

BYGL Newsletter

[July 9, 2015](#)

This is the 14th 2015 edition of the Buckeye Yard and Garden Line (BYGL). BYGL is developed from a Tuesday morning conference call of Extension Educators, Specialists, and other contributors in Ohio.

Authors for 2015: Amanda Bennett, Pam Bennett, Joe Boggs, Jim Chatfield, Julie Crook, Erik Draper, Gary Gao, Denise Johnson, Jacqueline Kowalski, Ashley Kulhanek, Cindy Meyer, Amy Stone, Nancy Taylor, Marne Titchenell, Danae Wolfe, and Curtis Young.

Plants of The Week »

Annual - Cleome or Spider Flower (Cleome haasleriana)



This tall, bold plant adds drama to the garden with its spidery-looking flowers. Plants can grow anywhere from 2 - 4' tall and around 3' wide depending on cultivar. They get to this size quickly in a growing season and the blooms last all season with minimal or no deadheading. They are extremely easy to grow and rabbits and deer tend to shy away from them.

The flowers come in pink, purple white and bi-color and appear at terminal end of the stem. The spidery appearance comes from the stamens that can be up to 2 - 3" long. Flowers are scented and can also be used for cut flowers. These plants reseed readily and

are great when grown in a cottage garden or naturalized area where you can just let them go! They also attract birds, butterflies and hummingbirds.

The foliage is a bit aromatic and is also sticky. The leaf has a sharp spine at the bottom of each leaf stalk. At times, the foliage drops during the growing season, leaving a bare-naked stem with flowers still going strong at the top.

There are numerous cultivars and hybrid crosses of cleome available. Some of these are sterile and don't reseed (which could be a benefit in some garden sites), some don't have spines on the stems, and some are not fragrant. However, they have other characteristics that make them good garden plants. Cleome 'Senorita Rosalita' for instance, has a sterile purple flower on a robust plant that keeps the foliage all season long. Cleome 'Spirit Apple Blossom' is more compact, growing 1 - 2' tall and 2 - 4' wide with pinkish-white blooms that attract butterflies and hummingbirds.

For More Information:

Missouri Botanical Garden Plant Finder

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx>

University of Vermont information on Cleome haasleriana

<http://pss.uvm.edu/pss123/anncleom.html>

Perennial - Daylily (Hemerocallis spp.)



Daylilies are not true lilies; they are in the genus *Hemerocallis*.

This two-part Greek word is the perfect descriptor for the bloom habits of this flower; hemera means day and kalos means beauty. Together this means a day of beauty and that's exactly what each bloom gives. After a bloom opens, lasts for a day, it dies.

However, don't despair! The entire plant has lots of bloom stems and flower buds and will give plenty of overall color for a 2 - 3 week period in the summer depending on the cultivar.

Daylilies are extremely adaptable and very easy to grow. They don't take long to establish and tolerate fairly tough conditions.

Plant them in full sun for best bloom power. Despite the fact that each bloom lasts for a day, there are many flower stems or scapes on one plant with many buds on each scape. The scape grows from the center of the plant and can be from 1 - 6' tall depending on variety. Deadheading or preventing them from going to seed really helps their appearance. Do this when a scape has completely finished blooming (no more flower buds).

The foliage is narrow and is about 1/2" wide and long, upright and arching, giving the plant a mounded appearance. The overall height of the plant depends on the cultivar and can be anywhere from 1 - 3'. Plants grow and increase in size over a period of time and benefit from a periodic dividing. Resources vary in their recommendations as to how often to divide - the spread is from 3 - 7 years. The best recommendation is to divide when you notice that bloom power is starting to fade or the overall appearance begins to decline.

There are numerous cultivars of daylilies with lots of features including height differences, bloom times and lengths, and of course flower shapes, sizes and colors. And don't forget, the flower petals are edible and all have a different flavor, some much better than others. So why not surprise your neighbors and graze on your daylily garden tonight?!

For More Information:

University of Minnesota Extension information on growing daylily

<http://www.extension.umn.edu/garden/yard-garden/flowers/growing-daylilies/>

University of Vermont Extension information on growing daylily

<http://www.daylilies.org/>

Woody - Yellowwood (*Cladrastis kentukea*)



This medium-sized native shade tree ranges between 30 - 50' at maturity. It's a lovely ornamental with smooth gray beech-like bark and the wonderfully aromatic pendulous white flower panicles appear in late spring. The flowers are somewhat inconstant, often numerous only every 2 - 3 years. The leaves are compound and each large compound leaf may be up to 10" long with 5 - 11 leaflets.

Yellowwood, also known as *virgilia* in the south is in the bean (Fabaceae) family with its tell-tale fruit pods. It has a broad, rounded habit which sometimes spreads out a bit much with age

and is subject over time to damage from high winds. Its fall color is yellow to orange and a colorful addition for the fall season. Yellowwood is adaptable to various soils, and tolerates both alkaline and acid conditions. The tree's wood is prized for the eponymous yellow heartwood and is used for specialized furniture, gunstocks and is often sought after by wood turners.

This past week, Cindy Meyer and Amy Stone were taking a walk at the Chadwick Arboretum and Learning Gardens when they stumbled upon some yellowwoods. One of the specimen trees was planted in as gift in honor of Dr. Stephen Baertsche on his retirement as the OSU Extension Assistant Director on Arbor Day 2008. What an awesome way to recognize the work of someone by planting a tree.

For More Information:

Missouri Botanical Garden Plant Finder

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx>

Vegetable - Radish (*Raphanis sativus*)



Radishes are one of the earliest planted, fastest maturing, and first seen vegetables in spring Farmer's Markets and home gardens. Although radishes are historically a cool-weather crop, they can be succession planted in the home garden throughout the summer (with proper variety selection and adequate moisture) and harvested late into the fall. There are several traditional round varieties such as 'Rover' (very heat tolerant), 'Cherriette' and 'Cherry Belle'. Cylindrical types include 'D'Avignon' 'Cincinnati Red' and 'Icicle'. There are also some new interesting specialty varieties, 'Nero Tondo' and 'KN-Bravo' worth giving a try as well as daikon types (which are planted mid-summer for fall harvest).

Radishes require friable, well-drained soil and prefer a pH of 5.8 - 6.8. Incorporate 2 - 4 cups of 10-10-10 per 100 sq./ft. before planting. Plant the seeds 1/2" deep in rows 12" apart. Once the seedlings have emerged, thin to 2" inches between plants.

Radishes need to be harvested as soon as they are mature. The time to maturity can range from 3 - 5 weeks, so it is important to know the days to harvest for the variety that you have planted. If left in the field just a few days too long, they many become pithy and/or crack.

