BUCKEYE YARD AND GARDEN LINE 2013-08  
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This is the 8th 2013 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 - CALIBRACHOA (Calibrachoa x hybrida). Sometimes called million bells or trailing petunia, Calibrachoa is related to the petunia and has smaller blooms that look just like petunia blooms. It's an excellent annual for sun and does quite well in containers and hanging baskets. Fertilize regularly when in a container or hanging basket as they are vigorous plants. It does not tolerate high pH soils that are found in most of Ohio; therefore, it won't perform as well in the ground. The compact mounding plants grow to around 9" tall on trailing stems; some cultivars grow up to 24" in width. Common series and cultivars include 'Million Bells', 'Terracota', 'Lirica Showers', 'Starlette', 'Colorburst', and 'Superbells'. Flower colors are quite vivid and are various shades of violet, blue, red, pink, magenta, yellow, orange, bronze, and white.

*PERENNIAL - PEONY (Paeonia spp.). One of the traditional flowers used on graves for Memorial Day is the peony. The timing of its bloom this year is perfect because in central Ohio, they are in full bloom and quite spectacular. Peonies have large flowers that can be either double or single and when in bloom, the flowers can completely cover the plant. In addition, their fragrance is hard to beat. The foliage is shiny green and looks good all growing season.

The plants grow around 2 - 4' tall and as wide. Plant them in full sun for the best blooming and deadhead the individual flowers when they finish. You can select early, mid- and later season blooming varieties to extend the bloom season. They prefer well-drained soils. Support is sometimes necessary for the larger varieties, especially if they have large double flowers. Peonies can be very long-lived in the landscape and are oftentimes passed down through generations. A myth about ants and peonies has existed for years but the truth is the buds open on their own and don't need the help of the ants. Ants are attracted to the sweet sap secreted by the flower buds.
**WOODY - RED HORSECHESTNUT (Aesculus x carnea).** Red horsechestnut is a hybrid of common horsechestnut (Aesculus hippocastanum) and red buckeye (Aesculus pavia). True origin of this tree is unknown but thought to be a chance hybrid made by insects, first noted in Germany in 1820. These trees will ultimately reach 30 - 45' in both height and crown spread. Red horsechestnuts have large, deep-green, palmately compound leaves consisting of 5 - 7 leaflets. These leaves create a marvelous backdrop to show off the upright, 8" flower panicles, composed of every shade of pink to salmon-red blooms at the tip of each branch. The pyramid-shaped clusters of flowers create a bold splash of color in the landscape and are attractive to bees and hummingbirds.

The red horsechestnut grows well in full sun to partial shade with moist, well-drained soil. It does tolerate droughty conditions and a broad range of soil pH (4 - 8). It is less susceptible to the fungal diseases of Guignardia leaf blotch (Guignadia aesculi) and powdery mildew (Erysiphe flexuosa) than its relative, the common horsechestnut. Extended periods of drought conditions, can result in physiological leaf scorch, characterized by marginal necrosis of the leaves. For some landscape uses, the spiny husks and "buckeye-like" nuts late in the summer, can impact the aesthetic value of this tree. The most common cultivars are 'Briotii' (syn. 'Ruby Red Horsechestnut'), 'Fort McNair', 'Rosea' and 'O'Neil's Red'.

**VEGETABLE - GREEN BEANS (Phaeseolis vulgaris).** The average last hard frost date is around May 16, signaling the beginning of the gardening season. However, most people have a more traditional metric for putting in the garden, Memorial Day. By the time this holiday rolls around the ground is warm and a return to cold weather would be unlikely. Combine that with a three day weekend and you get the perfect time to put in all of the tender seeds and transplants.

Green beans love the heat. In warm, moist soil beans will germinate within a week. Bean seeds are planted 2" apart and 1" deep in rows 2 - 3' apart. The plants are not thinned. Most green beans will begin bearing in 50 - 60 days. The harvest will peak then slowly decline. To keep a strong regular harvest, sow a portion of your bean rows every 2 weeks through mid-summer. Over ripe green beans will be tough and have large seeds growing within the pods. Green beans are just like dry beans, but have been bred for their sweet, tender, unripe, edible pods.

Under good conditions, green beans can yield up to 1lb per foot of row, so a packet of seed will be enough for fresh eating for one or two people. Gardeners also have their favorite types of green bean. There are round beans, flat Italian beans, pole beans which require a trellis, stringless round beans, and thin filet beans. Beans are also available in green, yellow and purple (which turn green when cooked). There is no excuse for failing to find a bean you like.

