BUCKEYE YARD AND GARDEN LINE 2015-18
08/06/2015

From: Denise M. Johnson (Lead editor and contributing author) and Cindy Meyer (Co-editor and contributing author).

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This is the 18th 2015 edition of the Buckeye Yard and Garden Line (BYGL). BYGL is developed from a Tuesday morning conference call of Extension Educators, Specialists, and other contributors in Ohio.

*****HOW TO: BUCKEYE YARD AND GARDEN LINE SUPPORT. The Ohio State University (OSU) Buckeye Yard and Garden Line (BYGL) writers need your support to continue this newsletter. OSU puts a great deal of resources into this project and we do not receive funding necessary for full support. We know you like BYGL, as in the 2014 Reader's Survey respondents indicated BYGL saved them $2.45 million dollars, 96% indicated BYGL was useful in their jobs, and 87% indicated BYGL helped with their diagnostic skills.

Funds will support on-going work of the Ohio State University Extension Nursery Landscape and Turf Team in matters regarding preparation, compilation and travel for the weekly April-October BYGL e-newsletter. Expenditures will include but not be limited to equipment such as cameras, upgrades of computers and related devices, management of the website, editing and webinar costs, and travel reimbursements.

Here's how you show your support:

This is the direct link to the OSU giving site: [http://go.osu.edu/byglsupport].

Or:

Go to [https://www.giveto.osu.edu/makeagift/OnlineGivingDonation.aspx?fund=315145] and click on "search," then enter the fund number into the box. The fund number is 315145 and the name is Buckeye Yard & Garden Support. The fund, its name and description will appear in a new, smaller box. Click "Select this fund."

Then, you can either leave the default $100 in or change it; and fill out the remaining form (name, address, etc.). The form will walk you through. You can either do a one-time gift or recurring (monthly, etc.).

Also, if you would like to make a larger gift, please contact Jennifer Heller ([heller.4@osu.edu]), the Director of Development for the OSU College of Food, Agricultural and Environmental Sciences with your name and contact information. Jennifer's cell phone number 614.975.1317 and she will be more than happy to speak with you.

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1. PLANTS OF THE WEEK.

*ANNUAL - PORTULACA (*Portulaca grandiflora*). Portulaca is very showy right now in many Ohio flower gardens. This fuss free, easy-to-grow annual, which is also called Moss Rose or Rose Moss, grows well in hot, dry conditions. The plants have finely textured, succulent leaves with a cactus like flower that come in shades of red, pink, white, yellow, orange and purple. Plants can reach a spread of 2’ and are great in garden edges or containers.

Author: Cindy Meyer, meyer.842@osu.edu

For More Information, see:
Cornell University
http://www.gardening.cornell.edu/homegardening/scene3552.html

North Carolina State University Cooperative Extension
https://plants.ces.ncsu.edu/plants/all/portulaca-grandiflora/

*PERENNIAL - MOUNTAIN MINT (*Pycnanthemum muticum*). Mountain mint is in bloom right now, and it is covered with a spectacular variety of butterflies, bees, and wasps. This plant is also called short-toothed mountain mint or clustered mountain mint. It is a clump-forming perennial that typically grows 2 - 3’ tall. It is native to Ohio where it typically grows in grassy open places, meadows, fields, and woodland areas. This plant was used by Native Americans for the treatment of fevers, colds, stomach aches, and other minor physical ailments. Mountain Mint is easily grown in full sun to part shade with moist to medium moisture and in well-drained soils. The most prolific flowering occurs in full sun but mountain mint also performs well in bright shade. In optimum conditions, mountain mint can be a vigorous grower spreading by rhizomes; but despite its name, it is not invasive as many of the true mints in the genus *Mentha*. Mountain mint can be propagated by seed or division. The leaves of this plant are a pale blue-green with a velvety appearing texture that frames the round heads of the tiny white flowers.

*Pycnanthemum* comes from the Greek words *pyknos* meaning dense and *anthemion* meaning floral forms in a flat radiating cluster, intimating why these plants can accommodate a wide variety of pollinators at the same time. Mountain mint is a great addition to your landscape but works best when allowed to naturalize in native plant gardens, herb gardens, butterfly gardens or meadows.

