BUCKEYE YARD AND GARDEN LINE 2014-05
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This is the 5th 2014 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.

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1. PLANTS OF THE WEEK.

*ANNUAL - PHLOX (Phlox drummondii and Hybrids). Many enjoy this frost-tolerant annual flower in the spring only to be disappointed by its performance in the summer. Annual phlox is typically a cool weather plant that looks great in the spring and fall; however, some of today’s new hybrids are more heat tolerant and bloom during the summer months, though still not a full
showy bloom. The 'Intensia' and 'Astoria' series of *Phlox* hybrids tend to survive pretty good during the heat of summer. For instance, *Phlox* hybrid 'Intensia' did quite well in 2012 field trails in Ohio and was in bloom for most of the summer, even during the warm dry spells (it's also drought tolerant).

Annual phlox prefers full sun and grows to about 10 - 12" tall and as wide. Flower colors can be pink, purple, white, magentas, and a blend of these colors. The flowers are also fragrant. Use in landscape beds or in containers. Most of the newer hybrid plants also lack the need for deadheading, a great feature for all who love annuals but dislike this chore. Plant annual phlox in a well-drained soil and in full sun. For better summer performance, plant in an area with some protection from the hot afternoon sun in the heat of summer. Also consider protecting it in the early stages from rabbits if they are a problem in your garden; deer are not generally attracted to annual phlox. Phlox also attracts hummingbirds and butterflies.

**Author: Pamela J. Bennett**

*PERENNIAL - LARGE FLOWERED TRILLIUM (*Trillium grandiflorum*). This incredibly beautiful plant in the lily family was selected as the perennial of the week in honor of its glorious bloom showing off right now in Clifton Gorge Nature Preserve and other areas around the state. Dubbed Ohio's official state wildflower in 1986, large-flowered trillium at one time was found in every county in the state. The 3-petaled white flowers are held erectly atop a 1/2 - 1' stem, just above the 3 leaves; the flowers fade to pink as they near the end of bloom. If you look down on a plant from the top, you will see the 3-petaled flower surrounded by 3 sepals, on top of 3 leaves. They thrive in fertile woodland soils and bloom in the early spring.

A reminder to all who enjoy our native Ohio woodland flowers - DO NOT DIG THEM AND TAKE THEM HOME! First of all, spring ephemerals dug at this time don't easily survive transplanting; more importantly, if everyone did this, we wouldn't have anything left to enjoy in our natural areas. *Trillium* can be purchased in pots or bare-root in garden centers and can be planted now. Ohio is blessed with incredible natural areas and BYGLers encourage you to get out and enjoy them during the spring wildflower season. For a list of nature preserves and to find the one nearest you, go to: [http://www.ohiodnr.com/tabid/860/Default.aspx].

**Author: Pamela J. Bennett**

*WOODY - SASSAFRAS (*Sassafras albidum*). Sassafras is often overlooked for its more subtle seasonal finery, but flowers and fruits join foliage as ornamental features of this native tree. It is typically a medium-sized tree up to 30 - 50', but the national champion exceeds 100' in height. Its tiny, 5-petaled, sunny-yellow flowers are attractive. In northern Ohio, these flowers were emerging this past week. Leaves are variable, some entire, some mitten-liked and two-lobed or three-lobed. Sassafras's fall color can range from attractive yellows to yellow-orange, especially appealing when a grove of sassafras trees is observed. Bright scarlet fruit cups which remain after blue-black fruits are shed are attractive, especially if sun reflects off of them later in the season. Sassafras tolerates wetness, but prefers moist, well-drained, organic soils. Sassafras was once used commercially for brewing root beer. Teas are still sold, but should be used only if liver-damaging and mildly carcinogenic safrole is removed in processing. Young sassafras leaves are dried to make file powder, which is a spice providing an earthy flavor and a thickening agent used in some types of Creole gumbo, replacing okra when it is not in season.

**Author: Jim Chatfield**
VEGETABLE - ONIONS (*Allium cepa*). The common onion, the most popular and widely grown onion in home gardens in Ohio, can be grown from seed, plants or sets. The onion is adapted to a wide range of temperatures and is frost-tolerant.

Onions should be planted early in the spring as soon as the soil can be worked. Onion seed is sown 1/2" deep, while seeds are planted 1 - 2" deep. Plant spacing is typically 3" apart and can be planted in single or wide row plantings.

Any standard onion variety or hybrid can be used for green bunching onions if harvested at the proper stage of maturity. Onions can be used as green onions within 30 days if grown from plants or sets, or 40 - 50 days if grown from seed. With that said, there are bunching varieties that produce a true bunching onion or scallion with either small or no bulbs. For dry onions from sets or plants, 100 or more days are required from date of planting, depending on the variety.

Onions grow best in a loose, well-drained soil with high fertility and plenty of organic matter. Heavy clay soils should be avoided. Onions are sensitive to highly acid soils and grow best when the pH is between 6.2 and 6.8.

Best production occurs when cool temperatures between 55F - 75F prevail over an extended period of time, which would allow for considerable foliage and root development before bulbing starts. After bulbing begins, high temperatures and low relative humidity extending into the harvest and curing period are desirable. A consistent supply of adequate moisture will provide best results.

Author: Amy Stone

WEED - GARLIC MUSTARD (*Alliaria petiolata*). Garlic mustard is a biennial herb that grows in and around the edges of wooded areas throughout Ohio. Garlic mustard is threatening our native habitat. It grows dense populations which compete with our native plants and ultimately takes away valuable food for wildlife. Garlic mustard can produce several thousand seeds from one plant, which are viable for seven or more years. First-year garlic mustard plants look like a rosette of kidney-shaped leaves with second-year plants growing a stem up to 4' tall with triangular sharp-toothed leaves. Plants produce a four-petal, white flower cluster on top of the erect stem. The genus name of garlic mustard (*Alliaria*) is derived from the genus name for garlic (*Allium*) because of garlic mustard's strong garlic-like odor.

