointing to the veins in the wing that form a single close cell. The presence of this closed cell is useful in identifying all plant bugs. Image borrowed with permission. Photo by: Russ Ottens, University of Georgia, bugwood.org

Weed of the Week

Chuck Schuster, University of Maryland Extension

In helping do some weed ID this week, one producer brought in a sample of this weed thinking it was thistle. It in fact was not, and was quickly identified as salsify or goat's beard, *Tragopogon dubius*. This plant is usually a biennial and found in nurseries, orchards, farm settings, and unmanaged areas in both the Western and Eastern United States. It has the appearance of a grass with long narrow leaves, reaching up to twelve inches long and only one quarter inch wide. Flowers originate from long flower stems during the second year; buds are three quarters to one and one half inch long, producing a yellow flower which quickly turns to a puff-ball seed head that can be three to four inches in diameter. Seeds are dispersed by wind. The root structure is a taproot, and as with all plant parts, emits a milky sap when cut.

Cultural control of this plant can include hand pulling during the first year. After the first year, the taproot provides too much of an anchor to successfully eliminate it. Mowing will be effective in preventing seed production, and is considered one method of non-chemical control. Chemical control of this weed can be accomplished through the use of post emergent non selective herbicides that contain glyphosate. This method would be spot spray only, making sure not to apply to desired plant material of any type. Selective weed control can be achieved





Salsify, also called goat's beard, emits a milky sap when cut

using 2,4D and dicamba (this combination can be found in many three way products or purchased separately) when caught prior to flower production. This combination can be used in turf or rough field areas, but not near desired broadleaf plants or most any container or nursery material. Remember that these products do have the ability to volatilize and move when air temperatures are too hot. If the temperature is above the low 80's, consider keeping the plant from producing seed and returning at a cooler time for chemical control.

Plant of the Week

By: Ginny Rosenkranz, University of Maryland Extension

Hosta 'Bressingham Blue' is known for having a sturdy, mounded shape with thick quilted leaves that are slightly cupped shape with a slightly wavy margin. The color of the leaves goes from a green blue to a powder blue that is lighter on the underside. The funnel-shaped fragrant flowers are a soft white with a touch of lavender. The thick foliage gives 'Bressingham Blue' better resistance to slugs, rabbits, and deer. Plants grow 2 - 21/2 feet tall and 3 - 4 feet wide in moist, rich, well drained soils. Like all hosta in Maryland, 'Bressingham Blue' grows best in partial to full shade and are cold hardy in USDA zones 2-9. Hosta 'Bressingham Blue' can be grown in containers and as an edging plant in shady woodland gardens. It can be planted as a single specimen or massed for a colorful groundcover. If the plants are kept evenly moist, especially during the heat of summer, they develop an excellent root system that corresponds to full beautiful leaves the next spring. If the plants are allowed to dry out in the heat of summer, the roots will diminish and the next spring will bring smaller foliage and smaller plants. Hosta are deciduous plants, so the foliage will die back in the fall and can be cleaned up any time after they turn yellow. Pests of hosta include slugs and snail, rabbits, and deer.



Hosta 'Bressingham Blue' does best when kept evenly moist throughout the hot summer Photo: Ginny Rosenkranz, UME

Degree Days (As of July)

Aberdeen, MD (KAPG)	1501	Annapolis Naval Academy (KNAK)	1974
Baltimore, MD (KBWI)	1831	College Park (KCGS)	1758
Dulles Airport (KIAD)	1803	Frederick (KFDK)	1737
Ft. Belvoir, VA (KDAA)	1890	Greater Cumberland Reg (KCBE)	1661
Gaithersburg (KGAI)	2107	Martinsburg, WV (KMRB)	1671
Natl Arboretum.Reagan Natl (KDCA)	1737	Salisbury/Ocean City (KSBY)	1837
St. Mary's City (St. Inigoes, MD-KNUI)	1936	Westminster (KDMW)	1849

This week, the site for degree days was not functioning as it has been. The steps below might not work at this time. We are checking into the situation. We are now using the <u>Weather Underground</u> site for degree days. It changes some of the locations available.

- 1. Enter your zip code (not all locations are included, check nearest weather station to your site) and hit enter
- 2. Click the "custom" tab/button below the date
- 3. Enter the start date below the word "from" (ex. Jan. 1) and the end date below the word "to" (current date)
- 4. Hit the get "history" button
- 5. Read your growing degree days (base 50) in the 'Sum' column (=Cummulatlive DD to date for the year)

CONFERENCES

Turfgrass Research Field Day July 18, 2018

12:30-1:00 Registration and Posters

1:00 – 4:00 Walking tour Presentations: Selecting

Improved Varieties

Cultural and Chemical Management of

Weeds and Disease

New Research on Implementing

Biological Control

4:30 Dinner at Facility

Location: UMD Turf Farm, College Park, MD

The following credits are avaible for Recertification. MD Pesticide Applicators - 8 Credits: Categories 3A(Ornamental-Exterior), 3C (Turf), 6 (Right of Way and Weed), and 10(Demonstration and Research) MD Professional Fertilizer Applicator - 2 credits DE Pesticide Applicator - 4 Credits Categories PA (Core or Private Applicator) and 03 (Turf and Ornamental)

To register:

https://psla.umd.edu/field-day#overlay-context=about/turfgrass-field-day-registration

PGMS Green Industry Field Day

July 19, 2018

Location: American University, Washington D.C.

Contact: info@pgms.org

Cut Flower Operation Tour

September 12, 2018

Location: St. Mary's County (Loveville and nearby

sites)

Details will be available later in the summer

New Plants for Nursery Growers

October 25, 2018

Location: Country Springs Nursery, Woodbine, MD

Details will be available later in the summer

Advanced IPM PHC Short Course

January 7-10, 2019

Location: University of Maryland, College Park, MD Contact: Amy Yaich, Admin. Assist. II, 301-405-3911

Email: <u>umdentomology@umd.edu</u>

Information: https://landscapeipmphc.weebly.com/ Recertification credits will be posted on the website Recertification page as awarded by participating states.

Conference information is posted at: http://extension.umd.edu/ipm/conferences

2018 MDA Pesticide Recycling Program

The Maryland Department of Agriculture is offering the empty plastic pesticide container recycling program in 2018. You can view the locations and requirements in the <u>online brochure</u>.

Montgomery County is a new location this year and will also accept clean containers from Prince George's County as well as D.C., as they do not have a collection.

CONTRIBUTORS:



Stanton Gill Extension Specialist sgill@umd.edu 410-868-9400 (cell)



Paula Shrewsbury Extension Specialist pshrewsb@umd.edu



Karen Rane Plant Pathologist rane@umd.edu



Chuck Schuster Extension Educator cfs@umd.edu



David Clement Plant Pathologist clement@umd.edu



Andrew Ristvey Extension Specialist aristvey@umd.edu



Ginny Rosenkranz Extension Educator rosnkrnz@umd.edu



Nancy Harding Faculty Research Assistant

Joe Roberts, Plant Pathologist (Turf) robertsj@umd.edu

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

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