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**IPMnet**  
**Integrated Pest**  
**Management for**  
**Commercial Horticulture**  
[extension.umd.edu/ipm](http://extension.umd.edu/ipm)

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

**Coordinator Weekly IPM Report:**

Stanton Gill, Extension Specialist, IPM and Entomology for Nursery, Greenhouse and Managed Landscapes, [sgill@umd.edu](mailto:sgill@umd.edu). 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) 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)

**Marigolds in Fall?**

By: Stanton Gill

Back when I started my career, Will Healy, who was an Extension Floriculture Specialist with the University of Maryland, dragged me along in a project to look for alternative plants for the horticulture industry for fall planting. Will Healy was looking for a plant that could be added to the standard list of fall flowering crops including chrysanthemum, pansy, and ornamental cabbage and kale. He had the forward-thinking idea of using marigolds as a fall crop. For years, this group of flowering plants has been associated with summer flowering plants.

It turns out that it does very nicely with the cooler fall weather and really comes into its own with outstanding flower displays in October. It stays in flower up to the first real hard frost.

In our trials, Will Healy planted many different cultivars. I evaluated the plants for fall insects that might be potential problems on this crop



**A large planting of container grown marigolds; the photo was taken on October 15th.  
Photo: Stanton Gill**

as my part of the project. We found several excellent cultivars for fall flowering. We started plants in August and grew them to market size in late summer to early fall. We evaluated them from September through early November for two years. They look great and thrived as the weather cooled in late September to through October. The trouble was this plant was associated by most people as a summer annual, not a fall crop. There really was not a good audience willing to see marigolds as a fall crop, and we did not have a good marketing strategy.

It might be time to try marigolds out again for late summer to fall flowering plants. In India, the marigold, which is also called 'Genda', is used for religious ceremonies and for weddings. We have a growing population of people from India living in central Maryland. This audience may be more receptive to the idea of fall-blooming marigolds. Also, this audience could be explored to see if supplying marigolds for wedding has potential.

I asked a close friend from southern India to comment on the demand for marigolds in India's culture.

Here is what Venkat responded:

“The article looks great. One of my neighbors has this Marigold plant in their backyard and the flowers are very beautiful. Yes, Indians consume a lot of these flowers during religious ceremonies. This is very popular as it is easy to transport and no worries that the petals will break as it is a small flower.

We really miss this flower during religious holidays and Housewarming and also marriages. At the Hindu temples they use these flowers every day and during the festival days they consume a lot. They not only make garlands to wear around the neck but also they are decorated around the main doors and pillars (almost like Christmas lights decoration in a small way). There will be a huge demand to have bags of these flowers during Dussehra festival (Celebrated on 15th October 2021) and Diwali (4th November 2021) in Grocery stores where the Indian population is there (Ellicott City / Columbia) and Ashburn VA. Indians don't prefer to have this Flower in a bouquet as these flowers are used to make Garlands or keep on offering one flower at a time to God while chanting some Hindu prayers. If you Google " Marigold flower In Indian festivals" there will be many pictures showing how they decorate.

The Day of the Dead is another date for potential marigold sales. The *Day of the Dead* is a holiday celebrated on the 1st and 2nd of November. It originated and is mostly observed in Mexico. Marigold flowers are used extensively to honor ancestors. They lay down a chain of marigold flowers to guide dead ancestors to the altar.”

Back to the insect part of my part of this project. I found several western flower thrips in the flowers but no real significant damage to the foliage of the plants. We started releasing the predacious mite, *Amblyseius cucumeris*, on the marigolds to serve as banker plants for thrips control on other crops. We also released *Orius insidiosus*, minute pirate bugs, on the marigolds, which served as excellent banker plants.

One other observation- I have been recording pollinator activity on the marigolds in September and October and the flowers are extremely popular and visited often by native bumble bee species. The plants could be marketed as an excellent source of nectar and pollen for pollinator activity in a landscape. I think it is time to look again at marigolds as potential later summer/fall crop for the horticulture industry.

## Fall Armyworms

We received another report of fall armyworm damage this week. Cary Braun, St. Mary's County Master Gardener, saw damage in turf in Southern Maryland in Dameron and Hollywood on October 22. The heavy damage occurred in early September.



Heavy fall armyworm damage in Southern Maryland  
Photo: Cary Braun, St. Mary's County Master Gardener

## Woolly Alder Aphid Active in October

By: Stanton Gill

Dave Norden, LSG Landscape Architecture, sent in photos of white cottony material on alder branches on Monday. This is the woolly alder aphid. They are one of the more interesting aphids that show up in October.