Radishes don't compete well with weeds. Plant seeds into a weed-free bed. Control weeds during the establishment period and cultivate very shallowly once established. Fortunately because the relatively quick turnaround time with radishes, weeds aren't a huge issue (except in years with excessive rain).

The major insect pests that plague radishes are cabbage maggots and flea beetles. Cabbage maggots are most active when the soil is cool and wet, therefore there is often maggot damage in the spring. Flea beetles attack the foliage. Covering the area with a row cover immediately after planting can help reduce damage from both. Downy mildew and white rust also affect radishes but are rarely a problem in home gardens.

**Please note that last week's vegetable of the week had the incorrect scientific name listed for it. The genus and species for tomato is *Solanum lycopersicum*. While a blueberry tomato would be cool it unfortunately does not exist! The author sincerely apologizes and is sorry for any confusion that this may have caused.*

For More Information:

Cornell University

<http://vegvariety.cce.cornell.edu>

Weed - Queen Anne's Lace, Wild Carrot (*Daucus carota*)



You may be noticing the delicate lace-like white umbrella shaped flowers of Queen Anne's lace along the roadside, fields and landscapes. Don't be fooled by its graceful fern-like leaves and carrot scent, the United States Department of Agriculture (USDA) lists Queen Anne's lace on the noxious invasive plant list for Ohio and several other states.

This non-native invasive plant is in the carrot family, Apiacea, and was brought from Europe for its fleshy, edible, tap root which is similar to our cultivated parsnip and carrot. It is a biennial, forming a basal rosette the first year and a 1 - 4' tall flower stalk its second year. Reproduction is by seed with one plant producing 1,000 to 4,000 prickly seeds annually. Seed distribution and range expands as the seeds stick to the fur of animals and take root in dry, disturbed areas.

Although other sources list Queen Anne's lace as an herb, wildflower, and a plant for attracting beneficial insects, **do not propagate this weed**. Preferred plants with attractive white flowers that will attract similar beneficial insects include *Ammi majus* or laceflower and *Ammi visnaga* or toothpickweed. *Attracting Beneficial Bugs to Your Garden* by Jessica Walliser provides other plant recommendations.

Wear gloves when working around Queen Anne's lace as the leaves are toxic and cause skin irritation. Mechanical control can be effective if flower heads are removed prior to seed dispersal and you are persistent in weeding and digging deep enough to remove the tap root. Chemical herbicides such as 2,4-D and triclopyr can be effective. Always follow label

directions when using any herbicide or pesticide.

For More Information:

USDA Forest Service Weed of the Week, Queen Anne's Lace *Daucus carota* L.

http://www.na.fs.fed.us/fhp/invasive_plants/weeds/queen-annes-lace.pdf

North Carolina State University Cooperative Extension, *Daucus carota*

<https://plants.ces.ncsu.edu/plants/all/daucus-carota/>

Illinois Wildflowers.com, Wild Carrot

http://www.illinoiswildflowers.info/weeds/plants/wild_carrot.htm

Hort Shorts »

The Gall Trilogy: Part III

The final installment of the so-called "Gall Trilogy" written by Joe Boggs and Jim Chatfield for American Nurseryman Magazine is now available online. The article is titled, "Managing Galls." Here's the web link to the current issue of the magazine: <http://www.amerinursery-digital.com/july2015#&pageSet=9>.

Leaf Chlorosis on Trees



This is the time of the year when progressive yellowing between leaf veins (chlorosis) tends to become most evident on deciduous trees; landscapes become adorned with aureolin river birch and jonquil pin oaks. It's common for the cause to be quickly diagnosed as a nutrient deficiency caused by high soil pH making iron (Fe) unavailable to the tree, or the soil lacks enough Fe to support green leaves; the chlorotic trees are like canaries in a coal mine. It's easy to make a quick, speculative diagnosis; it takes more time and requires more work to make an accurate diagnosis.

Tree leaf chlorosis may be caused by a number of problems or conditions, sometimes working in tandem. Soil pH, both high and low, may indeed be preventing essential plant elements from being made available to the tree, or the elements may be deficient in the soil. Vascular flow within the tree may have been disrupted by pests (e.g. borers), diseases (e.g. vascular diseases, cankers, etc.), or physical injury; never overlook lightning strikes! Dry soils may have prevented the movement of elements into the roots (not too likely this season!), or root function may have been disrupted by wet soils (root drowning). Roots may have been damaged by soil compaction, excavation, or roots may have failed to grow after planting. Roots may also have been damaged by pests or by root rotting plant pathogens with their destructive work supported by wet soils. Of course, leaf chlorosis may be a symptom of chemical exposure, both insecticides (phytotoxicity) as well as herbicides.

With so many possibilities, zeroing in on a correct diagnosis requires working through a process of elimination. Eliminating chemical exposure requires some "detective" work with questioning the client along with looking to see if surrounding weeds are responding to an herbicide application, or if the surrounding turfgrass is remarkably weed-free. Leaf chlorosis produced by leaf pests and diseases is usually accompanied by other symptoms such as leaf stippling, spots, or blotches. The leaf chlorosis that is caused by pests and diseases affecting vascular flow or the tree's root system is usually a fleeting condition typically followed by more severe symptoms such as leaf scorch (browning along the edges), wilt, and leaf death.

If pests, diseases, and chemical injury are eliminated, the next step is to focus on nutrient deficiencies by combining the results of a leaf tissue analysis with the results of a soil test. Both can be performed by most soil testing labs. A tissue analysis is the only way to learn with certainty that the symptoms are being caused by the deficiency of a particular nutrient. Newly expanding leaves are required for the analysis, so it's best to act quickly. A soil test may reveal the reason the nutrient is lacking in the soil; it may be associated with pH, cation exchange capacity, or the nutrient may indeed be deficient in the soil.

Whatever the cause, by following these steps, arborists, landscapers, and nursery managers will be armed with the necessary information to make an accurate diagnosis and hopefully be able to develop a response to correct the problem. Of course, it takes time and requires more work to make an accurate diagnosis compared to a quick-draw speculative diagnosis. However, which diagnostic path would you prefer your physician to follow?

Sacred Lotus May Not Be So Sacred



Joe Boggs shared images of sacred lotus (*Nelumbo nucifera*) choking two ponds in a Butler County, OH, park. Also known as the "bean of India" for its native home or "Indian lotus" for the same reason, Joe noted that he failed to find reports of this non-native becoming a serious invasive aquatic plant. However, his images certainly demonstrated the potential for this Asian native to take-over ponds in Ohio.