Controlling garlic mustard is difficult to control once established. Several methods are recommended including, cutting plants at ground level during flowering, handpulling, or spot treating with an herbicide. If treating with an herbicide it is best to treat in early spring or fall and always follow label instructions.

Author: Cindy Meyer

HORT SHORTS.

THINKING OUTSIDE THE BOXWOODS. The winter damage to *Buxus* spp. is easy to notice when driving down the road looking at landscapes. Many calls have come into the Extension offices regarding what is the best way to handle these winter damaged boxwoods. The first thought that pops into mind is "Really...just cut off the brown, dead stuff!" But the correct answer isn't that simple or easy. The real answer is to begin at the base of affected
plant and check to ensure that the integrity of the bark connected to the stem base is still solidly attached, and not split or cracked. Then the bark checking process should include moving all of the way up the main stem of the plant. This basal stem area of boxwoods may have been frozen and damaged due to the extreme temperatures caused by the polar vortex this past winter. In other cases, the answer may simply be the meadow voles under the snow have been busy nibbling away on the free "boxed-wood lunch" to girdle the plants! To merely prune off dead branches at the top of these severely damaged plants, is a huge waste of time and effort. The best approach with this kind of damage is a basal pruning at the soil line or yank out the plants.

After checking the integrity of the bark connected to the main stem, the next step is to begin to remove those dead branches. Just cutting off the dead part branch is not enough. Look at the end of the branch which was removed. Check to ensure that the tissue around the cut on the remaining boxwood branch is completely green. If the tissue is brown or off-colored, cut lower down on the branch until all of the tissue is green. This will ensure that any pruning wound will heal rapidly and completely. Remember this regarding winter damage and boxwoods, pruning from the top down "doesn't cut it" . . . but starting at the bottom . . . is how to work your way up!

Author: Erik Draper

B. FIELD TRIP TO NEW YORK CITY. Recently the OSU Horticulture and Crop Science 3410 class (Sustainable Landscape Maintenance), taught by OSU Extension Nursery Landscape and Turf Team instructors, did their end of the semester field trip to New York City. A high point was the High Line Park, described on the New York City Parks website as:

"…an elevated freight rail line transformed into a public park on Manhattan’s West Side. It is owned by the City of New York, and maintained and operated by Friends of the High Line. Founded in 1999 by community residents, Friends of the High Line fought for the High Line’s preservation and transformation at a time when the historic structure was under the threat of demolition. It is now the non-profit conservancy working with the New York City Department of Parks & Recreation to make sure the High Line is maintained as an extraordinary public space for all visitors to enjoy. In addition to overseeing maintenance, operations, and public programming for the park, Friends of the High Line works to raise the essential private funds to support more than 90% of the park’s annual operating budget, and to advocate for the transformation of the High Line at the rail yards, the third and final section of the historic structure, which runs between West 30th and West 34th Streets."

It is truly a wonderful experience for anyone interested in creative landscaping, taking what was considered an eyesore of ailanthus and other weedy species in the years after the rail line was abandoned in the 1980s and turning it into an inspiring example of public space. The one and a half mile linear park offers great views of the city (think Empire State Building to the east, the Statue of Liberty to the west) above the hustle and bustle of lower western Manhattan, a few blocks east of the Hudson River, from 30th street southward to the Meatpacking District and the Chelsea Market. The diversity of plant materials used is wonderful from extensive grasses to an array of herbaceous perennials that cycle the seasons, and trees of many forms from bigleaf magnolia, sassafras, and sumacs that serve as stand-ins for palm trees overarching cabanas for sun-lovers in the summer to many cultivars of redbuds and buckeyes. There is a tunnel of birches, a lawn area for repose, all in a narrow park walkway sometimes only wide enough for four or five walkers abreast.
This class of students, outstanding budding landscape designers, plant pathologists, arborists, landscape maintenance majors and more, saw the ideas of sustainability shared throughout the semester in their class with their instructors as fellow learners and with readings such as "Siftings" by Jens Jensen and "A Sand County Almanac" by Aldo Leopold. In New York they saw how "people will find a way to garden" with rooftop gardens and the variety of gardens and landscapes and activities in Central Park. And befitting their parts in OSU’s College of Food, Agricultural and Environmental Sciences (CFAES) they enjoyed New York cuisine, from hot chocolate (Theobroma cacao) at La Maison du Chocolat to the sushi at Blue Fin. A College of Food indeed.

Author: Jim Chatfield

3. BUGBYTES.

A. TICK-TICK-TICK-TICK! No it’s not a bomb or a watch, it’s a warning that our blood-sucking parasites, the ticks (Class Arachnida, Order Acari) are once again active in the field. BYGLers from around the state reported receiving calls concerning ticks or having personal encounters with ticks. There are 12 species of ticks known to occur in Ohio, some are rarely picked up while others are much more commonly picked up. The AMERICAN DOG TICK (Dermacentor variabilis) is the number one species to be discovered on pets and people. The BROWN DOG TICK (Rhipicephalus sanguineus) may occasionally be encountered, but when it is, it is most commonly on pets. It is the only tick in Ohio that can establish infestations and complete its entire life cycle in homes and kennels. The LONE STAR TICK (Amblyomma americanus) has become more common in Ohio in recent years, particularly in the southern part of the state.

And finally, the BLACKLEGGED TICK (Ixodes scapularis), which is the principal vector of Lyme disease, is also becoming more common in Ohio, especially in eastern and southeastern Ohio.

