UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **June 9, 2023**

In This Issue...

IPMnet
Integrated Pest Management for Commercial Horticulture

extension.umd.edu/ipm

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

Coordinator Weekly IPM Report:
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Regular Contributors:
Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant
Disease Information: Karen Rane (Plant Pathologist), David Clement (Extension Specialist) and Fereshteh Shahoveisi (Turf Pathologist)
Weed of the Week: Chuck Schuster (Retired Extension Educator) and Kelly Nichols (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)

Major Pollution This Week From Canada

By: Stanton Gill

The forest fires in Canada impact Maryland. As of Wednesday morning, thirteen states have issued alerts, as the thick fumes have blocked the sky and sent people indoors to avoid breathing in the polluted air. We will see if any of this smoke impacts our plant material.

View of the research farm eveloped in smoke from the fires in Canada. Photo: Suzanne Klick, UME

Cut Flower Education Seminar June 20, 2023

By: Stanton Gill

Our IPM team is setting up a one-day seminar at Castlebridge Farm in Ellicott City, MD for commercial cut flower growers on June 20, 2023 (8 a.m. to 2:30 p.m.). The Association of Specialty Cut Flower Growers is co-sponsoring this event with us. We have arranged to have speakers from The Botanical Trading Company, Syngenta Flower Division, Heartwood Nursery of Pennsylvania, and our IPM team with expertise in cut flower growing and problem solving. There will be a short tour of the farm in the morning.

For details and to register on-line: https://23Jun20Cutflower.eventbrite.com

For a brochure and to pay by check: IPMnet Conferences Page

Drought and Impact on Spraying Pesticides

By: Stanton Gill

We are receiving samples and pictures of plant material with phytotoxic burn on foliage. The temperatures may have been relatively cool for this time of year, but most plant material is under drought stress and thus susceptible to phytotoxicity from some formulations of pesticides. Make sure plant material is throughly irrigated and out of drought stress before applying pesticides in June.

Good Use for Cicada Netting

By: Stanton Gill

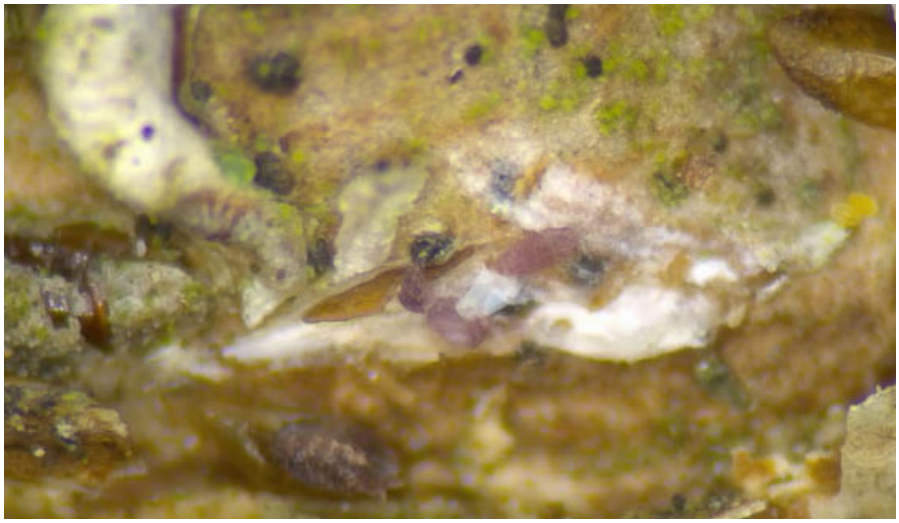
Your customers may have periodical cicada netting left over from 2 years ago. Now is a good time to use this netting over your customers' blueberry and gooseberry plantings to keep birds from robbing the harvest. By the way, in 2024, the periodical cicada brood will be emerging in southern Maryland, so keep the netting handy if you have customers in southern Maryland.

Netting for bird protection for blueberries.
Photo: Stanton Gill, UME

Japanese Maple Scale

By: Sheena O'Donnell, UME

We are monitoring Japanese maple scale at a site in Sykesville for trials using drone-applicated systemics. On Monday, we found one crawler, but most were in later egg stages. This location has accumulated 694 degree days, and if your location is close to that number it is time to start planning your IGRs or systemic treatments. First generation crawlers typically emerge at around 815-829 DD; coincide your treatments with this measurement in your area (see the Growing Degree Days section at the end).