He learned from a hiker enjoying the park that the lotus had been introduced to the ponds by a Butler County resident sometime in 2013 with the presumed intention of adding to the beauty of the ponds. Indeed, Joe has images taken in the spring of 2013 that shows one of the ponds with open water; no lotus is evident. However, the lotus has quickly proliferated to completely cover the surfaces of both ponds; full coverage of one of the ponds occurred last year.

The leaves and growth habits of this non-native are virtually the same as those of our native AMERICAN LOTUS (*N. lutea*). Both have circular, deep-green leaves that range in size from 1 - 3' and are flat if floating on the water surface or slightly cup-shaped if they rise on rigid stems up to 3" above the water. Leaves lack slits which helps to distinguish the plants from water lilies. Both species of lotus produce inverted-cone shaped seed pods in the center of the flowers with small openings in which the seeds develop making the structure look like a shower head. Once petals drop, the seed pods droop down making them look even more like shower heads.

The most evident distinguishing feature between the non-native sacred lotus and the native American lotus is the color of their large, showy flowers. Both produce large fragrant flowers that are borne on stalks and may be 10" in diameter; however, the flower petals of American lotus are pale yellow while the flowers of sacred lotus range in color from reddish pink, to light pink, to pink tinged with white. The garish color of the sacred lotus flowers makes this plant easy to identify even at a distance.

Lotus colonies spread by seeds and submerged rhizomes. Thus, they have the capability of rapidly establishing and spreading over ponds; the main limiting factor is the depth of the pond since lotus plants must remain attached to the bottom. Although sacred lotus presents a beautiful display, it appears to have the potential to behave aggressively in taking over shallow ponds.

If it is Not a Pine, Fir or Spruce, then Maybe it is a Juniper or Arborvitae



Junipers and arborvitae are common plants used in the landscape for a number of purposes such as windbreaks, hedges, ground cover, and foundation plantings. Junipers are coniferous plants in the genus *Juniperus* of the cypress family Cupressaceae. There are between 50 and 67 species of juniper around the world. Our native juniper in Ohio is the EASTERN RED CEDAR (*Juniperus virginiana*).

Junipers vary widely in size and shape from tall trees (65 - 130' tall), to columnar or low spreading shrubs with long trailing branches. They are evergreen with needle-like and/or scale-like leaves that vary in coloration from dark-green to bluish-green. The short, needle-like leaves are common on seedlings and some branches of older trees and are 1/4 - 1" in length. The needle-leaves of junipers are hard and sharp, making the juvenile foliage very prickly to handle. Most of the leaves on mature plants are tiny, overlapping, rounded and scale-like.

They can be either monoecious or dioecious. The female seed cones are very distinctive, with fleshy, fruit-like coalescing scales which fuse together to form a "berry-like" structure. The seeds produced inside of the "berry" are unwinged and hard-shelled. In some species the "berries" are red-brown or orange but in most they are blue. They are often aromatic and can be used as a spice as well as the source of flavoring for gin. The male cones are small and inconspicuous.

Most junipers used in landscapes are non-native species. Some examples of these junipers include: Chinese juniper (*Juniperus chinensis* 'Blue Point'); Shore juniper (*Juniperus conferta*); Dahurian juniper (*Juniperus davurica* 'Expansa Parsoni'); creeping juniper (*Juniperus horizontalis* 'Blue Rug'); Japanese garden juniper (*Juniperus procumbens*); Savin juniper (*Juniperus sabina*); and Rocky Mountain juniper (*Juniperus scopulorum* 'Skyrocket').

Arborvitae or EASTERN WHITE CEDAR (*Thuja occidentalis*) is also an evergreen coniferous tree, in the cypress family Cupressaceae, which is native to the eastern Canada and much of the north, central and upper Northeastern United States. Arborvitae has flat, fan-like branches with flat, overlapping, scale-like leaves. Compared to the junipers, arborvitae is a soft-needled plant with which to work.

Arborvitae is a small tree, growing to a height of 30 - 60' tall with 5 - 12' in diameter. The bark is red-brown, furrowed and peels in narrow, longitudinal strips. The female cones are produced in upward pointing clusters of short (1/4 - 1/2"), slender, yellow-green structures that ripen to a brown color. The male cones like those of junipers are small and inconspicuous.

There are a number of arborvitae cultivars on the market with a variety of shapes (globular and columnar or pyramidal), colors (greens and goldens), and sizes from which to choose. There are also a few non-native arborvitae in landscapes such as Oriental arborvitae (*Platycladus orientalis* (a.k.a. *Thuja orientalis*)) and Korean arborvitae (*Thuja koraiensis*). Foliage of the Oriental arborvitae is a lemon-lime color and almost florescent. The cones of Oriental arborvitae are a bluish-white color looking like a gall growth rather than a cone. When mature, these cones dry out, turn brown in color and split open to drop their seeds.

For More Information:

Clemson University Fact Sheet on Junipers

<http://www.clemson.edu/extension/hgic/plants/landscape/shrubs/hgic1068.html>

Ohio State University Extension FactSheet on Arborvitae

<http://ohioline.osu.edu/hyg-fact/1000/1077.html>

Bug Bytes »

Cabbage Worms Very Active



Cabbage worm is a general term for a set of three insect members of Order Lepidoptera whose larvae feed on cole crops, turnips and radishes. The three are: imported cabbage worms (*Pieris rapae*), cabbage looper (*Trichoplusia ni*) and diamond-back moth (*Plutella xylostella*). They are currently wreaking havoc on cole crops in home gardens around the state by munching and creating holes in the leaves and heads of cole crops.

The imported cabbage worm is plump and green with a slight yellow strip down its back. It is fuzzy and rather slow moving.

The insect over winters in the chrysalis stage and the white adult

moths (the males have a black spot on their wing) emerge early in the spring and lay hundreds of eggs. The single, whitish eggs can be found both on top and underneath the leaves (but mostly underneath) and are easily removed. The larvae hatch after a week and feed for about 15 days and then pupate for 10 days before the adult moths emerge. The full-sized larvae are about 1" long. These are most likely the culprits currently causing the most damage.

Cabbage loopers are green with faint white stripes down its back and smooth. The larvae arches its back while it moves which gives it a "looping" appearance and is more often a problem in the late summer. The larvae feed for 2 - 4 weeks and are about 1 1/2" at full size. Cabbage loopers do not overwinter in Ohio.

Diamond back moths are named for the brown, white and grey diamond that is seen on the top of the moth when it is at rest. The larvae are green, segmented and tapered at both ends. If disturbed, the larva will wiggle vigorously and may fall off the plant. It is 1/2" when fully grown. Young larvae also damage leaves by mining the tissue inside of the leaves.