Author: Julie S. Crook; crook.46@osu.edu

For More Information, see:
Missouri Botanical Garden – Plant Finder
[http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=293531&isprofile=0&]
*WOODY - SMOKEBUSH (Cotinus coggyria).* Smokebush, also known as smoketree is an upright, multi-stemmed plant that can be grown as a large shrub or a small tree. It is native to southern Europe to central China. It gets its common name of smokebush not from the inconspicuous small yellow-green flowers but from the plumy hairs (attached to elongated stalks on the spent flower clusters) which turn a purplish pink, covering the tree with fluffy, smoke-like puffs throughout the summer. Smokebush grows best in full sun and well-drained soils. It typically grows 10 - 15' tall with an equal spread. Depending on the cultivar the leaves can be bluish-green, purple or yellow during the growing season. The fall foliage can be quite showy ranging in colors of yellow, orange, and red. In the landscape, smokebush can be used as a screen, in mass, or as a specimen. 

*Author: Julie S. Crook; crook.46@osu.edu*

**For More Information, see:**
Virginia Cooperative Extension
[https://pubs.ext.vt.edu/2901/2901-1068/2901-1068_pdf.pdf]

Missouri Botanical Garden Plant Finder
[http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=c390]

University of Connecticut Plant Database -

*VEGETABLE - ZUCCHINI (Cucurbita pepo).* With the weather challenges this year, zucchini or summer squash may be one of the bright spots for this growing season. In central Ohio, gardeners are having a bumper crop and the plants are continuing to produce. There are four groups of summer squash: zucchini, yellow summer squash, patty pan and Cousa or Mideast. All varieties are warm-season vegetables that are planted in full sun after the frost date and when the well-drained soil has warmed. Summer squash are harvested while the rinds are soft and generally are best when picked young and not allowed to grow too large and hard.

The zucchini is the club-shaped fruit that is traditionally green but comes in dark black-green (Black Beauty) to creamy greenish (Vegetable Marrow White Bush) to green with light stripes (Cocozelle). The number of new varieties of zucchini is astounding! They have been developed to resist and tolerate powdery mildew, mosaic virus and even to produce mainly male blossoms. One variety developed to resist zucchini yellow and watermelon mosaic viruses is the hybrid called Terminator. Anton is resistant to powdery mildew; while Profit, an erect plant, is tolerant to zucchini yellow mosaic virus and produces a mottled 6" fruit. If you like to fry the male blossoms, consider Costata Romanesco which produces male blossoms and bears 20 lb. gray-green fruits.

Summer squash are subject to several pests and diseases including squash bug, squash vine borer, striped cucumber beetle, bacterial wilt, downy mildew, powdery mildew, botrytis, mosaic virus, and scab. Good management practices of rotating crops, spacing plants for good airflow, watching and removing insects as well as good sanitation practices of removing infested plants and destroying old plant material will help increase and extend your harvest.
While enjoying this year's harvest, consider your plans for next year's summer squash crop. An interesting site to investigate is the citizen science program at Cornell University's Vegetable Varieties for Gardeners. You do need to register, but there is no cost, and you can browse summer squash varieties or other vegetables and read comments from producers and home gardeners on particular varieties.

Author: Denise M. Johnson; johnson.2924@osu.edu

For More Information, see:
University of Illinois Extension, Watch Your Garden Grow, Summer Squash [http://extension.illinois.edu/veggies/ssquash.cfm ]


Cornell University, Vegetable Varieties for Gardeners (Citizen Science Program) [ http://vegvariety.cce.cornell.edu/main/myVeggies.php ]


*WEED - YELLOW WOODSORREL (Oxalis stricta).* Yellow woodsorrel has been flowering for a number of months and is now beginning to release seeds. This shallow-rooted perennial thrives in fertile, moist soil but can tolerate a number of environmental conditions. It reproduces primarily by seed but can also spreads by rhizomes.