A few Japanese maple scale crawlers were active on maples in Sykesville.
Photo: Sheena O'Donnell, UME

Bagworms Are Hatching

Chris Kanarr reported that bagworms have hatched in Hurlock as of June 7. Check infested trees for egg hatch before treating. Monitor plants such as arborvitae, spruce, and Leyland cypress. Bagworms are also found on deciduous trees and herbaceous plants, but the damage is usually less evident. Bt (Dipel, Caterpillar Attack), Spinosad (Conserve) or Acelepyrn will all give good control of young larvae.

Early instar bagworms are active in Hurlock, MD this week.
Photo: Chris Kanarr

Spotted Lanternfly

David Lantz found spotted lanternfly nymphs on Virginia creeper in Falling Waters, West Virginia this week. Dan Feingold, Maxalea, Inc., found nymphs on *Ailanthus* sucker growth in Baltimore east of Lake Roland.

Spotted lanternfly nymphs along a Virginia creeper stem.
Photo: David Lantz

Cottony Maple Leaf Scale

Elaine Menegon, Good's Tree and Lawn Care, found cottony ovisacs produced by female cottony maple leaf scales on the undersides of red maple leaves on June 8 in Lancaster, PA. There is a similar scale, cottony maple scale, which produces these egg sacs on stems. Cottony maple leaf scale prefers maples, but can also be found on andromeda, flowering dogwood, hollies, and black gum. Now is the time to look for crawlers. Newly hatched nymphs (crawlers) are pale yellow or green and translucent. There is one generation each year.

Control: Natural enemies usually keep this soft scale in check providing biological control. However, if honeydew/sooty mold is abundant, control measures may be warranted. For best control, target the crawler stage (recently hatched eggs) of the scale. Talus or Distance can be used. Horticultural oil should provide suppression of the scale and be the least harmful to natural enemies. Since oil kills by contact, be sure to get thorough coverage of the plant tissue where scales are present.

Egg masses of cottony maple leaf scale. Photo: Elaine Menegon, Good's Tree and Lawn Care

Redbud Borer Beetle

Marie Rojas, IPM Scout, found an adult redbud borer beetle (*Ptosima gibbicollis*) on the trunk of a redbud this week in Gaithersburg. The larvae bore into redbud trees.

Redbud borer beetle (*Ptosima gibbicollis*) adult. Photo: Marie Rojas, IPM Scout

Main Peach Tree Borer

By: Stanton Gill

I caught the first male moth of the clearwing moth called the main peach tree borer on Tuesday, June 6. This is about 10 days to 2 weeks early compared to other years. Protective sprays of bifenthrin or permethrin can go onto the main trunks of susceptible ornamental plums, peaches, and cherry trees.

Aphid Activity Continues to Be Heavy

Luke Gustafson, The Davey Tree Expert Company, reported that he continues to see a lot of aphids on a variety of plants, including copper beech in Baltimore City. Connie Bowers, Garden Makeover Company, is finding high populations on hellebore foliage. Jacob Winn, Bartlett Tree Experts, found aphids on a tulip tree on Quantico Base in Prince William County. Jacob noted that the honeydew was fresh and heavy. Marie Rojas, IPM Scout, is also finding a lot of aphids on tulip trees and oaks. Marie noted seeing "some awesome beneficials moving in on them, including that species of lady beetle that looks like a mealy bug". They were feeding on both aphids and tuliptree scale. Marie also found woolly apple aphids getting started on apple cultivars.

If control is necessary, consider using materials such as Endeavor and horticultural for a minimal impact on beneficials. See Paula Shrewsbury's article this week for more information on the impact of beneficial insects on aphid populations.