Each of these insects can go through several generations per year in Ohio. Hand-picking and egg destruction can work in small gardens. Other cultural controls include removing all spent plant debris and removing any wild *Brassic*s in the area. There are several natural enemies for cabbage worms but if control is necessary the small larvae of all of these insects are well controlled with products that contain *Bacillus thuringiensis* (*B.t.*), however, once the larvae are medium sized, *B.t.* will no longer be effective and other control measures, such as products that contain carbaryl, pyrethroids, or permethrin could be considered. Always follow label instructions when applying pesticides.

Tomato Hornworm vs. Tobacco Hornworm



Tobacco Hornworm Caterpillar
Manduca sexta

We had a great discussion about these two species on our BYGL conference call this week. Tomato hornworm (*Manduca quinquemaculata*) and Tobacco hornworm (*Manduca sexta*) are destructive pests to tomato plants. At least for our BYGL team, many times we misidentify this pest by confusing it with the other. In fact, Joe Boggs and Curtis Young explained that more often than not the hornworm that we find is the tobacco hornworm and not the tomato hornworm although both are found in the State of Ohio. Both can also be present on the same plant.

These large caterpillars can measure up to 4" in length. Both species have a large, prominent horn on their back ends thus giving them their common name. The tomato hornworm has eight V-shaped marks on each side and its horn is a dark blue to black color in comparison to the tobacco hornworm larva which has seven diagonal white lines on its side and has a red horn. Both of these larvae are typically green in color which helps camouflage them when they are feeding on the plant. The large black droppings, also called frass, found on the ground beneath the plant or the massive feeding damage are often times discovered before the actual larva. These hornworms are the larvae of the hawk or sphinx moths.

Controlling hornworms are easy. Handpicking is practical in small home garden situations and very easy once you find them on the plant. The larvae can then be snipped in half, stepped on, or dropped in a bucket of water. Rototilling after harvest can help destroy any pupae that may be present. Insecticide usage can also be employed. Products such as carbaryl, permethrin, and spinosad insecticides work. It is important to read the label before using any of these products to understand warning and precautions.

Another product called Bt or *Bacillus thuringiensis* is the source of a biological pesticide. The bacterium is naturally found in the soil. It produces a protein crystal that is toxic to some insects in their early stages of development. Bt has been formulated into materials that can be sprayed on plant material (e.g. Dipel). It can be sprayed as a precaution. Please note that if you find a hornworm with white protrusions on its back, this larva is pretty much dead. These white protrusions are actually silken cocoons containing pupae of a parasitic wasp. As larvae, the wasps feed on the hornworm. When the wasp larvae are done feeding, they drill through the skin of the hornworm, emerge to the exterior of the hornworm where they spin the cocoons within which to pupate and metamorph into adults. As adults, these wasps will hunt for other hornworms to parasitize. So, if you have these parasitized hornworms, leave them be to continue your biocontrol.

For More Information:

Colorado State University

<http://www.colostate.edu/Dept/CoopExt/4dmg/Pests/tomato.htm>

University of Kentucky

http://www.uky.edu/Classes/ENT/574/insects/tobacco_insects/tobacco_hornworm/thw_images.htm

Dog Days of Summer Bring Dog Day Cicadas



Newly Emerged Dog-Day Cicada

BYGLers have reported hearing the first "clicks" and "chirps" of ANNUAL CICADAS (*Tibicen* spp.). The cicada's loud singing is a staple for the hot days of summer that are finally arriving. But don't confuse these with the PERIODICAL CICADAS (*Magicicada* spp.) whose massive emergences are noted earlier in the season every 13 - 17 years. Periodical cicada lovers can look forward to 2016, which will mark the emergence of periodical cicada brood 5 in much of Eastern Ohio.

Annual or "dog-day" cicadas are dark brown to black with green markings (whereas periodical cicadas are black and reddish-orange highlights). Both cicada groups develop fairly deep underground feeding on roots as young nymphs then digging their way out with their fossorial forelegs modified for digging. They then shed their nymphal exoskeleton, leaving behind a tan shell on trees and walls that we all used to search for and collect as kids (admit it!). The dog-day cicadas are larger than their periodical relatives. They both have piercing-sucking mouthparts that they use to suck fluids out of young twigs on trees and shrubs, though they are not considered pests of significance and cause little feeding damage to the plant. However, the act of oviposition, where the female uses a sturdy ovipositor to slice into a twig and lay an egg, can damage young twigs and plants by causing twig dieback known as "flagging".

The signature chirp of the cicada is produced by the male cicadas in its effort to attract females. Females cannot produce

this sound. In the dog-days of summer, this buzzing drones from trees to blend with the sound of birds and breezes. This is a delightful summer memory compared to the cacophony of buzzing and hissing that resonates from the legions of males during the cicada apocalypse of a periodical emergence! It is no wonder that we often call these critters "locusts" eliciting visions of biblical plague. But the term is taxonomically incorrect. Locusts are actually a proper term for grasshoppers (Order: Orthoptera). Cicadas, on the other hand, are true bugs (Order: Hemiptera) and are more closely related to spittlebugs and aphids than crickets and katydids.

It is important to note that with the emergence of our annual cicadas will follow sightings of the CICADA KILLER WASP (*Sphex speciosus*), a large and alarming solitary wasp. Never fear! This wasp, while large, is not aggressive and rarely sting unless handled. They are more interested in capturing large cicadas to feed its young than in visiting you. Males can exhibit territorial behavior and may buzz around the head of one who gets too near their in-ground burrow, but males cannot sting! Their burrows can be identified by a U-shape pile of dirt surrounding a large 1/2" hole. This is where the wasp drags the paralyzed cicada back down into the earth where she lays one egg on each cicada she collects.

For More Information:

Ohio State University- recently updated factsheet with brood map

http://ohioline.osu.edu/ent-fact/pdf/periodical_and_dog_day_cicadas_ent_58_15.pdf

Colorado State University

<http://www.ext.colostate.edu/Pubs/insect/05590.html>

Ohio State University Cicada killer wasp

http://ohioline.osu.edu/ent-fact/pdf/ENT_63_15.pdf

Japanese Beetle Populations Scattered, Variable



Japanese Beetle on Purple Coneflower

BYGLers have varied reports of Japanese Beetle (*Popillia japonica*) populations this year. From Medina County, a few callers have reported hundreds of beetles on willow, shrubs, and flowers this year. While in Southern Ohio, reports seem to be of lower populations so far.

While Japanese beetles create an unsightly mess of their host's leaves, often there is no long-term damage to the overall health of the plant. Therefore it is an option to do nothing. However, many homeowners may wish to salvage the aesthetics of their favorite roses, lindens, coneflowers, or any of the 400 plus favored plants

they eat. To manage Japanese beetle, one may choose physical removal of beetles. Shaking beetles off branches, or flicking beetles into buckets of soapy water is one favorite summer pastime that works to reduce the number of mandibles at work on prized plants. Being observant and catching the first few beetles can help in preventing other beetles from joining them for dinner, as beetles often feed in groups attracted by the scent of chewed plant or pheromones.