While the weed emerges early in the spring, it becomes noticeable as it begins to flower. The color of the plant can range from lime-green to purple. The stems can be hairy and the leaves are alternate. The leaves are very similar to clover, with three heart-shaped leaflets. The leaflets fold during the midday and at night. In turf, it is a small plant (1.5") but at the edge and in landscape beds where there is less competition, it can reach heights of 20". The plant can flower from May to Sept. and the flowers are yellow and have five petals. The seeds are formed in okra-shaped capsules and when the seed pod splits the seeds are forcefully ejected up to 12'.

Manual control can be difficult due to the long rhizomes and the fibrous nature of the root system. Appropriate lawn maintenance methods can help control the plant in turf. Some pre-emergent herbicide options are Surflan, Dimension, and Jewel. Post-emergent options are limited due to risk to non-target plants. Products containing glyphosate can be considered. When using herbicides always follow label directions.

Author: Jacqueline Kowalski; kowalski.124@osu.edu

For More Information, see:
University of Maryland Extension, Oxalis (Yellow Woodsorrel) [ https://extension.umd.edu/learn/oxalis-yellow-woodsorrel ]
2. HORT SHORTS.

A. CUCURBIT FLOWER CRAZE. Lovers and growers of cucurbits (i.e. gourds, winter squashes, pumpkins, etc.) often call into the office asking why the fruits are not setting or developing on their vines. They bemoan the fact that something has to be wrong because there are certainly plenty of flowers, but none are developing into a pumpkin or squash. As they describe how the flower looks, I just have to smile and explain the reason for no fruit is because they are the male flowers! Male flowers will never develop fruit and that is perfectly normal. Most people are surprised to discover that both male and female flowers exist on the same plant. Male flowers, which contain the pollen, always develop up on slender stalks, away from the main vine. Female flowers contain the ovary and are always attached close to the main vine by a very thick peduncle (stem). If the female flower is pollinated and fertilized correctly, it will ultimately develop into the desired fruit.

Another unique trait of cucurbits is that most of the flowers first produced on the vines of these plants, will always be males. Female flowers will typically begin to be produced about 2 - 3 weeks later, depending on how rapidly the vine can create the required increment of growth (internode) required to produce a flower at the next node.

Author: Erik Draper, draper.15@osu.edu

For More Information:
Missouri Botanical Garden- "Hand Pollination of Squash and Pumpkins"

3. BUGBYTES.

A. LEAFMINERS "FLAMING" HOST TREES. Curtis Young reported observing the feeding activity of the BASSWOOD LEAFMINER (Baliosus nervosa a.k.a. Baliosus ruber) and the LOCUST LEAFMINER (Odontota dorsalis) adults. Black locust (Robinia pseudoacacia) trees along highways and American linden (Tilia americana) trees in woodlots, especially in northern Ohio, are showing the "fired" appearance from the skeletonizing feeding of these leaf feeding beetles. To add to the mayhem of browning trees, the MIMOSA WEBWORM (Homadaula anisocentra) is feeding heavily on honeylocust (Gleditsia triacanthos) foliage as well.

The basswood leafminer occurs throughout the eastern US and Canada, wherever lindens grow. And since lindens grow throughout Ohio, the basswood leafminer can be found in most areas of Ohio. However, the most severe defoliation by the basswood leafminer is concentrated in northwest and north central Ohio. In these areas of Ohio, linden trees can be spotted in woodlots from great distances, because they are brown in color against a background of green of all the other tree species that are unaffected by the basswood leafminer.

Locust leafminer can be found throughout the range of the black locust tree. In Ohio, damage from both the larval and adult feeding is evident in the northeast to southwest portions of the state. Northwest Ohio appears to be less affected by the beetle.

Joe Boggs had reported heavy localized populations of mimosa webworm on honeylocusts in southwest Ohio (BYGL 2015-16, July 23, 2015). Curtis Young is now seeing similar population developments in northwest Ohio. Between these three insects, there could soon be quite a few browned out trees in Ohio. However, unless these trees are in prominent positions in landscapes, there is little need to attempt managing these insects.

Author: Curtis E. Young, young.2@osu.edu
B. TWIG GIRDLER. Dave Shetlar reported observing the handiwork of a "twig girdler" on oaks in central Ohio. Dave was drawn to the trees because of wilted, brown foliage at the tips of the twigs on various branches ("flagging"). A close examination revealed a deep, trench-like groove chewed to the xylem (wood) that encircled each of the affected twigs; the resulting structural weakening made the twigs easy to detach from the tree.