**WEED - CRESSLEAF GROUNDSEL (Senecio glabellus).** Curtis Young noted that cressleaf groundsel is covering fields this time of year. This winter annual germinates in fall then blooms and finishes its lifecycle the following spring. It produces thousands of fluffy seeds that are dispersed by wind. Mature plants killed by cultivation or herbicide can actually still produce seeds.

Cressleaf groundsel goes through winter as a short rosette. In spring, the plant will elongate, producing alternate, deeply lobed leaves on a hollow stem. Flowers are yellow and borne in clusters. A similar plant COMMON GROUNDSEL (Senecio vulgaris) has a similar habit but does not have a hollow stem and is shorter, usually reaching 8 - 12".

Cressleaf groundsel is toxic to grazing animals. However, it is not a preferred forage and there have been no documented cases of poisoning by cressleaf groundsel in Ohio.

2. HORT SHORTS.

A. FRUIT THINNING IN APPLES. During most years, apple trees set more fruits than the limbs can support. Fruit load will potentially be heavier this year since the apple crop was very light last year. Fruit size and quality will suffer when trees are overloaded with fruits. Overloaded apple trees will have fewer blooms next year. Some of the limbs might break under the weight of a heavy apple crop. Every apple flower bud produces a bloom cluster of 5 - 6 flowers. Each flower is capable of setting one fruit. It is not uncommon for an apple fruit cluster to produce 4 - 5 apples. This will result in too heavy of a crop load. Hence, it is necessary to thin apples. The ideal timing for apple thinning is when the fruits are about the size of a dime. Fruit thinning can be done by a chemical thinner. However, a chemical thinner is not
used very often by home gardeners. Hand-thinning of fruits is the preferred way to reduce the fruit load for home grown apples.

Gary Gao reported that fruit thinning should still be done even if the dime-sized fruit stage has been past. Thinning of fruits will still benefit the remaining fruits and result in higher quality apples. The goal of fruit thinning is to keep one fruit, typically the "king fruit" or the biggest fruit in the fruit cluster. After thinning, the remaining apples should be spaced 6 - 8" apart. This kind of fruit thinning may seem excessive to most gardeners. However, it is a necessary horticultural practice to produce higher-quality apples in most years.

Now is also a good time to bag apple fruits to protect them from insect damage. Different types of bags can be used. Some gardeners purchase Japanese apple bags, while others use brown paper bags, plastic bags, or even nylon footies (hosiery). Refer to the OSU Extension Bulletin 940, "Midwest Home Fruit Production Guide," for more information.

B. SQUIRREL LITTER. Curtis Young reported that lawn areas are being littered with leaves and branches as the result of squirrel activities. At this time of the year, tree squirrels are constructing summer leaf nests. In the process of constructing these nests, the squirrels are not completely successful at holding onto the branches that they are clipping out of the trees. As a result, short branch sections are piling up on the ground under the construction sites. One can identify these branches as belonging to the butter-fingered squirrels by the beveled cut on the end of the branch. Fortunately once the construction is completed, the littering will slow down and/or stop. Oak trees and maple trees seem to be favored for their construction sites.

There is at least one other reason why an owner of a maple tree may be having a build-up of maple leaves on the ground below their trees. See the article entitled, "ANNUAL MAPLE LEAF-DROP COMMENCES," in the BUG BYTES section of the newsletter;

C. DOG VOMIT SLIME MOLD. Dog vomit slime mold (Fuligo septica) is a common problem this time of year. After gardeners put down a fresh layer of mulch they often see this aptly named growth showing up a few weeks later. This dog vomit is actually a slime mold that exists as an almost clear thin blob that crawls around the surface of the garden - this is its plasmodium stage. When it is developed enough to reproduce, it pulls itself together into the more recognizable pile that some describe as scrambled eggs. Eventually the scrambled eggs will brown to the recognizable pile of canine emesis. At this point, the slime mold spores are released to start the process over again.

Dog vomit slime mold is not harmful to plants. There is no way to totally eradicate it from the garden. However, some people have reported that watering in new mulch does help reduce the amount of slime mold. Also, any pile of sporulating slime mold can be scooped up with a shovel and deposited out of sight - breaking it up or blasting it with water will only help it spread its spores.