This population of aphids on a tulip tree is producing a lot of honeydew on the foliage.
Photo: Jacob Winn, Bartlett Tree Experts

Aphids and an adult lady beetle are on this copper beech foliage.
Photo: Luke Gustafson, The Davey Tree Expert Company

There are two species of lady beetle larvae feeding on aphids on this tulip tree leaf. For the one that looks like it could be a mealybug, flip it over. If you see mandibles instead of stylet mouthparts, it's a lady beetle larva.
Photo: Marie Rojas, IPM Scout

Mite Activity

Luke Gustafson, The Davey Tree Expert Company, found mite populations on many species including 'Schip' laurels, boxwood, cryptomeria, spruce, hemlock, and others plants. It was a very high population of mites on the hemlock on a property in Baltimore County. There was heavy webbing covering branches of the tree. Luke noted that it was a very hot location along a foundation with reflected heat. If using a miticide, be very careful with these drought conditions that you do not burn plants when making an application. Plants need to be well hydrated before treatment. As long as the weather continues to be dry, it is ideal for mite activity.

**Hot microclimate are good spots for many mite species to flourish.
Photo: Luke Gustafson, The Davey Tree Expert Company**

Cooley Spruce Gall Adelgids

Marie Rojas, IPM Scout, found cooley spruce gall adelgids on *Picea omorika* in Frederick County this week. Eggs hatch around bud break. Nymphs migrate to new growth and feed at the base of expanding needles. Their feeding causes the development of the galls in which they feed. Later in the summer, winged forms emerge. Many of these winged adelgid adults migrate to Douglas-fir trees.

**Marie noted that it has been many years since she has seen an infestation of cooley spruce gall adelgids.
Photo: Marie Rojas, IPM Scout**

Cypress Twig Galls and Persimmon Bead Galls

Marie Rojas, IPM Scout, found cypress twig galls on *Taxodium distichum* (bald cypress) this week in Gaithersburg. 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.

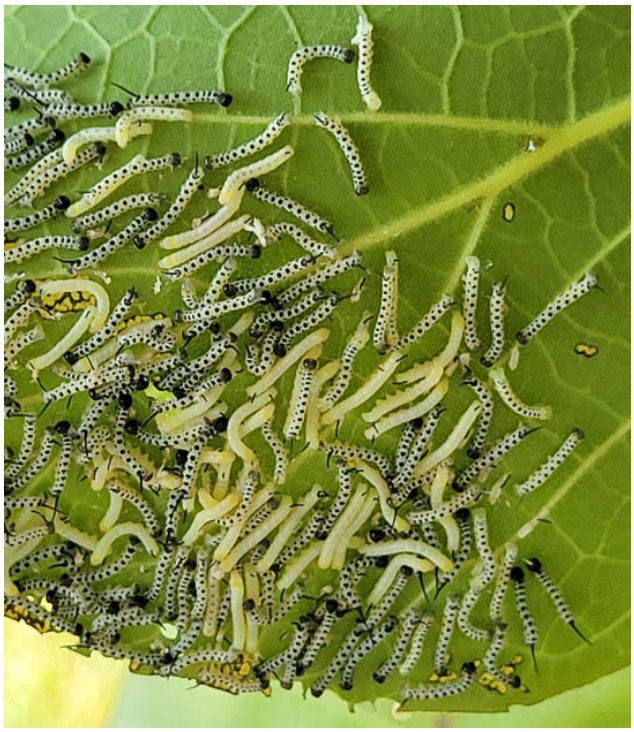
Marie also found persimmon bead galls on persimmon in Gaithersburg. These galls are caused by mites. They do not cause a problem for the overall health of the trees.

Persimmon bead galls
Photo: Marie Rojas, IPM Scout

Cypress twig galls
Photo: Marie Rojas, IPM Scout

Catalpa Sphinx Moth Caterpillars

Marie Rojas, IPM Scout, reported that catalpa sphinx moth caterpillars were out and feeding gregariously on catalpa. There are multiple generations so caterpillars will be found throughout the summer. Spray applications are often not practical, and parasites pretty efficiently take care of this colorful caterpillar. If you have to treat, then use Bt in the early stages.



Since there are multiple generations, catalpa sphinx moth caterpillar activity is just getting started for the season.
Photo: Marie Rojas, IPM Scout

Biological Control Conference Set for March 1, 2024

By: Stanton Gill

We normally hold the biological control conference every two years in December. Since we plan to be in our new CMREC building in January of 2024, we decided to hold the conference in March of 2024 in the new building. We are lining up some great speakers, but if you have suggestions on topics let me know- Sgill@umd.edu.

Hot and Dry Weather Continues

By: Stanton Gill

This whole week has been sunny with light, drying winds, and continued drought conditions. This is really tough on newly transplanted annuals, perennials, and woody plants. Keeping your customers' plants hydrated will be a continuing challenge for June. Meanwhile, in New England they are getting hammered with rain storms. We should be so lucky.