The common names of "twig girdler" and "twig pruner" are sometimes used interchangeably to describe the damage produced by several types of beetles; however, the difference is whether the damage is "outside in" or "inside out." The girdling observed by Dave was produced by an adult beetle chewing around the outside of the twig; she then lays an egg on the part of the twig beyond the cut. The resulting larva feeds inside the affected twig. One of the most common species found on oak as well as a number of other deciduous trees is a longhorned beetle (family Cerambycidae) called the OAK TWIG GIRDLER (*Oncideres cingulata*).

The damage produced by a "twig pruner" results from a larva feeding inside a twig. Twig pruner larvae tunnel inside twigs. As they approach pupation, the larvae chew concentric cuts from the inside out to eventually cause the affected twig to detach from the tree (= prune the tree!). An examination of affected twigs will reveal a very clean cut. However, the damaged twig may occasionally remain partially attached to produce flagging symptoms that resemble damage caused by a girdler. One of the most common twig pruners is another longhorned beetle species, *Elaphidionoides villosus*. This twig pruner may be found on oaks as well as black locust, hickory, maple, linden, honeylocust, redbud, walnut, elm, sweetgum, and ornamental flowering fruit trees.

Twig girdlers and pruners do not typically cause harm to the overall health of their host trees. Indeed, there is some speculation that their natural pruning activity may actually increase carbohydrate production by enhancing the canopy density of affected trees.

Author: Joe Boggs; boggs.47@osu.edu

More Information:
(University of Missouri Fact Sheet)
[http://extension.missouri.edu/p/g7276](http://extension.missouri.edu/p/g7276)

C. WEBWORMS. Participants at this week's Southwest Ohio BYGLive! Diagnostic Walk-About observed two types of webworms on host trees that are sometimes mistaken for one another. They found FALL WEBWORM (*Hyphantria cunea*) on native black walnut (*Juglans nigra*) and AILANTHUS WEBWORM (*Atteva aurea*) on its odoriferous namesake host, the non-native Tree of Heaven (*Ailanthus altissima*).

At first glance, tree of heaven and black walnut trees may look very similar owing to the general shape and outline of their canopies that are punctuated by pinnately compound leaves consisting of lanceolate leaflets. Of course, a second glance (and sniff) will reveal contrasting characteristics, particularly at this time of the year. Female tree of heaven trees produce dense clusters of samara (= "helicopter") seed while black walnuts produce … nuts. A "scratch and sniff" test will highlight the strong odor emitted by tree of heaven; black walnuts smell like the walnut nut meat. The trunks of black walnut have deeply fissured dark brown bark while the smooth bark of tree of heaven is light gray with shallow, lightly colored fissures developing on the oldest stems.

Both fall webworm and ailanthus webworm have multiple generations per season and the caterpillars feed inside silk webbing enveloping leaves. Fall webworm nests may be found on a wide range of host trees, particularly members of the *Prunus* genus; however, they do not feed on tree of heaven. Ailanthus webworms are only found on tree of heaven. They are capable of defoliating their namesake host and they may feed on stem tissue once all leaves are devoured. Unfortunately, such extreme damage is rare on large trees. Although feeding by this webworm has yet to halt the spread of tree of heaven, hope springs eternal since this is one of only a few insects known to infest this encroaching interloper.

Author: Joe Boggs; boggs.47@osu.edu
D. DOGWOOD SAWFLY. Dave Shetlar reported finding the larvae of a type of sawfly (*Macremphytus testaceus*) that feeds on dogwoods in Ohio. There are three species of sawflies in the genus *Macremphytus* that feed on dogwood leaves in the eastern U.S.: *M. testaceus*; *M. semicornis*; and *M. tarsatus* which is the only species with the approved common name of "dogwood sawfly." The three species share a number of characteristics: they have one generation per season; they are mid-to-late season pests; they may be found feeding on several species of dogwood; and their final instar larvae often bore into wood to spend the winter.