Besides the common name of woolly alder aphid, it has an alternate name. The alternate common name for woolly alder aphid (*Prociphilus tessellatus*) is the maple blight aphid. The common name is derived from the dense, white, woolly masses it produces on the leaves and twigs of its primary host, silver maple (and occasionally red maple) in the spring to early summer. The aphids on the trees are wingless, plump, gray, and concealed beneath their own dense, white, waxy strands. These aphids feed on sap from the maple trees from the time of bud-break until late June. Then winged adults, some with abdomens covered in white fluffy wax, are produced in the colonies. These winged migrants readily fly when disturbed and create the illusion of tiny masses of cotton floating through the air. These aphids are leaving the maple trees now and flying to alders where they will establish new colonies on the secondary host. We are seeing this secondary host activity in October.



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Woolly alder aphids on and alder which is their secondary host

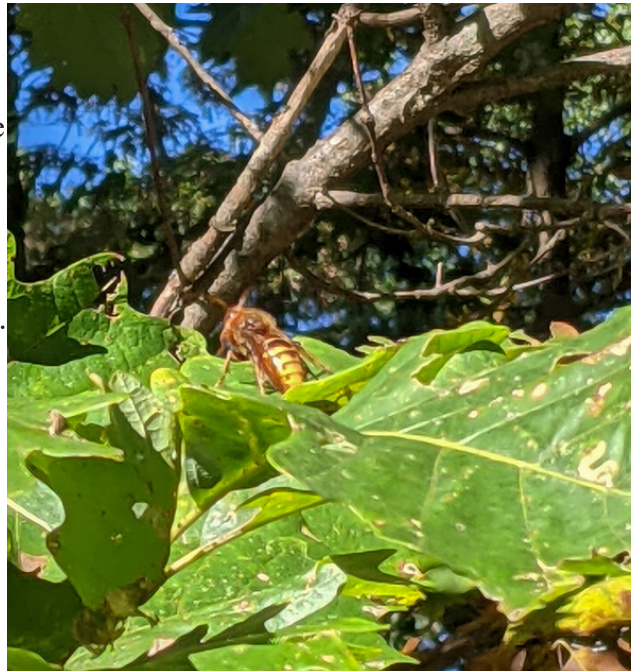
Photo: Dave Norden, LSG Landscape Architecture



## European Hornets

Ed Weber, Home Landscaping, reports that he has been seeing hundreds of European hornets swarming over maple and oak trees in the Glen Rock, PA area starting in the late morning for the last week. Ed notes that they only seem to be landing on the leaves and not the bark. He also mentioned that there has been a lot of damage to lilac and several maple trees over the last few summers.

Reports of European hornet activity have been high this season.



European hornets continue to be active this fall  
Photo: Ed Weber, Home Landscaping

## Spotted Lanternflies

Paul Mullins, Bartlett Tree Experts, found an adult spotted lanternfly in Carroll County this week. Ben Morris, Savatree (NJ), found adults last week.

In Maryland outside of Cecil and Harford Counties, if you see spotted lanternflies, please report them to MDA via [MD Spotted Lanternfly Online Survey](#).



Rear view of a spotted lanternfly adult  
Photo: Ben Morris, Savatree



A spotted lanternfly on the trunk of a tree in  
Carroll County  
Photo: Paul Mullins, Bartlett Tree Experts



## Weird Structures on Trees in Fall

By: Stanton Gill

It is almost Halloween season, and we had a cool, slightly scary looking structure on trees sent in this week. Guy Lynwood, professional arborist, sent in this intriguing picture of a formation he observed on a pear tree. Karen Rane, Kari Peters (Penn State), David Clement, and I all looked at the electronic picture, but could not figure this one out.

It turns out it is a honey bee wax structure. When a hive splits off and the honey bees cannot find a suitable host site for their home, they start building a temporary wax structure until the group decides where to migrate to for their final home. Since they did find a permanent home, the bees abandoned the temporary wax comb structure and moved on to build their permanent home. Thanks Guy for the interesting picture.



A temporary, wax structure produced by honey bees  
Photo: Guy Lynwood

## Triple Scale Situation

By: Stanton Gill

Danny Moore, The Moore Companies, sent in samples to our CMREC lab this week. They were Japanese holly, Chinese holly, and arborvitae with scale on the samples. The interesting thing is the Chinese holly had three different scale species present. I rarely see this situation occurring. The three scales were Indian wax scale, Japanese maple scale, and a *Pulvinaria* scale called cottony taxus/camellia scale.