3. BUG BYTES.

A. ANNUAL MAPLE LEAF-DROP COMMENCES. Joe Boggs reported that the annual leaf drop caused by MAPLE PETIOLE BORER (Caulocampus acericaulis) on sugar maples is beginning to occur in southwest Ohio. Although sugar maples are generally preferred, this sawfly will also occasionally infest other maples. Fortunately, while the number of fallen leaves beneath an infested tree may look dramatic, defoliation seldom exceeds levels that are considered detrimental to the overall health of the tree.

This non-native sawfly was introduced into the United States from Europe. It spends the winter in the pupal stage buried 2 - 3" in the soil beneath the affected tree. Adults emerge in the spring and after mating, the females use their saw-like ovipositors to insert a single egg into the petiole near the leaf blade. The resulting grub-like larva feeds by boring down the center of the petiole. Once the larva completes its development, it drops to the ground and crawls into the soil to pupate. There is one generation per year.

The initial symptoms of a maple petiole borer infestation are highly variable. Some leaves may become wilted and discolored while still attached to the tree, with the petioles collapsing and turning brown just prior to leaf drop. Other infested leaves show no outward symptoms and appear perfectly healthy when they drop from the tree. However, all of the fallen leaves will retain only a very small portion of the hollow-out petiole. Most of the petiole, along with the larva,
remains attached to the tree. Thus, raking and destroying fallen leaves will not reduce the sawfly population. Fortunately, the sawfly has a minimal impact on tree health, so controls are not necessary.

B. SCARLET OAK SAWFLY. Joe also reported that first generation scarlet oak sawfly (Caliroa quercuscoccineae) larvae are munching oak leaves in southwest Ohio. Despite this sawfly's common name, larvae may be found feeding on a wide range of oaks including pin, black, red, and white oaks as well as its namesake oak. The larvae feed gregariously side-by-side on the lower leaf surface consuming everything except the veins and upper leaf epidermis. Initially, the upper epidermis has a faded, whitish appearance. Eventually the epidermis dries out, turns brown, and drops from the leaf leaving behind the veins to produce the skeletonizing symptom associated with this sawfly.

The larvae are currently a little over 0.25” long. Their semi-transparent bodies are flattened towards the front and tapered towards the back. The flattened area is trimmed in yellow with the visible gut contents making it appear as if a greenish-black line is running down the middle. The tapered area is grayish-black to black. The larvae glisten in the sun and appear slug-like. This is due to their interesting habit of covering themselves with their own excrement which helps them stick to leaves and presumably dissuades predators. Their slimy appearance gives rise to another common name: oak slug sawfly.

The sawfly spends the winter as late instar larvae inside cocoons in the leaf litter. Development is completed in the spring. Once the black, fly-like females are mated, they use their saw-like ovipositors to insert eggs in rows along major leaf veins. There are 2 - 3 generations per season in Ohio; consequently damage tends to escalate as the season progresses.

First generation populations appear to be small and randomly scattered. However, populations of each succeeding generation should be closely monitored because this sawfly has a history of producing significant defoliation on oaks in Ohio forests and landscapes. In 2011, Erik Draper reported heavy defoliation of oaks in the northeast part of the state and heavy defoliation of oaks occurred in the southern part of the state in 1997 and 1998.

C. BALSAM TWIG APHID. Participants at this week's SW Ohio BYGLive Diagnostic Walk-About were treated to a balsam twig aphid (Mindarus abitinus) sample collected near Georgetown, KY, by Dave Leonard (Dave Leonard Consulting Arborist, Inc., Lexington, KY). Although Dave's sample came from Kentucky, this aphid is common on many true firs throughout Ohio. The aphids are found on expanding candles. The characteristic symptom of twisted needles caused by the aphid's feeding activity was just becoming evident on Dave's sample. The light-green to bluish-green aphids reside near the base of the new needles, and their location and color makes aphid colonies difficult to spot. However, once the aphids become covered by waxy, white, flocculent material, they are more easily detected.

Aside from producing twisted needles, the aphids also exude copious quantities of sugary, sticky honeydew which gives the needles a shiny appearance. Needles and twigs may become blackened if the honeydew is colonized by black sooty molds. The aphids are only a cosmetic problem on trees in landscapes since their feeding damage does not hurt the health of the tree. However, on trees in nurseries and Christmas tree plantations, heavy aphid infestations can reduce the marketability and value of the trees. Their management often requires insecticide applications.

Application timing is critical to avoid aphid damage to new needles. The ideal timing is to make the application when the accumulated GDD for the season reaches 100-140. Unfortunately, this GDD range has already been surpassed throughout Ohio. While an application made now cannot reverse the damage that has already occurred, it will prevent further damage and help to reduce populations for next season. Fortunately, pyrethroid insecticides labeled for use on the targeted firs are very effective in controlling these aphids.