The larvae of all three species also change their appearance as they molt from one instar stage to the next; however, *M. testaceus* larvae are true chameleons. Newly hatched larvae look like small caterpillars; they are amber in color and are somewhat transparent. The larvae emerge from their second molt covered with a white powdery material. When the larvae are resting, they curl into a knot and look like bird droppings to the casual observer. At their final molt, the larvae are about 1" in length and they lose their white powdery covering, revealing a yellow body with black patches. This final color phase is shared with the other two species.

The behavior and damage caused by the larvae of this and the other two sawfly species also changes as they develop. The newly hatched larvae feed together, skeletonizing the leaves. As the larvae mature, they consume the entire leaf, except the mid-vein. Individual branches or entire plants may be completely defoliated. The mature yellow and black larvae crawl from their host trees in search of overwintering sites; they may be found crawling along fence rails, sidewalks, etc.

Aside from sometimes appearing in unexpected places which may produce a misidentification, the mature sawfly larvae also practice an unusual overwintering behavior which can misdirect identification. The mature larvae bore into softwood to produce an overwintering chamber. While they usually select decaying wood, the larvae may occasionally bore into redwood siding or outdoor furniture. Thus, they are sometimes mistaken for a true wood-boring insect.

Author: Joe Boggs; boggs.47@osu.edu

4. DISEASE DIGEST.

A. THE TWISTED STORY OF ROSE ROSETTE DISEASE. Participants at this week’s Southwest Ohio BYGLive! Diagnostic Walk-About also observed multiflora rose being hammered by rose rosette disease (RRD) which is not a bad thing. However, the group discussed the appearance of RRD in recent years on Knockout roses. Roses in this group have been heavily used in landscapes because of their relative adaptability to a wider range of landscape conditions compared to their hybrid-tea cousins. Unfortunately, RRD has become a serious issue in Ohio landscapes, particularly in mass plantings.

RRD was first reported in 1941 on multiflora rose Manitoba, Canada, Wyoming, northeastern California, and Nebraska. It took many years for scientific sleuthing to reveal the exact cause of the disease and the mechanism for disease transmission. Indeed, until very recently, the pathogen was thought to be a phytoplasma; these are prokaryotic (no nucleus) cell that lack cross walls. However, phytoplasmas did not "fit" with the discovery that RRD is transmitted by an eriophyid mite, specifically the ROSE LEAF CURL MITE (*Phyllocopetes fructiplilus*) that inhabits the shoot tips and leaf petal bases of roses. Phytoplasmas inhabit plant phloem and eriophyid mites do not have the phloem-piercing mouthparts of leafhoppers or psyllids; two common vectors of phytoplasma diseases.

Research published in 2011 by scientists from the University of Arkansas and Oregon State University showed the true causal agent for RRD to be a new negative-strand RNA virus that has been tagged, ROSE ROSETTE VIRUS (RRV). Readers may recognize the name because "RRV" was used before on the road to discovering the true culprit when it was believed a virus was involved prior to the phytoplasma side-trip. A virus once again "fits" because virus particles are not limited to phloem and may be readily available within a range of plant tissue to hitch-hike on eriophyid mites. Currently, the disease is
diagnosed based on observed symptoms since there is no laboratory method to detect the virus; however now that the virus has been identified, diagnostic tests may be developed.

The mite alone causes little damage; however, the virus produces a range of symptoms that first become evident in the spring and intensify as the season progresses. Infected plants produce succulent bright red shoots covered in stunted, twisted stems and leaves. The leaves may also appear red, chlorotic, or a combination of both symptoms and the shoots may be covered by an abnormally high number of thorns. The twisted growth may be mistaken for damage caused by a plant growth-regulator herbicide such as 2, 4-D.

The disease is lethal to multiflora rose and it was originally thought that the pathogen was specific to this non-native noxious weed. However, it has become clear in the intervening years that RRD also infects virtually all cultivated roses. Once plants become infected, all parts of the plants are infectious. Pruners used on infected plants can spread the pathogen to non-infected plants. There are no pesticides available that will control the pathogen and applications targeting the eriophyid mite have produced largely disappointing results, so management should focus on removing the pathogen by removing infected plants. Entire plants, including the roots, should be removed and destroyed; while the pathogen does not survive in the soil, it will survive in roots. If possible, rose growers should focus their attention on eliminating nearby multiflora rose plants since the plants can serve as reservoirs for this disease.