The American dog tick is often picked up on clothing and pet fur while walking in fields covered with tall grasses and weeds and woods with shrubby undergrowth. While this tick should not be feared, it should be treated with some respect; although rare, this tick can vector Rocky Mountain spotted fever (in 2011, 12.6% of American dog ticks tested positive). If an engorged (swollen) tick is found attached to a person, they should identify the tick and keep it alive in a small bottle with a damp tissue for several weeks. If a fever or rash occurs, the victim should take the live tick to a doctor to be sent to a laboratory for testing. Another option is to send the live tick to the C. Wayne Ellett Plant and Pest Diagnostic Clinic (CWEPPDC) for identification. Testing of ticks for the presence of disease is done by some private laboratories, but there currently is no state agency in Ohio that provides this service.

The brown dog tick likes the warm, dry conditions found indoors. An engorged brown dog tick female will drop-off pets inside homes to lay tiny brown eggs in cracks and crevices. Once the eggs hatch, the "seed ticks" or larvae, attach themselves to any warm body that passes. Initially, they are found in groups, but as they look for a host, tick larvae migrate throughout the building. The larvae can be treated before they disperse if they are discovered early enough. Two generations usually occur outdoors in Ohio. Brown dog ticks are pests in kennels and areas where pets sleep.

The blacklegged tick has become much more common in Ohio since 2010. In 2011, the Ohio Department of Health reported that blacklegged ticks had been collected from 52 Ohio counties and was believed to be established in 26 Ohio counties. During this year, ODH was conducting
a tick surveillance project in which 2,014 blacklegged ticks were collected and tested for
disease. Eighty-two percent of the ticks tested positive for disease.

To avoid picking up ticks outdoors, keep the lawn mown and stay on paths when walking in wild
areas. Contrary to what some people believe, ticks do not jump to get on a host or drop from
heights from above to land on a host’s head. Ticks climb from the soil up tall grass or weeds or
shrubby plants to a position where a potential host may brush up against them. At that point
they use their claws on their front legs to latch onto fur or clothing. Once on a host, they wander
about until they find exposed skin into which they can sink their mouth parts to begin feeding.
Frequently, on both wild animals, pets and humans, the feeding site will be around the head and
neck area. When in a tick-prone area, tuck pants inside socks and/or boots and keep shirts
tucked in as well, because ticks crawl upward. Apply a tick repellent product that contains
DEET (N,N-diethyl-meta-toluamide) (e.g. Deep Woods Off!, Repel Sportsman Max, Backwoods
Cutter, etc.) to pant legs when working in woodsy places, and treat dogs with appropriate
repellents labeled for their size.

Removing an engorged tick attached to a person should be done with considerable care.
Squeezing the tick’s body, while yanking at it with one’s fingers, can inject harmful bacteria into
the wound. Leaving a part of the tick’s mouthparts in the wound can lead to a serious infection.
Forceps should be used to grasp the body of the tick as near to the person’s skin as possible.
The tick should then be gently pulled slowly and steadily so that the mouthparts are removed
instead of being broken off under the skin. Wash the area with soap and water immediately
after removing it. If one must remove the tick by hand, make sure to wash hands and the area
where the tick was attached.

Author: Curtis E. Young

B. SAWFLY LEAFMINERS FLY. Joe Boggs reported observing ELM LEAFMINER
(Kaliotefenusa ulmi) adults flying around their namesake host in southwest Ohio. The emergence
of this leafmining sawfly was predicted in his part of the state by accumulated GDD (219) and
phenological indicators such as the full bloom of common chokecherry. This means that three
other leafmining sawflies are either also on the wing or soon will be, including: BIRCH
LEAFMINER (Fenusa pusilla); EUROPEAN ALDER LEAFMINER (F. dohrnii); and HAWTHORN
LEAFMINER (Profenusa canadensis).

Larvae of these sawflies mine the leaf parenchyma producing large, blister-like, reddish brown
"blotch" mines. The mines usually extend from the leaf margin toward the midvein. Although
the leafmines may appear unsightly, these sawflies seldom cause enough damage to
significantly harm the overall health of established host trees. However, severe leafmining
damage may produce stress on newly planted trees.

The hawthorn and elm leafminers have one generation per year and the alder and birch
leafminers have three generations. For most insect pests, the occurrence of multiple
generations usually means upwardly spiraling populations and ever increasing damage as the
season progresses. However, the opposite is true for birch leafminer. Larvae can only mine
new leaves. So, most damage occurs in early spring when the first generation larvae mine the
new, expanding leaves. After they finish feeding for the season, around 80% of the first
generation larvae drop to the ground and remain as pre-pupae until next spring. Control efforts
should target the first generation since the second and third generations cause little damage,
unless the tree is re-foliating after leaves were stripped by some other problem such as a
general defoliating caterpillar.
If control of these sawflies is deemed necessary, a soil drench application of dinofuran (e.g. Safari) made now will prevent larval leafmining activity. Imidacloprid (e.g. Merit, Xytect, etc.) will also suppress larval leafmining; however, it is probably too late in southwest Ohio to prevent all damage since it takes around 30 days for the insecticide to move into the tree in sufficient concentrations to provide control. The best time to make soil drench applications of imidacloprid to prevent larval leafmining damage is in October or November. It's important to note that it will be too late to halt damage caused by these leafminers this season once leafmines become obvious. Home gardeners may find products with the aforementioned active ingredients in their local garden centers; look for products that list these leafmining sawflies on the label and always follow label directions.

Author: Joe Boggs

C. BUCKEYE WOES. The buckeye woes we’re reporting have nothing to do with Wolverines or Spartans. Several BYGLers reported spotting two insect pests of buckeye trees in Ohio: the BUCKEYE PETIOLE BORER (Proteoteras aesculana); and the BUCKEYE FLEA BEETLE (Derocrepis aesculi). Neither of these pests is considered life-threatening to the buckeyes; however, their damage can draw unwanted attention to infested trees.