D. WOOLLY BEECH APHID. Joe Boggs reported observing woolly beech aphid (Phyllaphis fagi) nymphs on the leaves of a European beech (Fagus sylvatica) tree in southwest Ohio. The aphid has no approved common name, but entomologists generally refer to it as the "woolly beech leaf aphid." The aphid is a European native that retains its preference for European beech in the U.S.; it appears to avoid American beech. Reports from Europe indicate the aphid can cause significant injury to its beech host; however, such reports are rare in the U.S.

The primary impact on European beech in the U.S. is the reduced aesthetics caused by the high contrast between the brilliant white aphid colonies and the lustrous dark green or dark purple beech leaves. The aphids also exude copious quantities of honeydew and droplets of this sugary, sticky substance creates a gummy mess on underlying beech leaves,
sidewalks, building decking, slow-moving gardeners, etc. The deposited honeydew may become colonized with black sooty molds adding to the unsightly appearance of the goo. Honeydew deposits can be washed away with a coarse stream of water, and most insecticides labeled for use on European beech will reduce aphid populations if control is considered necessary.

This woolly aphid should not be confused with the BEECH BLIGHT APHID (Grylloprociphilus imbricator) that was reported in last week's BYGL. The woolly beech aphid is found on European beech. It is generally relegated to the leaves and only occasionally spills over onto the twigs. The blight aphid is found on American beech (F. grandifolia). It generally occurs on stems and is only occasionally found on leaves.

E. HYDRANGEA LEAF-TIER MOTH. Pam Bennett reported that participants in her weekly Master Gardener Wildflower Walk in Clifton Gorge were treated to the handiwork of the hydrangea leaf-tier moth (Family Tortricidae; Olethreutes ferriferana) on its namesake host. Individual caterpillars apply silk along the edges of two newly expanding hydrangea leaves to cement or tie the leaves together creating an envelope-like structure surrounding newly developing leaves and flowers. The caterpillars then feed upon the leaves and flowers enveloped within these odd looking structures. The leaf structures created by this leaf-tier caterpillar tend to occur near the tips of plant stems and may be very obvious.

The two tied leaves fail to fully expand and become dark green, wrinkled and gnarled; the structure superficially resembles a plant gall. Opening the tied leaves will reveal the caterpillars housed within silk littered with dark green frass pellets. The light green semi-transparent caterpillars have shiny black head capsules and a black thoracic shield on top of the segment just behind the head.

Published records indicate that high populations may occasionally cause significant harm to wild and cultivated hydrangeas; however, it is more common for the caterpillars to be viewed as an oddity affecting plant aesthetics. If control is deemed necessary, the caterpillars may be eliminated by squeezing the leaf structures to kill the caterpillars. Unfortunately, the leaf structures shield the caterpillars from direct exposure to a topical insecticide.

F. MOSQUITOES BUZZ OHIO LANDSCAPES. Several BYGLers reported recent first-hand experience with the piercing-sucking feeding behavior of mosquitoes. Erik Draper (a.k.a. The Human Mosquito Magnet) noted that mosquito airlifting operations are underway in several areas of the state. Many of the more common mosquito species currently plaguing Ohio homeowners and Extensioneers will readily reproduce around or near homes, so prevention begins at home. Mosquito larvae, or "wigglers," require some form of moisture to survive. Even temporary standing water will serve the purpose. Stagnant pools of water in ditches are an obvious mosquito generator. Less obvious are clogged gutters, tire swings, potted plant trays, outdoor toys, etc. Mosquito breeding sites will be revealed by a slow, close inspection around homes.

A number of larvacidal products are available for controlling mosquitoes where permanent pools of water are part of the landscape, such as aquatic gardens. The products are based on two naturally occurring bacteria: either Bacillus thuringiensis var. israelensis (Bti) (e.g. Vectobac, Aquabac, Mosquito Dunks, etc.), or B. spaericus (e.g. VectoLex). These products can be highly effective; however, users must read and follow label directions for maximum effect. Also, commercial applicators need to consider pesticide licensing requirements.

The search continues for the most fool-proof, ever-lasting method to fend off mosquitoes, but BYGL readers are urged not to hold their breath for a miraculous answer. Mosquitoes are attracted to carbon dioxide exhaled by large animals (e.g. people). Dark clothing as well as certain floral scents in lotions and soaps also serve as "eat here" signs to mosquitoes.