I spoke with Oliver Storm who runs a nursery in San Diego, CA. I told him we were getting their California weather where it is sunny each day and low humidity. He responded that San Diego was getting weird weather this May and June. It is the longest period of cloud cover over southern CA in over 80 years. It is not pollution, but a maritime cloud cover with short burst of sunshine but mainly constant cloud cover.

If You Are Thinking About Electric Vehicles for Your Horticulture Operation

By: Stanton Gill

Both the Federal and Maryland governments offer tax breaks for installing an EV home charging system.

- **Federal Tax Credit:** The Federal government offers a tax credit of 30% of the cost of installing an EV home charging system, up to a maximum of $1,000. This credit is available for both residential and commercial installations.
- **Maryland Tax Credit:** The Maryland government offers a tax credit of 40% of the cost of installing an EV home charging system, up to a maximum of $700. This credit is only available for residential installations.

In addition to these tax breaks, there are also a number of utility companies that offer rebates for installing an EV home charging system. These rebates can vary in size, so it is important to contact your utility company to find out what is available in your area.

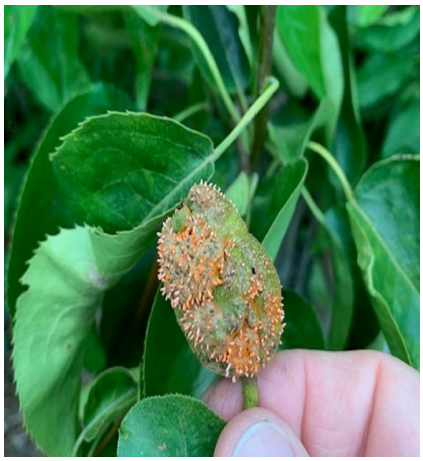
Here are some of the benefits of installing an EV home charging system:

- Convenience: Having a home charging system makes it easy to charge your EV at home, so you don't have to worry about finding a public charging station when you need to.
- Cost savings: Charging your EV at home is typically much cheaper than charging it at a public charging station.
- Environmental benefits: Charging your EV at home helps to reduce air pollution and greenhouse gas emissions.

If you are considering buying an EV, installing a home charging system is a great way to make the most of your investment. The Federal and Maryland tax breaks, as well as utility rebates, can help to offset the cost of installation, making it even more affordable.

Rust on Asian Pear

Dave Keane, Howard County Recreation and Parks, found rust on his Asian Pear tree in Frederick. He reported that his has been thinning the heavily infected fruit, and noted that he has never treated for this in the past.



Rust on Asian pear fruit
Photo: Dave Keane, Howard County Recreation and Parks

Oak Button Galls

Joey Burke, Good's Tree and Lawn Care, found oak button galls caused by cynipid wasps on undersides of white oak leaves in Harrisburg, PA this week. These galls to do not have much impact to the overall health of the tree. However, the leaf spots they cause on the upper surface of leaves look unsightly and can be mistaken for symptoms of a disease. After the wasp emerges from the gall, the galls turn brown and shrivel up.

Oak button galls look like little suction cups on the underside of oak leaves.
Photo: Joey Burke, Good's Tree and Lawn Care

Brown Rot on Ornamentals

By: David L. Clement and Karen K. Rane, State Specialist and Plant Clinic Director

The symptoms of brown rot on ornamental cherries have many similarities to symptoms caused by fire blight on ornamental apples and pears. However, the pathogens that cause brown rot and fire blight are very different. Fire blight is a bacterial disease caused by the pathogen *Erwinia amylovora* and brown rot is a fungal disease. Brown rot is a common disease on prunus species in the landscape, especially the cultivar 'Kwansan', caused by the fungi *Monilinia fructicola* and *M. laxa*.

The first symptoms of brown rot on ornamental cherries appear as flower blight during wet spring weather. The pathogen will also colonize the twigs and branch shoots causing dieback as well as fruit infections. As a result of shoot infection secondary symptoms include brown curled branch tips that remain attached to the tree for

long time. Additional symptoms may include gray tufts of sporulation on the bark surface and gum exudates on the twigs. Fungal spores can be spread by rain, wind and insects. The pathogen can overwinter inside the cankers of the killed twigs and shoots as well as fruit. Initial infections each spring are typically due to spores that are blown, or rain splashed from twigs, or from sporulation of infected attached or fallen fruit.