Pam Bennett, Jim Chatfield, and Joe Boggs reported observing the handiwork of the buckeye petiole borer; Pam saw symptoms in Clark County, Jim in Hocking County, and Joe in Butler County. The caterpillars of this tiny moth bore into leaf petioles causing new leaves to droop, shrivel, and turn dark green to black. Symptoms may superficially resemble frost or freeze damage. Look for a slight swelling and a small hole in the petioles of affected leaves. Small quantities of sawdust-like frass (insect excrement) may hang from the hole.

Damage by this borer may appear conspicuous; however, the insect seldom causes significant leaf loss on buckeyes, so no chemical control recommendations are currently available. Hand-picking and destroying infested leaves now will reduce the number of moths available for producing a second generation later in the season. On the other hand, this same moth is considered a key nursery pest where it goes under the common names of MAPLE SHOOT BORER, MAPLE TIP MOTH, and MAPLE TWIG BORER. Significant damage to young maples in Kentucky nurseries have been reported over the years with the borer causing the loss of main leaders.

The buckeye flea beetle appears to have a much narrower host range with damage confined to its namesake host. Jim reported observing flea beetle damage on buckeyes in Zaleski State Forest in southeastern Ohio and Joe reported spotting damage on buckeyes at several locations in the southwest part of the state. The tiny beetle shows-up early in the season to create obvious holes in buckeye leaflets. The beetles live and feed on the underside of the leaflets and they prefer leaves on lower branches as well as leaves on heavily shaded understory trees. As with all flea beetles, when disturbed these beetles use their powerful hind “hopping legs” to flee by hoping away. Joe noted that he has been observing small localized population in wooded areas, but he has never seen the beetle causing damage to buckeyes planted in landscapes.

Author: Joe Boggs

D. BEECH BLIGHT APHIDS AND BLACK FUNGAL ACCRETIONS. The beech blight aphid (Grylloprociphilus imbricator) has been a frequent topic of past BYGLs owing to its unusual
appearance and behavior. The aphid enshrouds itself in a profuse mass of white, wool-like filaments. Large numbers of these "woolly aphids" will gather together in prominent colonies on twigs and branches of American beech trees. When a colony is disturbed, the aphids pulse their posterior ends in unison. This peculiar behavior has been accurately described in past BYGLs as making the aphids look like "dancing dust balls doing the boogie-woogie."

The blight aphid is specific to American beech; it should not be confused with the WOOLLY BEECH APHID (Phyllaphis fagi) which is found on European beech. Despite its malevolent sounding common name, blight aphids appear to cause little harm to their host and their colonies are usually relegated to a few branches. However, they are prolific producers of honeydew causing branches, sidewalks, parked cars, slow-moving gardeners, etc., beneath the colonies to become covered in sticky goo. Indeed, aphid colonies are often found by observing circular or semi-circular spots of sticky honeydew on hard surfaces beneath infested trees.

This week's BYGL report focuses on this "by product" of beech blight aphid infestations. The honeydew on leaves and branches may become heavily colonized by black sooty molds. Indeed, the fungus (Scolias spongiosa (Ascomycete)) is exclusively associated with the aphid and is commonly called "Beech Blight Sooty Mold." It is also sometimes called the "beech blight aphid poop eater" because of its food supply and obligate relationship to the aphid; the fungus only grows on honeydew produced by the beech blight aphid.

The fungus starts out behaving like most sooty mold fungi; it grows as a dense, black, "fuzzy" mat on top of the honeydew. Over time, the black mat thickens into a furry mass. Then the fungus progresses into a growth phase that is unlike most sooty molds; it produces a spongy, golden-yellow heap that rises 1/2" or more above the leaf or twig surface. The odd looking fungal growths look like nothing else that would commonly be associated with aphids or honeydew. Adding to the diagnostic challenge, the fungus will grow anywhere that beech blight aphid honeydew is deposited. So, thick fungal accretions may appear on the leaves and stems of understory plants that are not hosts to the aphids. Eventually, the spongy fungal masses harden and turn black; they may remain evident throughout the winter and into early spring.

Jim Chatfield and Tim Malinich (in an e-mail message) reported observing these odd black fungal accretions this week in northeast Ohio. The growths are sometimes described as superficially resembling symptoms of the disease known as BLACK KNOT of Prunus spp. caused by the fungal pathogen Apiosporina morbosa (Syn. Dibotryon morbosum, Plowrightia morbosum). Of course, aside from entirely different hosts - there is no "black knot" of beech - the fungus that causes black knot of Prunus and the fungus responsible for the beech blight aphid sooty mold are nothing alike in terms of their impacts. The fungal accretions on beech are only an aesthetics issue since the masses are confined to the surfaces of stems and old leaves whereas the black knot fungus produces severe stem cankering that may kill branches.

Author: Joe Boggs

E. BUZZ-BUMBLING BEETLES. The familiar "bzzzzzzz...thud!" sound made by MAY/JUNE BEETLES as they fly around porch lights at night and bounce off walls, doors, windows, startled homeowners, etc., is now being heard in southwest Ohio. There are five species of beetles in the genus Phyllophaga in Ohio that share the general common name of May or June beetles. The 1/2 - 1" long adults are slightly oblong, and reddish-brown to black in color. Their obnoxious evening behavior often causes them to be dismissed as nuisance pests. In most cases, this is true. Although adults of most of these species feed at night on flowers, or on tree and shrub foliage, they seldom cause significant damage.
However, large numbers of these beetles occasionally produce noticeable leaf damage, and their nocturnal life-style makes them a deceptive defoliator. In 2000 and again in 2011, conspicuous defoliation of oaks and maples caused by these beetles was reported in Ohio and Kentucky. In a few cases, heavy damage literally occurred overnight. The defoliation involved the removal of all of the leaf tissue with the exception of the main veins. Since the beetles are night feeders, casual observers were left in the dark trying to explain the damage. Although damage may appear severe, the beetles only fly for a few weeks, leaving plenty of time for defoliated trees to produce new leaves.