Insect repellents may provide some relief from mosquito bites. Products containing DEET (N,N-diethyl-meta-toluamide) (e.g. Deep Woods Off!, Repel Sportsman Max, Backwoods Cutter, etc.) have long been effectively used to repel mosquitoes. In recent years, two new compounds have been added to the repellent arsenal; picaridin (e.g. Cutter Advanced) and oil of lemon eucalyptus (e.g. Cutter Lemon Eucalyptus Insect Repellent, Repel Lemon Eucalyptus, etc.) are now widely available. Remember that insect repellents are not fool-proof or ever-lasting; however, they can provide some protection and relief from buzzing blood-suckers.

G. PIGMY HUMMINGBIRDS? Joe Boggs reported observing a hummingbird moth zipping around the Cincinnati Zoo and Botanical Garden during the S.W. Ohio BYGLive! Diagnostic Walk-About this week. The sighting seemed unusual since these moths typically emerge much later in the season. However, there are several species of day-flying moths in
the family Sphingidae (Sphinx moths) that are commonly called hummingbird moths. They buzz and hover exactly like miniature hummingbirds, and they share with their avian namesake a fondness for deep throated pink and red flowers. The moths lap nectar using a long, coiled proboscis rather than a long, pointed beak.

The largest of these fast-flying moths is the HUMMINGBIRD CLEARWING (*Hemaris thysbe*). This moth has a greenish body and a dark reddish-brown band near the back of the body. Its wing-span is nearly 2" and the wings are almost devoid of scales, thus the common name. A less common species is the SLENDER CLEARING (*H. gracilis*), which is slightly smaller than the hummingbird clearwing. This moth also has a more yellow body and a gold ring between the yellow portion and the dark band near the abdomen.

Another Sphinx moth that looks like something that it's not is the SNOWBERRY CLEARWING (*H. diffinis*). The moth has the size and coloring of a bumble bee, and a wing-span of 1 1/4". Although they don't land on a flower like bees, most people are not willing to get close enough to notice the difference! Like all Sphinx moths, the caterpillars of these moths are called "hornworms" because of a horn-like projection on top of their posterior end. However, none of these species are considered pests since they feed on such things as honeysuckle, Virginia creeper, and other plants that are generally considered weeds.

H. WINTER HONEY BEE LOSS. The Bee Informed Partnership has released preliminary results from the 2012 - 2013 honey bee winter loss survey. A total of 6,287 US beekeepers responded to the USDA study, representing nearly 600,000 colonies or about 23% of the country's estimated 2.62 million colonies. According to the survey results, 31.1% of managed hives were lost during the 2012/13 winter. While this represents an increase in loss of 9.2% over the 2011/12 winter, the result is on par with the 6 year average total loss of 30.5%. These results reflect anecdotal reports of winter colony loss from Ohio beekeepers. A detailed final report from the winter loss survey is expected later this year. See the preliminary results at: [http://beeinformed.org/2013/05/winter-loss-survey-2012-2013/].

I. WINDSHIELD WIPES. BYGLers also ran into a number of other insect pests this week including:

* Dave Shetlar reported that the characteristic serpentine leafmines of one of the COLUMBINE LEAFMINER flies (Family Agromyzidae; *Phytomyza* spp.) are now appearing on their namesake host in central Ohio. The meandering greenish-white leafmines in infested leaves are very apparent against the solid green color of unaffected leaves. Like other agromyzids, columbine leafminer females use their sharp ovipositors to pierce the upper leaf surface so they can feed on the exuding sap. This produces tiny spot-like holes in the leaf surface; a symptom shared with other agromyzids such as the NATIVE HOLLY LEAFMINER (*Phytomyza ilicicola*). Columbine leafminer flies seldom cause significant injury to the overall health of infested plants; they mainly affect plant aesthetics. However, populations can be reduced by removing and destroying infested leaves as they appear throughout the season.

* Curtis Young reported finding an adult female LUNA MOTH (*Actias luna*) on the OSU Mansfield Campus Friday, May 17, 2013. The luna moth is one of the "giant silkworm" moths belong to the Lepidopteran Family Saturniidae. The luna moth is an impressive sight to see with a wingspan of 4 - 4.5", pinkish-purple legs, pale sea-green wings with pinkish-purple bars along the front edge, hindwings with long tails, eyespots on both front and hindwings, and a white hair-covered body. From overwintered pupae, new adults emerge in spring and early summer. Amazingly, adult luna moths do not eat and have no mouth parts. Their sole purpose in life is to find a mate, mate and lay eggs for the next generation. A female lays about 200 eggs in small groups on host trees. Hosts of the luna moth include American beech, black cherry, hickories, red maple, sweetgum, white oak, and willows. Luna moths used to be common in many areas, but in recent times their numbers have declined and in some areas are threatened.