Management
During dry weather prune and remove any dead twigs and shoots as well as any infected fruit during the growing season. Protective fungicide applications need to be done before flowering in the spring.

Brown rot infection on Kwansan cherry
Photo: Karen Rane, UME

Questions from Your Customers

We will handle questions from commercial horticulturists. The Home and Garden Information Center (HGIC) is set up to answer homeowner questions. If your customers have questions, please direct them to HGIC through their website at [https://go.umd.edu/AskExtension.](https://go.umd.edu/AskExtension)

Beneficial of the Week

By: Paula Shrewsbury

So many aphids… and fortunately so many natural enemies!

A flower or syrphid fly adult feeding on floral resources from a shasta daisy flower. In addition to providing biological control, they also provide pollination services. Photo: P.M. Shrewsbury, UMD

In last week's IPM Newsletter there were reports of several different species of aphids attacking a diversity of ornamental plant species. A common comment associated with these reports was that lady beetles were present. Aphids have evolved to become quite efficient at reaching high densities quickly. For example, during the summer season for most species of aphids, all the individuals are females so every aphid in the population is reproducing, they give live birth so no time needs to be spent in the egg stage, and they are parthenogenic so females do not have to spend time searching for a mate or mating to reproduce. This is a pretty impressive biology that results in high densities of aphids in relatively short periods of time. Interestingly, even with these high population building attributes of aphids, chemical controls are seldom needed for many aphid species. The major reason for this is because there is an entire suite of natural enemies that ultimately reduce, and often eliminate, aphid populations.

Flower or syrphid fly larvae are voracious predators of aphids. Note the aphid carcasses on the predator's body. Photo: P.M. Shrewsbury, UMD)

Many species of natural enemies move into landscape and nursery plantings in response to increased "food" availability. Observations reported last week were of lady beetle adults and larvae feeding on aphids (both stages are predacious). Some species of lady beetles are generalist like the multicolored Asian lady beetle in the images that feed on aphids and other insects, while others tend to specialize such as spider mite destroyers, *Stethorus* spp., that prefer spider mites. The aphid natural enemy complex includes various species of lady beetles, predatory flies such as syrphid or flower flies and *Aphidoletes* midges, lace wing predators, and parasitic wasps, in addition to a number of other types of generalist predators. I frequently monitor plants for populations of aphids and their natural enemies (always interesting to watch!).

In addition to various predatory lady beetle species attacking aphid populations, I often see flower fly (also known as syrphid flies, Syrphidae) larvae on the underside of leaves. Adult flower flies, although they are true flies, are bee mimics (no one wants to get stung), and feed on the nectar and pollen of flowers. They cue in on branches infested with aphids and lay small white eggs individually on the aphid infested leaves. Once the flower fly eggs hatch, the maggot-like larvae voraciously search for and consume aphids. It is quite exciting to watch these little guys in action. I will discuss other natural enemies that provide biological control of aphids in upcoming "Beneficial of the Week" articles.

So, the take home message is: *Don't spray! Wait! The natural enemies should come!* If there is a need to treat aphids (ex. high amounts of honeydew, high levels of distorted new growth), then use a short residual product such as horticultural oil that will reduce the aphid populations and have the least detrimental impact on natural enemy populations. In addition, avoid using high nitrogen, fast release fertilizers. These fertilizers will favor aphids by increasing the nutritional value of the food and/or reducing plant defensive compounds, leading to greater densities of aphids and their damage.

Multi-colored Asian lady beetle, *Harmonia axyridis*, adults feed on spiny witch hazel gall aphids on organically grown river birch. This pair is also mating so soon there will be even more lady beetles in this landscape. The distortion on the foliage is the damage on the upper leaf caused by aphids feeding on the underside.
Photo: Steve Black, Raemelton Farm

Aphids do have a good side to them. As I mentioned they attract a large and diverse suite of natural enemies into a landscape or nursery. Once the natural enemies consume the aphids on aphid infested plants, they will then move onto other plants in the area that have food for them. For example, many natural enemies of aphids also feed on scales, spider mites, thrips, or small caterpillars, among other insects, providing biological control of these pests. When possible, let mother nature (or her natural enemies) take care of aphid infestations and you will have the added benefit of reductions in other pest species by an abundance of natural enemies.