Author: Joe Boggs; boggs.47@osu.edu

For More Information, see:
(Virginia Tech Fact Sheet)
http://pubs.ext.vt.edu/450/450-620/450-620.html

5. TURF TIPS.

A. PERIODICAL RACCOON AND SKUNK DAMAGE. Dave Shetlar reported that he has received numerous phone calls and e-mails in recent weeks from turfgrass managers located in eastern Ohio who are seeing areas of turfgrass that have been excavated by skunks and raccoons, particularly under or near large deciduous trees. The timing and location of the damage is no accident: The eastern part of the state, along with PA, WV, VA, and MD will experience the emergence of Brood V of 17-year PERIODICAL CICADAS. The furry insectivores are digging for late instar cicada nymphs located not too far below the soil surface.

Periodical cicadas (Magicicada spp.; family Cicadidae) spend either 13 or 17 years underground as nymphs sucking juices from tree roots. Adults emerge in huge numbers in the spring, usually sometime in mid-to-late May in Ohio. There are seven recognized species of periodical cicadas; three species require 17 years to complete their development while four only take 13 years. Each mass emergence usually has more than one species; however, each group of synchronously emerging species is referred to as a “brood” and given a distinct Roman numeral.

Periodical cicadas are a poster child for an antipredator species survival strategy called “predator satiation.” The huge numbers that occur during a brood emergence means that even after predators eat their fill (time and again!) there will remain enough males and females to reproduce and ensure the survival of the species. Of course, this strategy extends to the nymphs meaning that huge numbers of meat morsels exist underground to tempt skunks and raccoons.

Unfortunately, there is little that turfgrass managers can to do deter the furry excavators. Unlike other soil inhabiting insects such as white grubs, cicada nymphs are difficult to kill with insecticides for several reasons. First, they have piercing-sucking mouthparts and feed like giant aphids; they will not consume soil applied insecticides in the way that white grubs with chewing mouthparts will ingest the toxicants. Second, systemic insecticides move up not down; they will not reach the tree's roots. Third, size matters when it comes to toxic dosages. The animal damage usually does not occur until the cicada nymphs are
near their maximum size; it takes more toxicant to kill them which limit the impact of contact insecticides. Fortunately, the flurry of furry turfgrass excavation is only a periodical problem.

Author: Joe Boggs; boggs.47@osu.edu

B. TURF TIPS VIDEO. Todd Hicks and Joe Rimelspach discuss turf conditions around the state and the concern over shallow roots. Listen to their discussion at: https://otf.site-ym.com/news/244093/Turf-Tips---July-31-2015.htm

6. INDUSTRY INSIGHTS.

A. AMBROSIA BEETLES. Dave Shetlar reported that nurseries in northeast Ohio are experiencing a second damaging flush of ambrosia beetles this season. Depending upon the species, it is not unusual for ambrosia beetle activity to peak in the spring, subside for a few months, then rise again in late summer to early fall. Beetle infestations are not only found in nurseries; newly planted trees in landscapes may also be attacked.

Ambrosia beetles are closely related to bark beetles; they belong to same subfamily (Scolytinae) within beetle family Curculionidae (Snout and Bark Beetles). Both ambrosia beetles and bark beetles are very small, measuring only 1/8 - 2/8” long, and they produce tiny shot-sized holes in the bark. In fact, old ambrosia beetle holes may be mistaken for those produced by bark beetles. However, the hole-making behavior and larval feeding activity of ambrosia beetles is very different from bark beetles. Bark beetles are phloem feeders, both in the adult and larval stages. Adults make holes through the bark on their way into trees to lay eggs and new adults produce new holes through the bark when they emerge. All of the bark beetle feeding-boring damage is confined to the phloem with some slight etching of the outer layer of xylem.