4. DISEASE DIGEST.

A. BLACK ROT CONTROL IN GRAPES. Gary Gao reported that he had observed symptoms of grape black rot in southern Ohio. Now is the time to apply fungicides to protect grape leaves and grape clusters from black rot.

Symptoms of black rot first appear as small yellowish spots (lesions) on leaves. As the spots enlarge, a dark border forms around the margin of each spot. The center of the lesions turns reddish-brown. By the time the lesions reach 0.12 - 0.25" in diameter (approximately two weeks after infection), minute black dots appear within the lesion. These are fungal fruiting bodies (pycnidia) that contain thousands of summer spores (conidia). Pycnidia are often arranged in a ring
pattern, just inside the margin of the lesions. Lesions may also appear on young shoots, cluster stems, and tendrils. The lesions are purple to black, oval in outline, and sunken. Pycnidia also form in these lesions. Fruit symptoms often do not appear until the berries are about half grown. Small, round, light-brown spots form on the fruit. The rotted tissue in the spot softens, and becomes sunken. The spot enlarges quickly, rotting the entire berry in a few days. The diseased fruit shrivels, becoming small, hard, black and wrinkled "mummies." Tiny black pycnidia are also formed on the fruit mummies. The mummies usually remain attached to the cluster.

A good fungicide spray program is extremely important for black rot control. Good timing and the right fungicides are critical for management of the disease. Early season control is emphasized. The most critical period to control black rot with fungicides is during the period from early bloom through 3 - 4 weeks after bloom. Grape berries will not be susceptible to black rot infection once they start turning color, which is called veraison in grape-growing terms.

Captan, a common fungicide, is only slightly effective against black rot. Mancozeb, on the other hand, is highly effective. Mancozeb is not widely available. Gardeners may need to ask a garden center or a retailer to special order Mancozeb. For the most current spray recommendations, commercial growers are referred to OSU Extension Bulletin 506-B2, "Midwest Commercial Small Fruit and Grape Spray Guide." Backyard growers are referred to OSU Extension Bulletin 780, "Controlling Diseases and Insects in Home Fruit Plantings."

B. SYCAMORE ANTHRACNOSE HEAVY AGAIN. Curtis Young reported that AMERICAN SYCAMORE (Platanus occidentalis) in northwest Ohio is suffering greatly from the effects of sycamore anthracnose (Gnomonia platani). Sycamore standout from surrounding trees because they have little foliage covering their branches. The anthracnose infections set in very early in the growing season killing many leaves shortly after break bud. A more serious side of this disease is when anthracnose enters twigs and branches forming cankers that may cause twig and branch dieback. After several years of heavy infection, the frequent twig and branch dieback produces a "witch's broom" appearance in the growth pattern of the tree.

The American sycamore is much more susceptible to anthracnose than the London (Platanus x acerifolia) and Oriental planetrees (Platanus orientalis). The Oriental planetree, a shorter, less graceful tree, is highly resistant to anthracnose but rarely grown in the US. The London planetree is a cross between the Oriental planetree and the highly susceptible American sycamore. However, the London planetree cultivars, 'Bloodgood', 'Columbia' and 'Liberty' are resistant to anthracnose and are good choices for planting where sycamore anthracnose is a problem.

5. TURF TIPS.

A. BILLBUG CONTROL. Dave Shetlar noted that BLUEGRASS BILLBUG (Sphenophorus parvulus) are fast becoming a very significant turfgrass pest in Ohio since larval feeding damage is often overlooked by being mistaken for summer drought stress.

Billbugs are a type of weevil (= snout beetle) and this species overwinters in the adult stage. The adults emerge in the spring to lay eggs in the turfgrass stems. The grub-like larvae first feed within the crown area of the plant and later in the lower crown and root zone. The damage causes grass plants to die and turn brown. Larval feeding activity also causes stems to easily detach; the tried-and-true "tug test" where stems are gently pulled to see if they easily break off remains an effective diagnostic aid for identifying billbug infestations later in the season.