Multi-colored Asian lady beetle larva with its unique color pattern. Note the long legs that suggest this beetle larva is a predator.
Photo: M.J. Raupp, UMD

Weed of the Week

By: Cole Chapman, UME (edited by Mark Townsend, UME)

Daucus Carota, or "wild carrot" is a biennial weed introduced from Europe and is considered invasive in Maryland. As its Latin name suggests, *Daucus carota* is a member of the carrot family and is an ancestor of the garden carrot. It is also known as Queen Anne's lace, bird's nest, or bishop's lace with each name having some cultural significance. One of the prominent tales is that Queen Anne The Second of Great Britain pricked herself with a needle while tatting white lace, causing a drop of blood to color a part of the lace dark red. This story

connects to the plants forming a dark red/purple flower at the center of its umbel (flower cluster). In the 18th century, English courtiers called the plant “living lace” because of a contest hosted by Queen Anne II where she challenged her ladies-in-waiting to produce a piece of lace as delicate and beautiful as the flower. The plant is also known as bird’s nest because it resembles a bird's nest when its seed head dries, and bishop's lace because the nest represents sanctuary and refuge.

Queen Anne’s Lace Flower umbel with dark red central flower
Photo: Rob Routledge, Sault College, Bugwood.org

Queen Anne’s lace takes two years to complete its life cycle. It forms a low-growing rosette of foliage during the first year of growth. During the second year of growth, it produces a tall stalk, hollow stems, and white flowers. The flowers appear as flat umbels that are 2-5 inches across and made up of groups (umbellets) of 20 to 30 flowers. Each flower has five petals and is usually around ⅛ inches across. At its peak, stalks of Queen Anne’s lace can reach heights up to 40 inches near the end of its second year.


Birds nest structure formed during seeding
Photo: C. Schuster, UME-Retired

Throughout its lifecycle, Queen Anne’s lace produces a yellowish-white taproot with a carrot-like smell. It is important to correctly identify Queen Anne’s lace because it appears similar to poison hemlock. One key difference to look out for is that poison hemlock grows taller than Queen Anne’s lace, often growing up to 10 feet tall compared to the max height of 3-4 feet Queen Anne’s lace. Another noticeable difference is that poison hemlock has distinct purple spots on its stem that aren't on Queen Anne’s lace stems. Another difference is that the flowers of poison hemlock grow in clusters that spread out more than the umbel of Queen Anne’s lace.