The Japanese maple scale was in the 2<sup>nd</sup> instar stage, which I would expect to find in October. We did find one winged male present, but this guy was just slightly out of sync with the rest of the Japanese maple scale. The interesting thing is when the Indian wax scale was flipped over, there were settled 2<sup>nd</sup> instar Japanese maple scale beneath the cover of the Indian wax scale and some were embedded in the wax from the Indian wax scale.



Second instars of Japanese maple scale were congregating outside of an Indian wax scale cover



Trying to take all of these scales out will be a challenge, but a systemic applied as a basal trunk application is probably the best west to go. Horticultural oil could be applied as we move into the early part of November.



Flipping over the Indian wax scale cover reveals Japanese maple scale underneath

## Galls in Fall

By: Stanton Gill

Heather Zindash, The Soulful Gardener, sent in photos of a customer's leaves with a strange gall formation. It is *Callirhytis favosa* - honeycomb leaf gall wasp. The life cycle is not well studied, but we know adults emerge in late July or August.

It forms galls on black (*Quercus velutina*) and pin (*Quercus palustris*) oak leaves. According to Felt (2): "Flattened, many-celled leaf galls projecting from both surfaces, diameter 1/4 to 1 inch, the upper and lower surfaces resembling a honeycomb." Weld (1) says: "A parenchyma thickening projecting on both sides of leaf, inner structure in cross-section suggests a honeycomb, not succulent." Thanks to Matt Betrone, NC State, for help on this one.

Sources:

1. [Cynipid Galls of the Eastern United States](#). Lewis H. Weld. 1959. Privately printed in Ann Arbor, Michigan.
2. [Plant Galls and Gall Makers](#). Ephraim Porter Felt. 1940. Comstock Publishing Company, Inc., Ithaca, NY.



Several views of honeycomb leaf gall

Photo: Submitted by a customer to Heather Zindash, The Soulful Gardener



## Aphids of October

By: Stanton Gill

With the arrival of the cooler weather, we are seeing activity of an aphid, *Uroleucon leonardi*. This aphid is specific to composite flowers. I received an email this week with this aphid on rudbeckia, but it can be on other composites. Check your plants for this aphid. A systemic such as Altus or stylet blockers such as Aria and Endeavor work well.

## Beneficial of the Week

By: Paula Shrewsbury

### Nectria – an entomopathogenic fungus found infecting armored scales

In an earlier [Beneficial of the Week](#), I discussed gloomy scale, *Melanaspis tenebricosa*, an armored (Diaspididae) scale that is mainly found on red and silver maples, especially in urban landscape habitats, and some of the natural enemies that attack gloomy scale. I briefly mentioned an entomopathogenic fungus that is found attacking gloomy scale. Yesterday I was outside enjoying the beautiful weather, which includes looking at plants and insects, and I found a maple heavily infested with gloomy scale. Gloomy scale was on the bark densely covering the trunk and branches of the maple. What really caught my eye was that many areas of the bark had an orange coloration associated with the scales. On closer examination, I could see that there was a relatively high level of infection from an entomopathogenic fungus (EPF) in a group referred to as nectria fungi (Nectriaceae) (see images). I have noticed a similar fungus on other armored scales in the landscape such as obscure scale on oak. In going through published papers on fungi that attack armored scale I realized that there is not that much known about these fungi. There are reports of several species of EPFs attacking armored scales. It was also noted that in some instances where there appeared to be high incidence of the fungi, there was some mortality of the scales, but it was not really observed to provide appreciable control. Others have observed moderate control of certain scales. I inspected the gloomy scale I found under the microscope. When I flipped scale covers off of scales without signs of nectria fungus, many (but not all) appeared healthy (see image), while others that had the orange “nectria” emerging out from below the cover (see image) appeared to have fungal mycelium under the covers and the scale insect was thick and pasty in appearance (see image). When there are signs of fungus associated with armored scales, we can't be sure what level of suppression it is causing on the scale, but it is likely causing some level of



An infestation of gloomy scale on the branch red maple that is infected with an orange colored entomopathogenic fungus, nectria, that is protruding from under some of the scale covers.