Larvae of these beetles are white grubs with feeding habits similar to JAPANESE BEETLE (*Popillia japonica*) and MASKED CHAFER (*Cyclocephala* spp.) grubs; however, May/June beetle grubs prefer pasture grasses. Hence, damage to trees most often occurs near pastures. Likewise, significant May/June beetle grub populations are seldom found beneath older lawns, but are sometimes observed where new homes occupy ground which was recently in pasture. Larvae require anywhere from 1 to 5 years to complete their development, depending upon the species.

**Author: Joe Boggs**

**F. ANTLION PITS APPEAR.** Jim Chatfield reported observing pitfall traps made by antlions (*Myrmeleon* spp.) at the Canter's Cave 4-H Camp in southern Ohio. Antlions belong to the insect order Neuroptera (*neuro* = nerve, *optera* = wing). Adults have long, thin bodies that measure around 1" in length. They superficially resemble damsselflies; however, antlions have conspicuous antennae that are clubbed at the front and about as long as the combined length of their head and thorax. Their finely veined wings ("nerve wings"), which are held tent-like over their body, are transparent with a dappling of black markings. Damsselflies have very short, bristle-like antennae and their wings are held vertically, almost flag-like above their body.

Females of the "pitfall-type" antlions insert their eggs into dry, powdery soil. Favored locations include loose soil near building foundations or around the base of trees. Once the eggs hatch, the true "antlion" portion of the life cycle appears on the scene. The grayish-brown, slightly hairy larvae are heavily plated, almost armor-like, and they sport impressive out-sized, sickle-shaped mandibles; necessary equipment for a predator. The pitfall-type antlions excavate their pits by moving backwards in the loose soil in a spiral pattern and using their mandibles like tiny shovels to flip away soil. Eventually, a funnel-shaped pit, measuring around 3/4-2" wide and 1/2" deep is created with the antlion buried at the bottom; only their wicked looking mandibles are exposed.

The loose dry soil particles provide no traction for escape when a hapless victim blunders into the pit-fall trap. The antlion uses its sharp-pointed mandibles to seize its trapped prey and to pierce the victim's body allowing the essence-of-insect to drain into the antlion's mouth. Their dining menu includes their namesake prey as well as any other arthropod the antlion can skewer with its mandibles.

Antlions are sometimes called "doodlebugs;" however, as with many common names for insects, geography plays a role in exactly which insect is attached to the doodlebug moniker. In some parts of the U.S., the doodlebug name is attached to dung beetles (Order Coleoptera; Family Scarabaeidae) while in other locations the name refers to the larvae of tiger beetles (Family Carabidae). Of course, an antlion by any other name is still a ferocious and fascinating predator!
4. DISEASE DIGEST.

A. BLACK KNOT OF PRUNUS. Numerous landscapers and arborists are noting this year that PLUM BLACK KNOT can be quite a serious disease problem, with reports of high incidence on Canadian red chokecherry (*Prunus virginiana* 'Schubert'). As noted in recent BYGL discussions on host ranges of pathogens, the *Apiospora* *morbosa* fungal pathogen for black knot occurs only on fruiting and ornamental plants in the genus *Prunus*, from cherry, plum, flowering almond, chokecherry, and less commonly peach, apricot, and nectarine. The fungus, which overwinters in previously infected knotted tissue, then infects succulent new growth in spring with new knot-like swellings of twigs developing over the spring and summer, hardening and blackening by fall.

In some cases, this stem tissue is killed in the first season, but often the twig survives and a longer perennial knot-like canker develops. The disease becomes more and more prevalent over the years. Prune out cankered areas before bud break to prevent new infections each year and as soon as they are evident to avoid serious health problems for the plant. Labelled fungicides applied before bud break can help as long as implemented along with sanitation and pruning. Fungicides will not rid the plant of knots that have already developed.

Often observers think that black knot is occurring on plants other than *Prunus*. As noted in Bug Bytes, the accretions of a black sooty mold fungus (*Scolias* *spongiosa*) associated with beech blight aphid is sometimes mistaken for black knot, but is of course of an entirely different origin. Another example of mistaken identity is when observers, upon seeing swellings and cankered areas on hawthorn twigs due to past infections from the cedar-quince rust fungus (*Gymnosporangium* *clavipes*) also think the problem is black knot. Not. The cedar-quince rust fungus alternates between certain junipers and rosaceous hosts such as hawthorn, crabapple and quince. The most notable infections on hawthorn are on the "haw" fruits, and in some cases this becomes quite a nuisance with orangish spores produced in such quantities as to become a problem when tracked into the house onto rugs. However, hawthorn twigs also may become infected from the cedar-quince rust fungus and do develop spindly gall-like swollen areas with tissue beyond the girdled twig typically dying back, and this may also be mistaken for black knot.

Author: Jim Chatfield

5. TURF TIPS.

A. GRASSOLOGY!! AS SEEN ON TV!! The following article is a product of turf specialists from the University of Arkansas. Over the past few weeks, we have gotten numerous inquiries about the latest wonder product for the turfgrass industry - Grassology ([http://www.grassology.com](http://www.grassology.com)). Their website promotes that you will get a "gorgeous lawn that's virtually maintenance-free." With this lawn, there will be "no more weekly mowing, no more ongoing fertilizing, no more high watering bills, and no more constant weeding." Although it is primarily a TV and internet campaign, this product has also made its way into some of the big retail stores around the country, including our very own Walmart stores where we picked up a bag the other day. Sounds great doesn't it?? I mean, Bob Villa is promoting it, so it must be great!!
As is the case with most "miracle" products, it is always best to look at the real science behind the product before making a decision to try it. Just because it is "seen on TV" or promoted by a paid spokesman like Bob Villa, does not mean that it will work as a lawn in NW Arkansas or anywhere else in the world. When selecting grass seed, we always tell our students and people in the industry that the real information about the product is not found on the front of the bag, where claims of beautiful lawns and pictures of happy families are found, but on the back of the bag, where the state-mandated seed label is found. The seed label will tell you the percentage of each species in the bag, what cultivar of each species is in the bag, the germination percentage of each cultivar, and if any weeds are present.