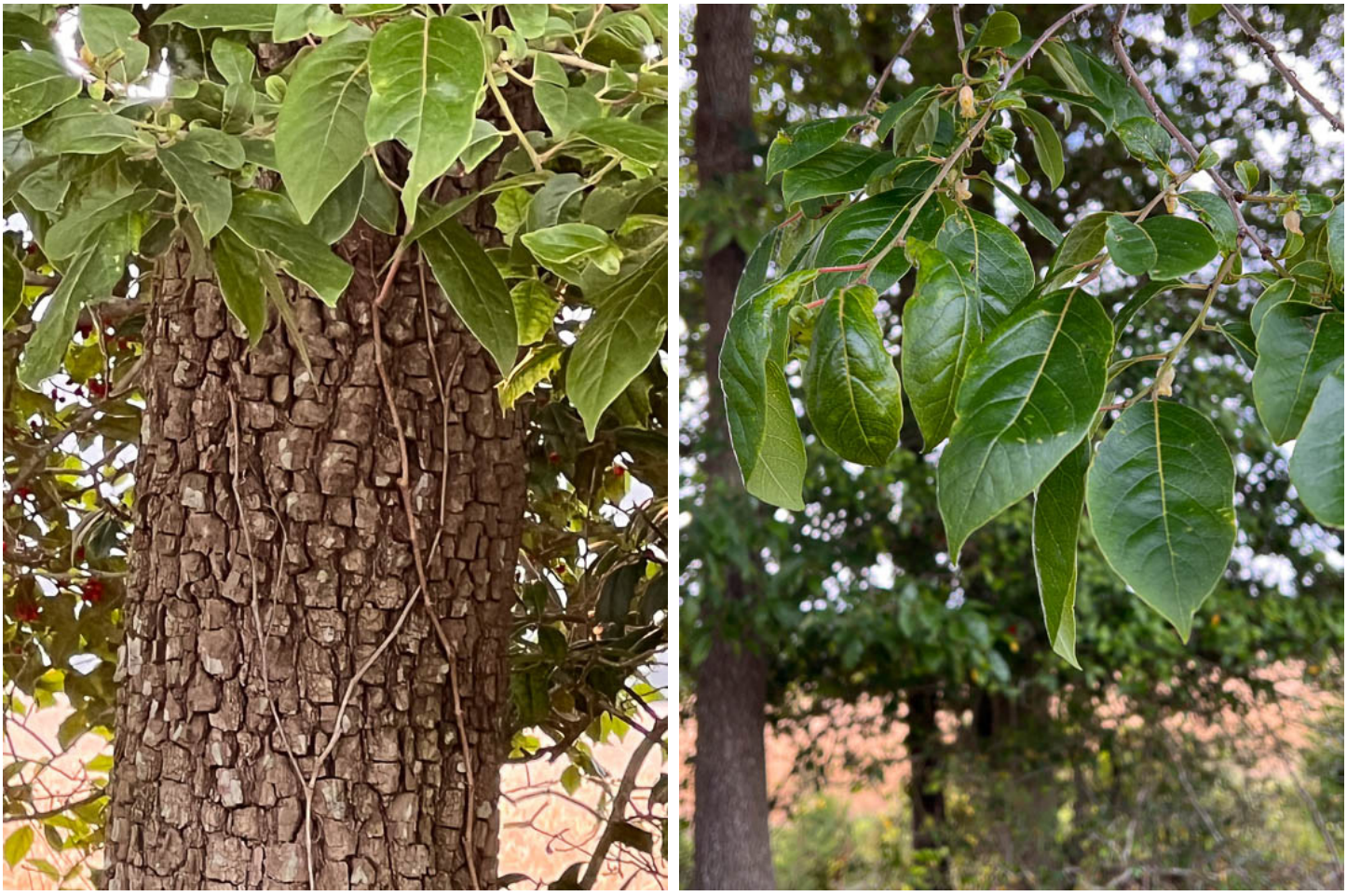
After identifying Queen Anne’s lace in an undesirable place, removal can begin. In the smaller gardens, hand-pulling the plants before they flower is the best way to control Queen Anne’s lace's growth. Mowing/pruning Queen Anne’s lace before it flowers and sets seeds is also effective. Tilling the soil can help prevent sprouts from taking root. Herbicide control options include products that use Triclopyr, 2,4-D, MCPA, and Dicamba, all of which can control Queen Anne’s lace in the turf setting. It is necessary to use these products with care around trees and shrubs because of potential drift and volatilization. Spot spraying with non-selective herbicides is effective in landscape settings, but exercise caution to protect non-target ornamentals.

Wild Carrot Roots
Photo: Gerald Holmes, bugwood.org

Plant of the Week

By: Ginny Rosenkranz

Diospyros virginiana is a native deciduous tree with the common name of American persimmon. The name persimmon comes from an American Indian tribe of Algonquin. Plants can grow 35-60 feet tall and 25-35 feet wide, thriving in full sun to partial shade and prefers moist but well-drained sandy soils. Persimmon trees are slender with an oval to rounded silhouette, and thick dark gray to black bark that is broken into square scaly blocks. Dark green lustrous leaves are arranged alternately on the slender gray- brown stem. They are round at the base with a smooth entire margin. Autumn turns the dark summer green leaves into yellow-green to yellow or reddish purple. The plants are cold tolerant in USDA zones 4-9 and are dioecious, each tree is either male or female. The female trees need a male for pollination of the flowers which bloom late spring to early summer with white, tiny bell-shaped fragrant flowers with 4 lobes at the opening of the flowers. The flowers mature into edible persimmon fruit that grow 1-2 inches in diameter turning yellow to pale orange. Fruit will persist on the trees after the foliage falls, and is unaffected by frost or freezing temperature, creating delightful winter ornaments. Although the fruit can last a long time on the tree, when ripe the fruit are too soft for shipping and sales. The leaves have been used to make teas, and because the tree are in the ebony family, the wood is extremely strong and hard and is often used to make billiard cues, flooring and golf club heads. Persimmon have a strong taproot and need to be root pruned early, and transplants best in early spring. They are tolerant of Black Walnuts, air pollution, drought and poor soils. Pests can include leaf spot and there can be susceptible to fall webworm, and when the fruit falls off the tree, it can be messy.