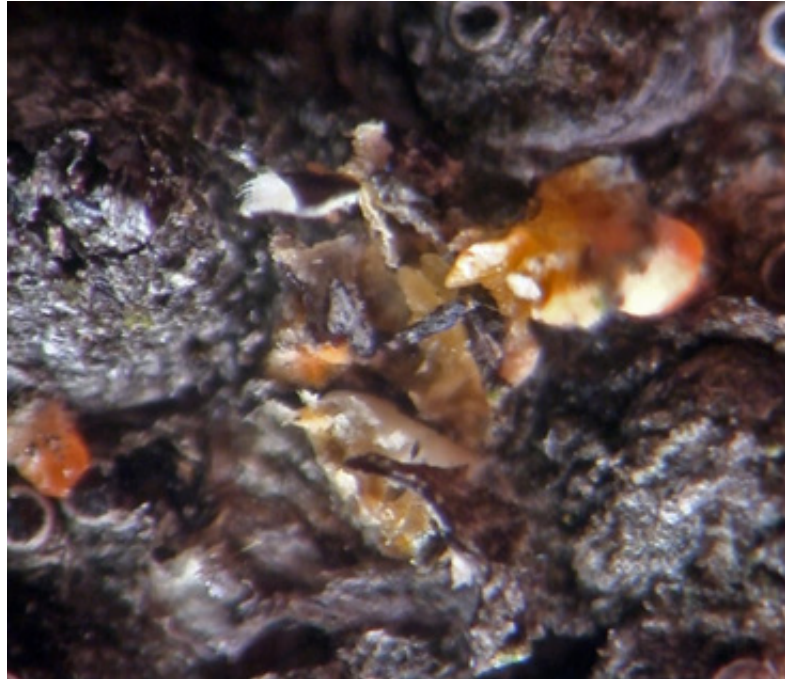
Photo: P.M. Shrewsbury, UMD



A healthy gloomy scale female (underside) with its waxy cover flipped off.

Photo: M.J. Raupp, UMD

mortality. More research needs to explore methods for manipulating these fungi to provide practical biological control of armored scales, like gloomy scale, in urban landscapes.



What you see when you flip off the waxy cover of a gloomy scale infected with a nectria fungus. The “scale” body is filled with mycelium and somewhat thick and pasty in appearance.

Photo: M.J. Raupp, UMD

## Weed of the Week

By: Chuck Schuster

Yellow woodsorrel, *Oxalis stricta*, is a perennial weed found throughout the United States in landscapes, turfgrass, and even in containers. It has yellow flowers which occur in clusters with five petals per flower, on long stems arising at leaf axils. Leaves are alternate along the stem, have a long petiole, and are divided into three heart-shaped small leaflets. Leaflets have hairs along the outer edge. Roots of yellow woodsorrel are fibrous and produce long rhizomes. Stems grow laterally more than upright, but can reach twenty inches in height. Fruit is a flat-sided, somewhat rounded capsule which can be up to .75 inches in length. The seed found inside can be ejected more than **ten feet** from the point of origin.

Cultural control of yellow woodsorrel can be helped with the proper monitoring of soil pH and appropriate use of nutrients, either organic or synthetic. Keeping the soil shaded will lessen weed seed germination in general and helps with this plant. Good vigorous turf growth is very useful. Oxalis grows under many different conditions but does best in moist, fertile soils and full sun. Chemical control of yellow woodsorrel can be obtained in nursery settings using Barricade, Gallery or Goal. Remember in turf, mow high, and keep the sunlight from reaching the soil and lower growing plants. In turfgrass pre-emergent control can be obtained in ryegrass, fescue, and



Yellow woodsorrel growing in a container

Photo: Chuck Schuster



Kentucky bluegrass using isoxaben (Gallery), pendimethalin and others. Post emergence in turf can be obtained using dicamba (Banvel, Clarity, Vanquish).

Note the seed heads



The fruit of yellow woodsorrel is a flattened capsule  
Photo: Chuck Schuster

## Plant of the Week

By: Ginny Rosenkranz

*Chamaecyparis nootkatensis* 'Green Arrow' commonly known as fastigiata weeping Alaskan cedar grows 18-35 feet tall creating a green column with weeping branches that press close to the main trunk and cascade down. Many name changes occur as botanists learn more about plant genetics, so this genus can also be *Xanthocyparis nootkatensis* 'Green Arrow'. The silhouette is a tall narrow triangle that is only about 5 feet across at the base. The evergreen-needled foliage is a lovely blue green in color that holds its color all season long, and will grow in USDA zones 4-8, with the heat zone 1-7. A native of Alaska and the Pacific Northwest, 'Green Arrow' grows in slightly acidic, moist but well drained soils in full sun to partial shade and once established it is drought tolerant and deer resistant. Due



*Chamaecyparis nootkatensis* 'Green Arrow' holds in blue color all season  
Photo: Ginny Rosenkranz

to its narrow growth habit and medium height, the 'Green Arrow' can be grown in small or courtyard gardens, as a specimen in the landscape, a part of foundation plantings, or as a narrow hedge.