If insecticides are deemed necessary, there are many products that are effective against the beetles including spinosad (e.g. Captain Jack's Deadbug Brew), pyrethroids (e.g. Talstar, Mavrik, etc.) and carbamates (e.g. Sevin) as well as some neonicotinoids such as imidacloprid (e.g. Merit) and acetamiprid (e.g. Talstar). Make sure to follow all label instruction for proper use and to ensure the lowest impact on beneficial insects and bees. And a final reminder, Japanese beetle traps are not very effective at protecting plants as it has been shown that traps attract more beetles to the landscape than it is able to trap. While the traps will fill up, it will not offer significant reduction in populations to offset their impacts on the landscape.

For More Information:

Ohio State University

http://ohioline.osu.edu/ent-fact/pdf/ENT_46_14.pdf

University of Kentucky

<http://www2.ca.uky.edu/entomology/entfacts/ef451.asp>

University of Minnesota

<http://www.extension.umn.edu/garden/insects/find/japanese-beetles/>

Dusky Birch Sawfly



Ashley Kulhanek showed BYGLers images of late instar first generation dusky birch sawfly (*Crosus latitarsus*) larvae munching on their namesake host in northeast Ohio. She noted that there are high localized populations causing noticeable damage



in her part of the state. The sawfly shows such a distinct preference for river birch that an alternate common name is "river birch sawfly."

Unfortunately, the caterpillar-like sawfly larvae are sometimes being mistaken for caterpillars and targeted with the biological insecticide *Bacillus thuringiensis* (Bt). There are strains of Bt that

will control moth caterpillars (order = Lepidoptera); however, sawflies belong to the order Hymenoptera (e.g. wasps, bees, and ants). Thus far, no Bt strains have been discovered that will kill hymenopteran insects.

The simple way to tell the difference between lepidopteran caterpillars and hymenopteran sawfly larvae is to count the number of prolegs; the fleshy "extra legs" that are lost during pupation. Counting from front to back, the first 3 pairs of legs just behind the head are the hardened "thoracic legs;" these legs will also be found in the same position on the adults. The following pairs of fleshy legs are the prolegs. Sawfly larvae have 6 or more pairs of prolegs; caterpillars have 5 or less pairs of prolegs. A handy way to remember this identification tip is to compare the number of prolegs to the number of fingers on your hand.

Dusky birch sawfly larvae feed in groups, or "colonies," that may number 10 - 20 individuals. All instars have shiny black head capsules and distinct black spots on their bodies. When disturbed, the larvae form their bodies into an "S" shape (S for sawfly?). Early instar larvae are dark gray, middle-instars are greenish-gray, and late instars are yellowish-green in color. Early instars consume all of the leaf except for the mid-vein and main lateral veins; late instars consume entire leaves.

This sawfly has two generations per season in Ohio with the second generation typically causing the most damage owing to larger numbers of larvae compared to the first generation. We are coming to the end of the first generation meaning that more damage can be caused by the sawfly larvae this season; thus, suppression tactics may need to be applied. It may be too late to target the first generation because some of the late instar larvae may have already pupated (insecticides will not kill pupae). Trees should be closely monitored for the appearance of the second generation and early instars targeted. Second generation larvae can be brought to a speedy end by knocking colonies off the leaves into a bucket of soapy water, or onto the ground where they can be dispatched by performing the "sawfly dance." Appropriately labeled standard pyrethroid insecticides are also effective; however, they may kill beneficial insects that help to naturally suppress year-to-year populations of this sawfly pest.

European Hornets Cause Concern



Ashley also reported that she received e-mail messages from concerned landowners living in northeast Ohio who were fearful that the large hornets they were seeing were GIANT ASIAN HORNETS (*Vespa mandarinia*). She determined the large hymenopterans were in fact EUROPEAN HORNETS (*V. crabro*). Thankfully, there have been no confirmed sightings of giant Asian hornets in North America; however, it's easy to find spurious web reports of giant Asian hornets being found in multiple states including Ohio. Entomologists have generally concluded the reports are either misidentified European hornets or CICADA KILLER WASPS (*Sphecius speciosus*) which should emerge any

day now given that their food supply (DOG-DAY CICADAS, *Tibicen canicularis*) are beginning to emerge throughout the state.

European hornets were first found in the U.S. in New York State around 1840. Since that time, the hornets have spread to most states east of the Mississippi and a few states to the west. European hornets are impressively large, measuring 1 - 1 1/4" in length. Their black and yellow markings on their abdomen make them look like yellowjackets on steroids; however, their head and thorax have distinct chestnut-colored markings. Yellowjackets have black and yellow markings on the head and thorax.

Technically, this non-native is the only "true hornet" found in Ohio. Taxonomically, our native BALD-FACED HORNETS (*Dolichovespula maculata*) are not actually hornets; they are grouped with yellowjackets which is why they are in the same genus as AERIAL YELLOWJACKETS (*D. arenaria*). Unlike our native yellowjackets and wasps, European hornets can cause significant girdling damage to twigs and branches of trees and shrubs by stripping bark to the white wood. It is speculated they extract sugar from the consumed phloem tissue. It has been reported that the hornets will feed on a wide range of trees and shrubs including the aforementioned dogwood, lilac, and viburnums as well as ash, birch, boxwood,

horse chestnut, and rhododendron.

European hornets construct paper nests similar to bald-faced hornets; however, they prefer to nest in hollow trees and sometimes in the walls of homes. Normally, the hornets behave like bald-faced hornets, wasps, and yellowjackets with only the queens that are produced this season surviving the winter. Under these circumstances, the new queens will soon leave the nests to seek protected overwintering sites; old nests are not re-used. However, occasionally the entire European hornet nest will survive the winter if they are sufficiently protected. Indeed, although it is rare, nests in Ohio have been observed surviving through three winters.

European hornets are reputed to be highly aggressive and their large size does make them look pretty scary. However, Joe Boggs has observed just the opposite. During past encounters with the hornet, he was able take close-up images and move branches with hornets on them without being stung or even charged by the hornets. Still, landscapers should be cautious around these large stinging insects. Like wasps and yellowjackets, they are capable of stinging repeatedly. The hornets also commonly fly at night and may be attracted to porch lights or lights shining through windows. They have been known to repeatedly charge windows at night inducing panic in homeowners. While the hornets may occasionally cause harm to plants, it is becoming too late in the season to justify applying control measures.