Persimmon bark and foliage
Photos: Ginny Rosenkranz, UME

Degree Days (as of June 7)

Abingdon (C1620)	808
Annapolis Naval Academy (KNAK)	917
Baltimore, MD (KBWI)	974
College Park (KCGS)	909
Dulles Airport (KIAD)	919
Ft. Belvoir, VA (KDA)	868
Frederick (KFDK)	839
Gaithersburg (KGAI)	805
Gambrils (F2488, near Bowie)	885
Greater Cumberland Reg (KCBE)	731
Perry Hall (C0608)	762
Martinsburg, WV (KMRB)	605
Natl Arboretum/Reagan Natl (KDCA)	1140
Salisbury/Ocean City (KSBY)	919
St. Mary's City (Patuxent NRB KNHK)	1168
Westminster (KDMW)	971

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

Pest Predictive Calendar "Predictions"

By: Nancy Harding and Paula Shrewsbury, UMD

In the Maryland area, the accumulated growing degree days (**DD**) this week range from about **605 DD** (Martinsburg, WV) to **1168 DD** (St. Mary's City). 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.

Bagworm – egg hatch **(602 DD)**
Potato leafhopper – adult arrival **(603 DD)**
Black vine weevil – adult emergence **(607 DD)**
Twospotted spider mite – egg hatch **(627 DD)**
Cottony camellia/Taxus scale – egg hatch **(649 DD)**
Mimosa webworm – larva, early instar (1st gen) **(674 DD)**
Juniper scale – egg hatch / crawler **(694 DD)**
Calico scale – egg hatch / crawler **(765 DD)**
Oak lecanium scale – egg hatch / crawler **(789 DD)**
Rhododendron borer – adult emergence **(815 DD)**
Japanese maple scale – egg hatch / crawler (1st gen) **(829 DD)**
Dogwood borer – adult emergence **(830 DD)**
European elm scale – egg hatch / crawler **(831 DD)**
Cottony maple scale – egg hatch / crawler **(872 DD)**
Winged euonymus scale – egg hatch / crawler **(892 DD)**
European fruit lecanium scale – egg hatch / crawler **(904 DD)**
Cryptomeria scale – egg hatch / crawler **(937 DD)**
Azalea bark scale – egg hatch / crawler **(957 DD)**
Hibiscus sawfly – larva (early instar) **(1015 DD)**
Japanese beetle – adult emergence **(1056 DD)**
Fletcher scale – egg hatch / crawler **(1105 DD)**
Spotted lantern fly – adult flight **(1112 DD)**

Fall webworm – egg hatch (1st gen) **(1142 DD)**
Indian wax scale – egg hatch / crawler **(1145 DD)**
Oriental beetle – adult emergence **(1147 DD)**
Peachtree borer – adult emergence **(1181 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.

MDA Pesticide Container Recycling Program

Please be advised that the MDA Pesticide Container Recycling Program has been suspended for the 2023 year. Please visit Pesticide Container Recycling Program Update 2023 for further information. If you have any questions please feel free to contact our office. Thank you.

Conferences: Go to the IPMnet Conference Page for links and details on these programs.

June 16, 2023
Montgomery County Procrastinator's Conference
Location: Montgomery County Extension Office

June 20, 2023
Cut Flower Program
Location: Castlebridge Farm, Ellicott City, MD

June 28, 2023 (1-3 p.m.)
IPM Scouts' Diagnostic Session
Location: CMREC, Ellicott City, MD

July 26, 2023 (1 - 3 p.m.)
IPM Scouts' Diagnostic Session
Location: CMREC, Ellicott City, MD

October 11, 2023
FALCAN Truck and Trailer Seminar
Location: Urbana Fire Hall, Urbana, MD

Commercial Ornamental IPM Information
extension.umd.edu/ipm

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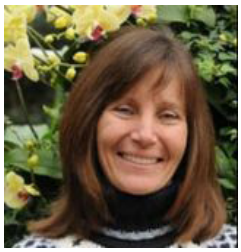

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