Dave reported that if the neonicotinoid clothianidin (e.g. Arena, Aloft) as well as acetamiprid are applied now, they will provide season long control of white grubs as well as manage billbugs. However, if imidacloprid (e.g. Merit) and thiamethoxam (e.g. Meridian) products are applied now, they will most likely "run out of steam" by the time the next generation grubs appear on the scene later this summer.

6. INDUSTRY INSIGHTS.

A. EMERALD ASH BORER (EAB) AWARENESS WEEK. With the upcoming Memorial Day Weekend being an unofficial kick-off to the camping season, agencies and organizations involved with EAB outreach want to remind everyone not to move firewood, and potential pest threats.
The first EAB Awareness Week was held in 2004, and continues today with infested and uninfested states getting the word out about EAB. This week, EAB University held a free online web-based session called EAB 101. This session included a historical component, information on life-cycle and host plant interaction, and an overview of management options. This and other sessions can be viewed at the regional EAB website at [www.emeraldashborer.info].

Remember – Don't move firewood, it bugs me!

B. GET YOUR GREEN INDUSTRY FIX WEBINAR II. Topics covered at the last Fix (Wednesday, May 8) included proper pruning techniques and the horror of poor pruning practices, and the invasive species of hemlock woolly adelgids and the downy mildew of impatiens pathogen. To get the training material updates from this ongoing ONLA and OSU webinar series, from business issues such as the Imprelis damage compensation class actions being wrapped up by June 28 by DuPont to the importance of P (phosphorus) for plant growth and development, keep tuned to the monthly webinars and the weekly BYGL. Register for the webinars by calling the Ohio Nursery Landscape Association at 614-899-1195 or 800-825-5062. The next Webinar is coming soon on June 12, 2013 from 8:00 a.m. - 8:50 a.m.

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 May 1 - 23, 2013, with the exception of the soil temperatures which are readings from Wednesday, May 22, 2013 at 5:20 p.m.

Temperatures are beginning to feel a bit more like summer. While many areas have received rainfall recently, others remain dry and wishing for wet weather. Of the five weather stations listed below, all are running at a month-to-date deficit in the area of precipitation.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Ashtabula</td>
<td>NE</td>
<td>71.0</td>
<td>49.5</td>
<td>2.22&quot;</td>
<td>2.4&quot;</td>
<td>65.74/69.22</td>
</tr>
<tr>
<td>Wooster</td>
<td>NE</td>
<td>74.1</td>
<td>50.7</td>
<td>1.08</td>
<td>2.8</td>
<td>69.50/69.09</td>
</tr>
<tr>
<td>Hoytville</td>
<td>NW</td>
<td>77.0</td>
<td>51.2</td>
<td>0.34&quot;</td>
<td>2.4&quot;</td>
<td>65.89/67.03</td>
</tr>
<tr>
<td>Columbus</td>
<td>Central</td>
<td>75.7</td>
<td>55.3</td>
<td>0.83&quot;</td>
<td>3.1&quot;</td>
<td>72.73/71.27</td>
</tr>
<tr>
<td>Piketon</td>
<td>South</td>
<td>74.7</td>
<td>52.8</td>
<td>1.61&quot;</td>
<td>3.0&quot;</td>
<td>76.12/74.28</td>
</tr>
</tbody>
</table>

For a link to the OARDC Weather Stations, visit: [http://www.oardc.ohio-state.edu/centernet/weather.htm].

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 428 to 611. Following is a report of GDD for several locations around Ohio as of May 22, 2013: Painesville, 428; Cleveland, 451; Toledo, 467; Canfield, 462; Findlay, 478; Van Wert, 484; Wooster, 477; Coshocton, 551; Columbus, 601; Springfield, 559; Dayton, 563; Cincinnati, 595; Ironton, 606; Portsmouth, 607; and Piketon, 611.

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 website, one can see what is taking place in the landscape.

Vanhouette spirea, full bloom, 406; euonymus scale (first generation), egg hatch, 406; black cherry, full bloom, 419; Miss Kim Manchurian lilac, first bloom, 422; locust leafminer, adult emergence, 437; doublefile viburnum, full bloom, 444; black locust, first bloom, 467; common ninebark, first bloom, 478; oystershell scale, egg hatch, 497; smokebush, first bloom, 501; arrowwood viburnum, first bloom, 534; American yellowwood, first bloom, 546; bronze birch borer,
adult emergence, 547; black locust, full bloom, 548; American holly, first bloom, 556; mountain laurel, first bloom, 565; potato leafhopper, adult arrival, 568; juniper scale, egg hatch, 571; common ninebark, full bloom, 596; American yellowwood, full bloom, 599; and arrowwood viburnum, full bloom, 621.