For More Information:

Penn State University Entomology Fact Sheet

<http://ento.psu.edu/extension/factsheets/european-hornet>

NC State Entomology Fact Sheet

<http://www.ces.ncsu.edu/depts/ent/notes/Urban/eurohornet.htm>

An Unusual Goldenrod Leaf Gall



A number of interesting plant galls look so much like fungal structures that for years they were misidentified as a fungal plant disease. Such is the case with the goldenrod leaf galls associated with the midge fly, *Asteromyia carbonifera*. The galls appear as white, circular to elongate slightly raised structures on both the upper and lower leaf surfaces. As the galls mature, they develop a faint black ring near the outer edge making the galls look target-like. The leaf galls were originally described as being the result of infections by the fungus *Rhytisma* spp. However, as with many things in nature, there is more to this story than meets the eye.

In fact, the galls do house a fungus, *Botryosphaeria dothidea* (previously identified as *Sclerotium asteris*) as well as the midge fly. However, the midge fly and the fungus have an obligate mutualistic symbiotic relationship meaning that the two live for the mutual benefit of one another and the relationship is so strong that without the fungus, the flies could not develop on goldenrod, and vice versa. Indeed, the female flies carry spores of the fungus in specialized structures (mycangium) in their terminal abdominal segment. When the flies insert eggs into the goldenrod leaf tissue, they also inoculate the plant with the fungus.

Most gall-making midge flies that belong to the family Cecidomyiidae directly orchestrate the growth of their associated galls. However, it appears that the growth of the galls on goldenrod is directed by the fungus rather than the midge fly. And, this is not the only "service" provided by the fungus. The fungal mycelium surrounds the midge fly larvae (maggots) and the maggots feast on the fungal tissue rather than plant tissue. Eventually, a layer of the fungal mycelium differentiates to form a black, tough, dense vegetative structure called a stroma. The black, carbon-like stroma may be revealed by carefully peeling away the surface of the galls on the lower leaf surface. The stroma adds rigidity to the gall structure, and it also helps to protect the midge maggots and pupae from the depredations of the parasitoid wasp *Torymus capitae*. The wasp probes the gall with its ovipositor seeking to lay an egg in the immature flies; however, their ovipositors cannot easily penetrate the fungal stroma.

The midge-fungus is a symbiotic relationship that keeps on giving; the midge fly has multiple generations per season with each new generation being entirely dependent upon the fungus, and vice versa. Although the galls were originally misidentified as a fungal plant disease, there is indeed a fungus amongus...which is a very good thing for the midge fly!

Disease Digest »

Tomato Leaves are Spotted with What?



Pam Bennett, in southwest Ohio, shared her concerns regarding the sudden appearance of spots on tomato leaves. She lamented that the same thing had happened last year, which resulted in a terrible tomato year. Pam felt it was mainly due to the fungal leaf spot commonly known as septoria leaf spot, pathogen *Septoria lycopersici*. Erik Draper, in northeast Ohio, asked if it could be the *Alternaria solanii* fungus, commonly called Early Blight. And so began the discussion on how to distinguish between Septoria leaf spot and Alternaria leaf spots. Both diseases on tomato cause symptoms of necrotic spots to appear first on the lower leaves of tomatoes, eventually causing the entire leaf to turn yellow and then

die.

Septoria leaf spot can occur at any stage of plant development from young seedlings to transplants; however, it is more typically observed on the older, lower leaves and stems, especially as fruits begin to set and develop. Spots may also appear on stems, calyces and blossoms, but rarely on fruit. Tomato leaves heavily infected by Septoria will turn yellow, dry up, and then drop off. Typically, this defoliation begins at bottom of the plant, which has less air flow and drying capabilities due to all of the foliage and progressively moves upward to the top of the plant.

Septoria leaf lesions first appear on the underside of older leaves as small, water-soaked circular spots 1/16 - 1/8" in diameter. The centers of these spots are grey, beige or tan, with a dark brown margin. With maturity, the spots may enlarge to about 1/4" across and eventually may even merge with each other. The key identification aspect to correctly identifying Septoria lies in the center of these lesions. Dark-brown to black, pimple-like structures called pycnidia or fruiting bodies will be scattered throughout those lesions. The pycnidia are large enough to be easily seen with the eye or with the aid of a hand lens. To slow the spread of this disease use crop rotation, look for cultivars with good genetic resistance and practice good garden sanitation. If infected plants are found, rogue out these and pick up the leaves. One of the more effective ways to manage this disease is foliar fungicides containing chlorothalonil. Timely applications of fungicides, repeatedly applied during the growing season, will help to slow or inhibit infections of the tomato plant leaves by the Septoria fungus.

On the other hand, Alternaria or Early blight lesions are readily distinguishable due to their characteristic concentric rings of infection, which create a bull's-eye or target-like appearance. These leaf lesions may be brown, irregular and vary in both size and shape. Often, several lesions coalesce, causing the tomato leaf to become chlorotic, dry up and then fall off. This defoliation usually begins at the plant base and works upward, creating a palm tree-like appearance. The lack of foliage quickly exposes any tomato fruit to direct sunlight, resulting in sunscald injury. Although Early blight is primarily a foliar disease, those same characteristic bull's-eye type lesions, may develop on both stems and fruit.

Splashing rain, running water, and people working in the plants can disperse the fungus throughout the entire tomato planting. Disease development is favored by abundant rainfall, high relative humidity and warm temperatures. Garden sanitation is the best way to reduce the amount of inoculum present to cause infections the following year. Try to avoid planting tomatoes in the same area of the garden year after year. If starting seeds, use clean, new seeds or purchase healthy transplants in the spring. This disease also may be controlled effectively using fungicides which contain the active ingredient - Chlorothalonil. For the best results, applications should begin as soon as symptoms begin to appear, typically around the time when the fruit are about the size of small grapes. Applications should be made every 7 to 10 days, depending upon label instructions; however, severely infested plants are not likely to be rescued by fungicide treatments.

For More Information:

Ohioline Fact Sheet

<http://ohioline.osu.edu/hyg-fact/3000/3112.html>

Ohio State University Factsheet HYG-3101-95

<http://ohioline.osu.edu/hyg-fact/3000/3101.html>

APS Factsheet: Early blight of Potato and Tomato

<http://www.apsnet.org/edcenter/intropp/lessons/fungi/ascomycetes/Pages/PotatoTomato.aspx>

Oak Leaf Blister - Browning Symptoms



Oak leaf blister is becoming very evident in southern Ohio with the leaf "blisters" turning reddish-brown. The disease is caused by the fungus, *Taphrina caerulescens*. Oaks in the red oak group are particularly susceptible although infections may also occur on



Early Season Oak Leaf Blister
Taphrina caerulescens

oaks in the white oak group.