This beautiful tree was one of many on display at the MNLGA Field Day at Fieldstone Nursery. Most narrow leafed evergreens have a susceptibility to juniper blight, root rot, aphids, bagworms, spider mites and juniper scale, although no serious pests were listed.



The silhouette of *Chamaecyparis nootkatensis* 'Green Arrow' is a tall, narrow triangle  
 Photo: Ginny Rosenkranz

**Degree Days (as of October 20)**

Aberdeen (KAPG)	3724
Annapolis Naval Academy (KNAK)	4284
Baltimore, MD (KBWI)	4371
Bowie, MD	4345
College Park (KCGS)	3988
Dulles Airport (KIAD)	4110
Ft. Belvoir, VA (KDA)	4166
Frederick (KFDK)	3965
Gaithersburg (KGAI)	3926
Greater Cumberland Reg (KCBE)	3667
Martinsburg, WV (KMRB)	3633
Natl Arboretum/Reagan Natl (KDCA)	4690
Salisbury/Ocean City (KSBY)	4282
St. Mary's City (Patuxent NRB KNHK)	4573
Westminster (KDMW)	4417

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



**Fall 2021 Advanced Nursery/Greenhouse/Controlled Environment Nutrient Applicator  
Continuing Education  
Tuesday, November 16<sup>th</sup>**

**WHO SHOULD ATTEND?**

This is an advanced session for nursery growers who need Applicator Voucher Credits (necessary for 10+ acre nurseries that do not have an in-house certified Nutrient Consultant or Operator) or to those that need nutrient management credits to maintain Consultant or Operator (FTC) certification. Attendance at this workshop awards 3 continuing education hours for Nutrient Applicator Voucher renewal or Maryland Nutrient Management Certification. The program will be from 9:00 AM to 12:00 PM at the University of MD, Wye Research and Education Center

**Subjects: Managing Water Content in Substrates, Controlled Release Fertilizer Use, and Managing pH with Lime: Understanding Quality and Quantity**

**COST & REGISTRATION**

The program is free, but advanced registration is required. To register, click on this Eventbrite registration [link](#). For more information contact **Andrew Ristvey**, 410-827-8056 X113, [aristvey@umd.edu](mailto:aristvey@umd.edu).

For more information about Maryland's Nutrient Management Law, follow the Maryland Department of Agriculture Nutrient Management Program link on the Web at [www.mda.state.md](http://www.mda.state.md) or call 410-841-5959.

**Conferences**

**November 9, 2021**

Operator Certification (FTC) for Writing Nursery Nutrient Management Plans for Nursery, Greenhouses and Controlled Environments

Location: Wye Research and Education Center, 124 Wye Narrows Drive, Queenstown, MD

[Eventbrite registration](#)

**December 3, 2021**

Integrated Pest Management Conference (details will be posted when available)

Location: Carroll Community College, Westminster, MD

**December 9, 2021**

Turf Nutrient Management Program (half day)

Location: Carroll Community College, Westminster, MD

**December 16, 2021**

Biological Control Conference

Location: Maritime Institute, Linthicum Heights, MD

**2022 Advanced Landscape IPM PHC Short Course – Registration is open!**

This is a recertification short course for arborists, landscapers, IPM consultants, horticulturalists, professional gardeners, and others responsible for urban plant management. The course LECTURES will be VIRTUAL (online). In addition, there will be an IN-PERSON LAB held over two days (available to a limited number of course attendees). Coordinators: Drs.

Paula Shrewsbury and Mike Raupp, Dept. of Entomology, Univ. of MD

Lecture (virtual) Dates: Tuesday, Wednesday, Thursday; January 4, 5 and 6 AND January 11, 12, and 13

Lab (in-person) dates: Tuesday and Wednesday January 18 and 19

**Course and Registration Information:** <https://landscapeipmphc.weebly.com/>

Questions contact: Amy Yaich, 301-405-3911, [umdentomology@umd.edu](mailto:umdentomology@umd.edu)

**January 5 - 7, 2022**

[MANTS](#)

Location: Baltimore Convention Center

## January 21, 2022

FALCAN Pest Management Conference (currently in person)

Location: Frederick Community College, Frederick, MD

\*Snow date is March 11, 2022

## LCA Pesticide & Fertilizer Recertification (Virtual Program, February 2022)

The Pesticide & Fertilizer Recertification will return in 2022 with great speakers and new topics.

## February 17 and 18, 2022

Chesapeake Green Horticulture Symposium

Location: Maritime Institute, Linthicum Heights, MD

## March 15 and 16, 2021

MAA Pest Conference

Location: Turf Valley, Ellicott City, MD

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## 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  
Retired, 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

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