8. COMING ATTRACTIONS.

A. BUCKEYE LADY BEETLE BLITZ (BLBB). BLBB training includes a full day workshop for volunteers to learn more about lady beetles and participate in research efforts. This year BLBB training will be offered in Columbus, Wooster, and online. Sign up for one of our 2013 training sessions using the registration links below. Registration is $20. Space is limited please register soon!
* May 20, 2013, 9 a.m. - 3:30 p.m., 4H Center, Columbus, to register visit the following web site: [http://www.regonline.com/Register/Checkin.aspx?EventID=1220148].
* May 22, 2013, 9 a.m. - 3:30 p.m., Fisher Auditorium, OARDC, Wooster, to register visit the following web site: [http://www.regonline.com/Register/Checkin.aspx?EventID=1223717].
* Online Training: Interested in attending an online version of our workshop? Contact Mary Griffith [Griffith.483@osu.edu] to register before May 15, 2013.

B. OHIO'S INVASIVE SPECIES SERIES, JUNE 2013, OSU MANSFIELD CAMPUS. Invasive species come in all shapes and sizes. Whether a plant, insect, fungus or vertebrate, each invasive species impacts their segment of the ecosystem in different ways. This seminar series focuses on some of the key issues associated with non-native, as well as how to identify them and deal with them in your own backyard.
* June 4 - This evenings topic will cover two non-native invasive insects impacting Ohio's trees. Learn how to identify emerald ash borher (EAB) and Asian longhorned beetle (ALB) and understand their impact on your trees.
* June 11 - While EAB and ALB have gotten a lot of attention lately, there are still other non-native pests that you should be aware of. This seminar will cover gypsy moth, thousand canker disease on black walnut, viburnum leaf beetle and hemlock wooly adelgid.
* June 18 - Non-native invasives don't impact just our trees. This evening seminar will focus on the impacts non-native invasives have on wildlife and the wood products our woodland produce.
* June 25 - The last seminar session will focus on specific non-native invasive plants. Characteristics for identification will be covered along with control options. Registration for each seminar is $15 OR register for all 4 seminars for $45. Information can be found on the website at [http://woodlandstewards.osu.edu].

C. DIAGNOSTIC WALKABOUT FOR THE GREEN INDUSTRY series is once again occurring around Ohio this summer. ONLA, AGI and OSU Extension will be hosting 7 of these events in 2013: June 6, Cleveland Metroparks Zoo; June 27, BGSU Firelands, Huron; July 18, Mingo Park, Delaware; August 1, Stan Hywet Hall and Gardens, Akron; August 15, Toledo Botanical Gardens; September 12, Inniswood Metro Gardens, Westerville; September 26, Sunset Memorial Park, North Olmsted. Pre-registration is required and class size is limited to 30 per class. ODA, ISA and OCNT credits available. For registration, location and pesticide credit information see: [http://www.onla.org].

9. BYGLOSOPHY. "Weather means more when you have a garden. There's nothing like listening to a shower and thinking how it is soaking in around your green beans." - Marcelene Cox

APPENDIX - ADDITIONAL WEBSITE RESOURCES:

Ask a Master Gardener Volunteer (Consumer Gardening Questions)
http://mastergardener.osu.edu/ask

Buckeye Turf
http://buckeyeturf.osu.edu

Emerald Ash Borer Information
http://ashalert.osu.edu
Growing Degree Days and Phenology for Ohio  
http://www.oardc.ohio-state.edu/gdd/

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

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

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 May 21st conference call:  Pam Bennett (Clark); Joe Boggs (Hamilton); Julie Crook (Hamilton); Erik Draper (Geauga); Gary Gao (Hort and Crop Science); Denise Johnson (Master Gardener Volunteer Program); Tim Malinich (Erie); Joe Rimelspach (Plant Pathology); Dave Shetlar (Entomology); Paul Snyder (OARDC and Secrest Arboretum); Amy Stone (Lucas); Nancy Taylor (C. Wayne Ellett Plant and Pest Diagnostic Clinic); and Curtis Young (Van Wert).

BYGL is available via email, contact Cheryl Fischnich [fischnich.1@cfaes.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].

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). Any materials in this newsletter may be reproduced for educational purposes providing the source is credited.

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.

Where trade names are used, no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears responsibility of consulting the pesticide label and adhering to those directions.

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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. TDD No. 800-589-8292 (Ohio only) or 614-292-6181.