When we look more closely at the seed label on Grassology, what do we find? In this case, the seed mixture that was sold in NW Arkansas had creeping red fescue, tall fescue, perennial ryegrass, Kentucky bluegrass, Sheep fescue and hard fescue - all cool-season grasses. Of these, tall fescue is the only one that is reasonably well-adapted to north Arkansas and some of the fine fescues are not adapted at all. They all had germination percentages of 80 - 85%, which is not bad, but it is also not great. The one piece of information that is missing from this label is the variety or cultivar of each species. Why is that? Well, it is missing because the grasses in this mixture are being sold as "variety not stated" or what is commonly called VNS. This designation is usually assigned to low-quality grass seed that could be any cultivar and would change from year to year based on availability and price. So, if you buy this product, you really have no idea if this is a good cultivar or a bad cultivar - our guess is that it will typically be a bad cultivar.

The last thing you need to know about this product is the price - in this case, we paid $21.12 (including sales tax) for a 3 lb. bag or about $7.00/lb. for the seed. When you compare this to elite mixtures of tall fescue that have highly developed, researched cultivars that sell for around $4.00/lb., you can see that you are getting twice the bargain - a lower-quality product at a significantly higher price!! So, when you are enticed to buy grass seed based on the claims of a paid spokesman or miracle results, make sure you do a little research to find out if it is really backed by science or just backed by marketing.

If you want to find out about cultivars of turfgrass that do perform well in Arkansas and the surrounding region, please visit the National Turfgrass Evaluation Program website ([http://www.ntep.org](http://www.ntep.org)) and look at the data from our research program at the University of Arkansas in Fayetteville. There, you will likely find a grass that can reduce your mowing, reduce your water bills and provide a beautiful, healthy lawn.

Authors: Mike Richardson and Doug Karcher, Department of Horticulture, University of Arkansas

6. INDUSTRY INSIGHTS.

A. MONITOR FOR SPRUCE SPIDER MITES. BYGLers in southern and central Ohio reported that Growing Degree Day (GDD) accumulations have surpassed the 162 GDD mark that predicts overwintered egg hatch of the spruce spider mite (*Oligonychus ununguis*). This means that host trees should be closely monitored to determine whether or not control measures are required. The mite spends winter and summer months in the egg stage. As temperatures warm in the spring, or cool in the fall, the eggs hatch making this a "cool-season" mite. Typically, fall generations are more damaging than the spring generations owing to a more extended feeding
period. However, fall feeding symptoms do not become evident until the following season, so damage that is observed now most likely occurred last fall.

Spruce spider mites may be found on a wide range coniferous hosts including: spruce, arborvitae, juniper, hemlock, pine, Douglas-fir, and true firs. The mites feed by rupturing individual cells of the host’s foliage, producing characteristic tiny yellow spots, or "stippling." As the stippling coalesces, foliage becomes bleached and eventually bronze-colored. Inner foliage is generally affected first.

A "beating tray" is the most effective tool for discovering and assessing spruce spider mite populations. This tool can be a purchased piece of equipment, or simply a stick and an 8.5 x 11" tablet of white paper. Hold the white target beneath the conifer foliage and strike the foliage several times with a stick or rod causing the mites to drop onto the target. Next, tilt and lightly tap the collection paper or tray to allow plant debris to fall off. Look closely for small, slow-moving dots, not much bigger than the period at the end of this sentence; these are the spider mites. The faster moving dots are likely to be predaceous mites; the good guys that feed on the spider mites. A finger can be used to "mash and smear" the mites to further distinguish the good mites from the bad. Greenish-brown streaks are "pate de spider mite."

Effective management efforts include washing (syringing) mites from the foliage using a heavy stream of water, applications of soaps and oils, or applications of traditional miticides. Syringing will conserve predaceous mites, but may be difficult on large trees or large numbers of trees. Soaps and oils are also kind to predators, but oils will wash away the blue color on Colorado blue spruce. Certain miticides such as spiromesifen (e.g. Judo), hexythiazox (e.g. Hexygon, Savey), and bifenthrate (e.g. Floramite), as well as a few others, have a low impact on the beneficial mites.

Author: Joe Boggs

B. CALICO SCALE PUFFING-UP. Calico scale (Eulecanium cerasorum) females are now "puffed-up" and pumping out honeydew in southwest Ohio. The clear, sugary honeydew drips onto the leaves, stems, and branches of scale infested trees. Understory plants, parked cars, sidewalks, and lawn furniture beneath infested trees may also become coated with the sticky honeydew. The scale is capable of excreting copious quantities of honeydew, and this scale poo may be colonized by black sooty molds producing an unsightly, black appearance. Calico scale is a non-native globular soft scale that is about 1/4" in diameter. It has distinct white patches on a black background making the scale easy to recognize, particularly on bark and branches that are blackened by sooty mold.

Calico scale has one generation per year and overwinters on twigs as partially developed nymphs. As spring progresses, the nymphs feed, molt, and mature into globular adults. Eggs are laid in late spring to early summer, and the hatching 1st instar nymphs migrate to the undersides of leaves where they attach themselves to veins to suck fluid from phloem vesicles. Like the adults, the nymphs also exude sugary, sticky honeydew, although in lower quantities compared to the adults. As fall approaches, the crawlers move back to stems where they overwinter.