The disease is named for the blister-like growths that arise on the leaves of its namesake host.

The fungus overwinters in infected buds and twigs. Leaf infections occur during moist periods in the spring as leaves emerge. Early symptoms appear as raised, blister-like, light-green to yellowish-green spots on the upper leaf surface matched with deep depressions on the lower leaf surface. Eventually, the leaf symptoms become very apparent as the blisters turn reddish-brown to brownish-black. The blisters may be evenly distributed across the leaf or coalesce to produce large blotch-like symptoms.

The disease typically causes little harm to overall tree health although the obvious blisters may reduce the aesthetic appeal of heavily infected trees. Even leaves with a relatively large number of infections will retain a significant percentage of functional tissue for photosynthesis. Thus, control measures are generally not required.

For More Information:

Cornell University Department of Plant Pathology and Microbe-Biology, Disease Diagnostic Clinic

<http://plantclinic.cornell.edu/factsheets/oakleafblister.pdf>

Turf Tips »

Turf Care

We have been experiencing high levels of rain in Ohio this summer causing many of our plants to suffer. This includes our turf grass. While some parts of Ohio are seeing nice green foliage, some of the folks in the more northern parts of the State are witnessing some yellowing of their turf grass. This yellowing could be caused by lack of nitrogen in the root zone of the plant. An application of nitrogen fertilizer could give the plant the boost it needs. Nitrogen is the most mobile of our nutrients and coupled with heavy rains it could move this nutrient further from the plants roots. When applying fertilizer always follow the application directions.

Mushrooms and Fairy Rings in Lawns



© Curtis E. Young
Haymaker's Mushroom in
Grassy Area

Frequently along with wet weather conditions comes the growth of mushrooms (fungi). These fungi are mostly soil-dwelling decomposers of organic matter such as thatch. Others are associated with buried wood such as remnants of old roots from a long gone tree. Most are not harmful to the lawn. The structures that are recognized as mushrooms are the reproductive structures of fungi and represent only a small fraction of the overall body of the fungus most of which is the feeding body of the fungus. The feeding body (mycelium) of the fungus is typically hidden in the soil or within the wood being decomposed. This is an essential ecological function that keeps nutrients recycling between the

living and the dead.

Some don't notice the mushrooms, others consider them to be a nuisance that distracts from the appearance of their lawns, and others are concerned that they may be poisonous and are a threat to their children and pets. The mushrooms will eventually deteriorate and disappear as they mature. For homeowners who wish to speed things along, the mushrooms may be collected and removed from the property, they can be mowed over with a lawnmower, or they may be broken apart with a rake, shovel or hoe. One should never randomly collect mushrooms to be eaten. The only exception to this rule is if one is a true expert in their identification.

There are a multitude of mushroom species that may dwell in a lawn. Some common examples include honey mushrooms (*Armillaria* spp.), haymaker or lawn mower's mushrooms (*Panaeolina foenisecii*), meadow mushrooms (*Agaricus campestris*), green-spored parasol mushrooms (*Chlorophyllum molybdites*), stinkhorns (*Mutinus* spp.) and fairy ring mushrooms (*Marasmius oreades*).

In addition to the fairy ring mushroom, there are several other species of mushrooms that can produce fairy ring structures in lawns and grassy fields and pastures. A fairy ring is the result of the fungus growing in the soil, decomposing the

organic materials in the soil and releasing excess nutrients back into the soil. These freed nutrients, especially nitrogen are absorbed by the grasses growing over top of the fungus in the soil. As a result of the extra available nutrients, the grasses overtop of the feeding fungus grow faster and are greener than the surrounding grasses, initially producing a clump, but in later years as the fungus migrates away from the initial infection point, a ring, circle or arc. The diameter of the rings on average range in size from 1 - 15'. However, some are huge, can only be completely seen from the air and are estimated to be hundreds of years old. Mushrooms or puffballs may appear under wet conditions in the same ring pattern.

In some cases, the feeding body of the fungus produces very dense growth that inhibits water movement into the soil. Grasses in these arcs or circle may wilt, turn brown, and die due to a lack of water. The feeding body might also excessively deplete soil nutrients and produce toxic levels of hydrogen cyanide. Several fairy rings may appear relatively close together. When this occurs, fungal activity ceases when fungi from different rings contact each other and the separate rings break open to form very irregular shapes. Sometimes the grasses to the interior of the rings grow very poorly because of a lack of nutrients and water impermeability.

Pest management strategies for dealing with fairy rings in high maintenance lawns include:

1. Fertilizer. Use of a nitrogen fertilizer can mask the symptoms of a fairy ring by causing the rest of the lawn to green up. Using a soil needle (deep root feeder) to aerate and irrigate dead and dying rings is recommended.
2. Removal. Destroying existing turf may be required in persistent cases. Discard or kill a strip of sod 1 - 2' wide on each side of the zone of lush turf with a non-selective herbicide. Cultivate the area repeatedly to thoroughly mix the ring and non-ring soil. Eliminate dry spots by soaking the cultivated area with water. Reseed or install clean, ring-free sod.
3. Thatch. Eliminate thatch buildup with a dethatching program.
4. Fungicides. Some fungicides are available for suppression of fairy rings, however, they may be only temporary as the decaying material may still be present.

Of the above strategies, fertilizing and aeration to reduce thatch and increase water permeation may be the most practical.

For More Information:

Colorado State University - Mushrooms and Fairy Rings in the lawn

<http://www.ext.colostate.edu/ptlk/1546.html>

Oregon State University - Mushrooms can Mean Healthy Soil

<http://extension.oregonstate.edu/gardening/mushrooms-can-mean-healthy-soil>

Industry Insight »

Gypsy Moth Update



The feeding frenzy of the gypsy moth caterpillar is over and adult emergence has been observed in Lucas County. Male moths have taken flight to find the love of their lives - the female gypsy moths. The egg masses that will soon be laid will overwinter in this stage and won't hatch until next spring. There is one generation per year. The egg mass stage of the insect is used to predict population levels for next season. Egg masses are tan in color, about the size of a quarter but usually more oval in shape than round, and have a felt-like appearance. Egg masses can be found on trees, usually on the undersides of the branches as well as the main trunk, and almost anywhere else. They appear to

prefer protected locations like inside dog houses, bird houses and sheds. They can be laid behind garden art, on fence posts, and on the overhangs on houses and garages.

The number of egg masses, in addition to the number of contiguous acres and percentage of tree canopy coverage, are other factors the Ohio Department of Agriculture (ODA) uses when determining if applications qualify for the Suppression Treatment. Applications for this project are due September 1, 2015 to be considered for the 2016 season. Applications can be requested by contacting the ODA. There is a cost share for the spring treatments if areas qualify. Additional tools that ODA implements here in buckeye state include aerial insecticide applications, pheromone flaking, trapping, and quarantines.