Calico scale can infest a wide variety of deciduous trees including dogwood, honeylocust, magnolia, ornamental fruit trees, sweetgum, and witchhazel. The scale is seldom a direct killer of established landscape trees; however, heavily infested trees may lose enough sap to cause them to succumb to other stress related factors. In past years, high populations of calico scale
crawlers produced visible damage to honeylocust leaflets in central and southern Ohio. Their feeding activity caused leaflets to turn yellow and then brown with heavy damage producing noticeable defoliation. The leaf discoloration and defoliation were sometimes mistaken for moisture stress.

Trials in Ohio have indicated calico scale can be managed using soil drenches of neonicotinoid systemic insecticides such as imidacloprid (e.g. Merit, Marathon, Xytect, etc.), clothianidin (e.g. Arena), and dinofeturan (e.g. Safari) made from September into November. There is anecdotal evidence that soil drench application of imidacloprid made now or a soil drench application of dinofeturan made later this spring may provide effective suppression of the crawlers.

Author: Joe Boggs

7. WEATHERWATCH.

A. WEATHER UPDATE. The following weather information summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations spanning the dates from April 1 - 30, 2014, with the exception of the soil temperatures which are readings from Wednesday, April 30, 2014 at 11:05 a.m.

Each of the five locations experienced above average precipitation for the month, with Columbus reporting over 5” for April.

This week, everyone on BYGL that gave a weather report had a somewhat similar story. Thoughts and discussions about this year’s spring had many thinking we were "way behind" in comparison to other years. But thanks to the GDD website (see article below), and the ability to manipulate the date and go back in time, many we surprised how close we really are to last year's spring progression. 2012 was a different story, as that spring seemed to be on fast forward.

Be sure to check out the GDD data from your own location using an Ohio zip code and do some comparisons yourself. This website is a very useful tool and should be on everyone's list of favorites.

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<td>NE</td>
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<td>55.41/52.86</td>
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<td>Central</td>
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<td>40.8</td>
<td>4.71</td>
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For a link to the OARDC Weather Stations, visit: [http://www.oardc.ohio-state.edu/centernet/weather.htm].

Author: Amy Stone

B. GROWING DEGREE DAYS (GDD). GDD is a measure of the daily maximum and minimum temperature and directly relates to growth and development of plants and insects. The GDD of
any zip code location in Ohio is estimated using the GDD of ten OARDC weather stations and available on the web at: [http://www.oardc.ohio-state.edu/gdd/].

The range of GDD accumulations in Ohio from north to south is 125 to 306. Following is a report of GDD for several locations around Ohio as of end of the day of April 30, 2014: Painesville, 125; Cleveland, 137; Toledo, 143; Canfield, 146; Findlay, 145; Van Wert, 151; Wooster, 164; Coshocton, 204; Columbus, 219; Springfield, 211; Dayton, 219; Cincinnati, 280; Ironton, 303; Portsmouth, 306; and Piketon, 304.

To put these GDD accumulations into perspective, the following is an abbreviated listing of plant and insect species with their respective phenological event and average GDD accumulations at which these events occur. Due to variations in weather, temperature, humidity, etc., these events may occur a few days earlier or later than predicted by the average GDD. By looking at a city, town, or village nearby on the above list, or visiting the above web site, one can see what is approximately taking place in the landscape.

Chanticleer callery pear, first bloom, 123; sargent cherry, first bloom, 127; larch casebearer, egg hatch, 128; Japanese pieris, full bloom, 129; saucer magnolia, first bloom, 133; common flowering quince, first bloom, 137; Bradford callery pear, first bloom, 142; European pine sawfly, egg hatch, 144; weeping Higan cherry, first bloom, 145; P.J.M. rhododendron, first bloom, 147; chanticleer callery pear, full bloom, 149; Norway maple, full bloom, 149; inkberry leafminer, adult emergence, 150; sargent cherry, full bloom, 151; star magnolia, full bloom, 151; Allegheny serviceberry, first bloom, 153; Manchu cherry, full bloom, 155; spring snow crabapple, first bloom, 155; apple serviceberry, first bloom, 159; spruce spider mite, egg hatch, 162; Bradford callery pear, full bloom, 164; Allegheny serviceberry, full bloom, 169; saucer magnolia, full bloom, 174; P.J.M. rhododendron, full bloom, 178; boxwood psyllid, egg hatch, 179; weeping Higan cherry, full bloom, 179; Koreanspice viburnum, first bloom, 185; regent serviceberry, first bloom, 186; Japanese flowering crabapple, first bloom, 189; eastern redbud, first bloom, 191; gypsy moth, egg hatch, 192; Koreanspice viburnum, full bloom, 205; azalea lace bug, egg hatch, 206; ‘Spring Snow’ crabapple, full bloom, 209; common flowering quince, full bloom, 214; birch leafminer, adult emergence, 215; ‘Coralburst’ crabapple, first bloom, 217; elm leafminer, adult emergence, 219; common chokecherry, full bloom, 221; alder leafminer, adult emergence, 224; honeylocust plant bug, egg hatch, 230; sargent crabapple, first bloom, 230; common lilac, first bloom, 234; Ohio buckeye, first bloom, 245; common horsechestnut, first bloom, 251; hawthorn lace bug, adult emergence, 253; hawthorn leafminer, adult emergence, 260; flowering dogwood, first bloom, 263; red buckeye, first bloom, 265; blackhaw viburnum, first bloom, 269; imported willow leaf beetle, adult emergence, 274; Sargent crabapple, full bloom, 298; red horsechestnut, first bloom, 304; pine needle scale, egg hatch - 1st generation, 305; cooley spruce gall adelgid, egg hatch, 308; eastern spruce gall adelgid, egg hatch, 308; and common lilac, full bloom, 315.