It is important to remember that if you are traveling and/or camping during the egg laying season, check your vehicle when

leaving an area infested by the gypsy moth. You don't want to bring egg masses back home. Additionally, there is a gypsy moth quarantine in place in Ohio to slow the spread of this invasive species. Information about this quarantine can be found on the ODA website at <http://www.agri.ohio.gov/divs/plant/gypsy/gypsy-index.aspx>

For More Information:

ODA Website

<http://www.agri.ohio.gov/divs/plant/gypsy/gypsy-index.aspx>

US Quarantine Map

<http://www.agri.ohio.gov/divs/plant/gypsy/maps/GypsyMothQuarantineAreas.pdf>

Potato Leafhopper is on the Move

The annual migration and distribution of the potato leafhopper (PLH) (*Empoasca fabae*) into Ohio has occurred in most areas. Curtis Young was the first to report seeing the little, apple-green menace in the Lima area. Although PLH will initially migrate toward field and forage crops such as alfalfa, it will also spread into many landscape plants. Of particular interest will be plants in nursery production areas. Plants such as hedge, "Red Sunset" and "October Glory" maples can be severely impacted in their growth form and development which may influence their salability. Leaves on these trees can be cupped and new growth stunted.

Growers of nursery stock and landscapers need to be on the lookout for PLH especially on plants still expanding new growth that could be damaged by PLH feeding.

Several other tree species that are very susceptible to injury include amur, Norway and sugar maples, birches, apple, chestnut, and Persian walnut. These trees can be injured both in the landscapes and nurseries areas, especially if located near alfalfa production fields.

Insecticide sprays will need to be applied in production areas to prevent reduced plant growth and vigor and to avoid distorted tree shape due to dieback and stunting. Some insecticides that appear to have fairly good activity against the PLH include foliar sprays of imidacloprid, cyfluthrin or a combination of the two in a product such as Discus. Read insecticide labels carefully for application restrictions and potential chemical injury to host plants.

For More Information:

University of Kentucky

<http://www.uky.edu/Ag/NurseryInspection/newsletter/00news/july00.htm>

WeatherWatch »

Weather Update

The following weather information summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations spanning the dates from July 1 - July 8, 2015, with the exception of the soil temperatures which are readings from Wednesday, July 8, 2015 at 5:05 p.m.

June records for the most precipitation recorded for the month have been broken in many areas of the state. Curtis Young's report of 17"+ for the month of June in the Ada area in NW Ohio took the cake! Following all the rain, temperatures increased and humidity levels were on the rise - just a reminder that it is July. Cindy Meyer reported receiving some rain over the past weekend. She spoke to some producers who reported receiving nearly 4" while others did not receive a drop.

Weather Station	Region of Ohio	Ave. High Temp. F	Ave. Low Temp. F	Total Precip."	Normal Precip."	Soil Temp. F 2"/3"
Ashtabula	NE	75.8	56.3	0.22	0.7	74.63/75.51
Wooster	NE	79.5	56.8	1.08	1.1	75.94/74.66
Hoytville	N	78.5	56.8	0.50	0.9	74.17/71.78
Columbus	Central	79.8	60.9	1.17	1.2	74.17/73.81

Piketon	South	79.3	60.4	0.61	0.9	78.19/76.41
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For More Information:

OARDC Weather Stations

<http://www.oardc.ohio-state.edu/centernet/weather.htm>

Coming Attractions »

Southwest Ohio BYGLIVE! Diagnostic Walk-Abouts



The July 2015 Southwest Ohio BYGLive! Diagnostic Walk-About for Green Industry professionals will be held from 12:00 - 3:00 pm. on Monday, July 13, at Glenwood Gardens, 10397Springfield Pike, Woodlawn, 45215. Participants will walk-about this beautiful Great Parks of Hamilton County location with Joe Boggs and Julie Crook (OSU Extension) to look at plants, plant pests, diseases, and other points of considerable interest. ISA Certified Arborist Credits, ONLA OCNT Credits, and Landscape Architecture Continuing Education System (LA CES) CEU's for Landscape Architects will be

available. Visit the following website for registration information: <http://go.osu.edu/zs7>

Save the Date - Northwest Ohio Green Industry Summer Session - August 5, 2015

The event will once again be held at Owens Community College. Stay tuned for a link to the registration materials.

Wildlife Nuisance Class

Are you have issues with wildlife - deer munching on your landscape, raccoons rooting in your planters, chipmunks nibbling on your tomatoes, or bats in your home? Register for THE GOOD, THE BAD, AND THE HUNGRY: DEALING WITH WILDLIFE CONFLICT IN THE LANDSCAPE on August 7, 2015 in Lucas County. This is a day-long class, \$35 per person. Participants will learn strategies for preventing and managing conflict with deer, rabbits, squirrels (chipmunks, tree squirrels, groundhogs), raccoons, skunks, bats, Canada geese, moles, voles, and coyotes. Lunch is provided as well as a folder full of additional information. Visit <http://www.woodlandstewards.osu.edu> to learn more about the class or register online at <https://www.regonline.com/wildlifeconflictsLucas>

The OSU Green Industry Short Course, The Ohio Turfgrass Foundation Conference and Trade Show, and Trees on Tap Programs

Mark your calendars now, as these shows will be here sooner than you think. The event will be moving back to the Columbus Convention Center in 2015 and will be held on December 8 - 10, 2015, with the addition of a special tree program on Monday, December 7, 2015. Details on over 100 educational programs and a wide array of certification credits will be coming throughout the BYGL season. We are happy to acknowledge the robust support of the Ohio Turfgrass Foundation for their financial and other aid of the educational efforts of the OSU Extension Nursery Landscape and Turf (ENLT) Team, a group of Extension Educators and OSU Specialists that brings to you a range of programs including field diagnostic walkabouts (such as BYGLive! in southwest Ohio) and diagnostic workshops as well as help with horticulture problem troubleshooting, numerous publications, and of course, the BYGL.

A key speaker for both the Trees on Tap program and the tree care track of the Green Industry Short Course will be Dr. Ed Gilman of the University of Florida Environmental Horticulture program. Ed is Professor of Urban Trees and Landscape Plants and his research and educational efforts focus on tree care practices such as the effect of tree pruning on tree biology, production practices and landscape establishment, root pruning, and irrigation and fertilization practices. He is reason enough alone to attend the conference.

Byglosphy »

"Most of all one discovers that the soil does not stay the same, but, like anything alive, is always changing and telling its own story. Soil is the substance of transformation." - *Carol Williams*

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