Author: Curtis E. Young

8. COMING ATTRACTIONS.

A. EMERALD ASH BORER UNIVERSITY (EABU) SPRING SCHEDULE. Be sure to tune into EABU this spring to learn more about EAB and other related topics. Sessions can be accessed through the Regional Emerald Ash Borer website [http://www.emeraldashborer.info]. Here is a listing of the live sessions scheduled this spring:
*May 8, 2014, 11:00 AM (EST) In Defense of Urban Forestry - Lindsey Purcell, Urban Forest Specialist, Purdue University

*May 19, 2014, 11:00 AM (EST)  EAB101- What Happened and What's Happening Now - Amy Stone, Extension Educator, Ohio State University and Robin Usborne, Communication Manager, Michigan State University

Have questions about EABU?  Contact Amy Stone at [stone.91@osu.edu].

B.  TREE SCHOOL.  Tree School is an all-day workshop on all things trees!  It takes place May 3, 2014 at the Ohio State Mansfield Campus.  Are you a woodland owner, Christmas tree grower, gardener, wildlife enthusiast, landscaper, or just interested in learning more about trees?  Tree School features 12 different educational sessions on a variety of tree-related topics - including things like tree planting, the top landscape trees, mapping your property and invasive species management and more!  Registration is now open at: [http://www.woodlandstewards.osu.edu] and closes April 25, 2014.

C.  WILDLIFE IN YOUR WOODS.  Interested in learning more about the wildlife that is in your woods?  Want to learn how to attract deer, birds, and amphibians to your woods?  Then this class is for you!  Come to the Ohio State Mansfield campus on May 9, 2014 to spend a day learning how to not only attract a variety of these species to your woodlot with proper management but also how to monitor them!  We will begin indoors in the morning and end outdoors with a walk through the woods where we will further discuss monitoring techniques, management tips, and search a vernal pool for frogs and salamanders.  Registration is now open at: [http://www.woodlandstewards.osu.edu] and closes May 2, 2014.  Don't wait - register now!

D.  THE BUCKEYE LADY BEETLE BLITZ 2014!  The Agricultural Landscape Ecology Lab is hosting three sessions of a workshop this year in May to kick off The Buckeye Lady Beetle Blitz 2014!  This workshop will focus on the ‘secret lives’ of beneficial garden arthropods.  You will learn about the diversity of predators, parasitoids, and pollinators that inhabit your garden.  They will discuss foraging strategies, courtship, parental care of young, shelter and nest building, and much more!  Participants can also get involved with two exciting research projects, the Buckeye Lady Beetle Blitz and a NEW study examining pollination services in home gardens!

They have three locations for this workshop:

*May 14, 2014 at OARDC’s Fisher Auditorium, 1680 Madison Ave, Wooster, OH

*May 15, 2014 at the Rocky River Nature Center, 24000 Valley Parkway, North Olmsted, OH

*May 16, 2014 at the Civic Garden Center, 2715 Reading Road, Cincinnati, OH

For more information visit: [http://gardinerlab-dev.cfaes.ohio-state.edu/node/31/person-workshop-new-and-existing-blbb-volunteers].

9. BYGLOSOPHY. "Landscaping must follow the life of the free-flowing tree with its thousands of curves. One might hope that in developing a beautiful outlook on life the youth of our country would learn the life of a tree and its tremendous importance" - "Siftings" (1939), by Jens Jensen
APPENDIX
ADDITIONAL WEBSITE RESOURCES:

Ask a Master Gardener Volunteer
http://mastergardener.osu.edu/ask

Buckeye Turf
http://buckeyeturf.osu.edu

Emerald Ash Borer Information
http://ashalert.osu.edu

National Plant Diagnostic Network and First Detector Program
https://www.npdn.org/first_detector

Growing Degree Days and Phenology for Ohio
http://www.oardc.ohio-state.edu/gdd/

Hungry Pests Website
http://www.HungryPests.com

Ohio Pesticide Safety Education Program
http://pested.osu.edu/

Ohio State University Department of Horticulture and Crop Science Plantfacts
http://plantfacts.osu.edu/web/

Ohio State University Extension Bee Lab

Ohio State University Extension Master Gardener Volunteer Program
http://mastergardener.osu.edu

The C. Wayne Ellett Plant and Pest Diagnostic Clinic (CWEPPDC)
http://ppdc.osu.edu/

USDA APHIS Beetle Buster Website (Asian Longhorned Beetle)
http://www.beetlebusters.info/

USDA APHIS Beetle Detective Website (Asian Longhorned Beetle and Emerald Ash Borer)
http://beetledetectives.com/

Following are the participants in the April 29th conference call: Pam Bennett (Clark); Joe Boggs (Hamilton); Jim Chatfield (Plant Pathology); Erik Draper (Geauga); Denise Johnson (Master Gardener Volunteer program); Cindy Meyer (Butler); Joe Rimelspach (Plant Pathology); Amy Stone (Lucas); Nancy Taylor (C. Wayne Ellett Plant and Pest Diagnostic Clinic (CWEPPDC)); and Curtis E. Young (Van Wert).

BYGL is available via email, contact Cheryl Fischnich [fischnich.1@osu.edu] to subscribe. Additional fact sheet information on any of these articles may be found through the OSU FactSheet database [http://plantfacts.osu.edu/web].
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BYGL is available online at: [http://bygl.osu.edu], a website sponsored by the Ohio State University Department of Horticulture and Crop Sciences (HCS) as part of the "Horticulture in Virtual Perspective." The online version of BYGL has images associated with the articles and links to additional information.

BYGL is a service of OSU Extension and is aided by support from the ONLA (Ohio Nursery and Landscape Association) [http://onla.org/; http://buckeyegardening.com/] to the OSU Extension Nursery, Landscape and Turf Team (ENLTT).

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Keith L. Smith, Associate Vice President for Agricultural Administration; Associate Dean, College of Food, Agricultural, and Environmental Sciences; Director, Ohio State University Extension; and Gist Chair in Extension Education and Leadership.