Ambrosia beetles bore through the bark and straight into the xylem (white wood). Female beetles push a mixture of excrement (frass) and wood particles backwards as they tunnel forward in the xylem to lay their eggs. The sticky mixture clings together as it is extruded from the entrance holes and has been commonly described as looking like "frass toothpicks". Seeing frass toothpicks emerging from the bark is a sure sign that it is ambrosia beetles, and not bark beetles, that have initiated an attack! Conversely, since bark beetles feed in the phloem which is loaded with sap vessels, seeing heavy sap flowing from holes in the bark typically signals a bark beetle attack rather than ambrosia beetles.

As the female beetles bore through the xylem, they release fungi from specialized oral structures called mycangia and the fungi colonize the wood. Ambrosia beetle larvae do not eat wood; instead, they eat the fungal "ambrosia" that grows from the walls of the tunnels created by the adults. Some types of ambrosia fungi will stain wood producing distinctive dark blue to black streaks in the wood. The beetle’s tunneling activity coupled with the fungal wood staining can seriously degrade lumber quality. Once the larvae complete their development, which occurs deep within the xylem, the new crop of beetles make their way out of trees using the same tunnels and holes created by their parents; they do not produce more shot-holes through the bark.

Unfortunately, ambrosia beetles tend to attack trees en masse which means halting the onslaught once trees become festooned with frass toothpicks is problematic. Successful ambrosia beetle management strategies for landscape trees include addressing tree stress-inducing issues, particularly on newly planted trees, such as poor site preparation, improper installation, and poor watering practices. Indeed, research conducted by Mike Read and Chris Ranger with the USDA-ARS Hort Insects Lab in Wooster, OH, showed that trees that were stressed by too much water exuded ethanol, a well-known ambrosia beetle attractant.

Heavily infested trees should be removed and destroyed and newly planted trees located nearby should be protected with bark applications of insecticides formulated as long-residual borer sprays, such as
Onyx (bifenthrin) or Astro (permethrin). Where ambrosia beetle populations are heavy, applications must be made to trunks and branches at 4-week intervals throughout the growing season.
Author: Joe Boggs; boggs.47@osu.edu

For More Information, see:
(Clemson University Fact Sheet)
http://www.clemson.edu/cafls/departments/esps/factsheets/turforn/ambrosia_beetles_to22.html

(University of Tennessee Extension IPM Quick Facts)
https://extension.tennessee.edu/publications/Documents/W289-P.pdf

7. WEATHERWATCH. The following weather information summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations spanning the dates from January 1– July 31, 2015, with the exception of the soil temperatures which are readings from Wednesday, August 4, 2015 at 11:05 p.m.

As we look at year-to-date precipitation totals for the first seven months of 2015, three of the four weather stations are reporting above average amounts. Although this might be difficult to believe because of the amount of rainfall that was received this spring and summer, it does remind us that this summary is for five specific locations in Ohio. Recording your own weather and rainfall amounts can be a useful tool and is accomplished by many through journaling and/spreadsheets. It is also a good reminder that there are 15 OARDC weather stations in total across Ohio and can be an excellent resource if you live close to one of those stations. Those additional stations not listed below include: Avon; Delaware; Eastern; Jackson; Madison; Muck Crops; North Central; Pemberville; Perry; and Western.

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<td>NE</td>
<td>57.3</td>
<td>36.8</td>
<td>21.77&quot;</td>
<td>24.2&quot;</td>
<td>73.67/74.09</td>
</tr>
<tr>
<td>Hoytville</td>
<td>NW</td>
<td>56.2</td>
<td>36.3</td>
<td>24.66&quot;</td>
<td>20.0&quot;</td>
<td>71.55/72.56</td>
</tr>
<tr>
<td>Columbus</td>
<td>Central</td>
<td>59.9</td>
<td>40.6</td>
<td>27.90&quot;</td>
<td>27.0&quot;</td>
<td>83.21/82.78</td>
</tr>
<tr>
<td>Piketon</td>
<td>South</td>
<td>62.2</td>
<td>39.7</td>
<td>28.46&quot;</td>
<td>25.4&quot;</td>
<td>76.63/77.69</td>
</tr>
</tbody>
</table>

For a link to the OARDC Weather Stations, visit: [http://www.oardc.ohio-state.edu/newweather/]
Author: Amy Stone, stone.91@osu.edu

8. COMING ATTRACTIONS.

A. TREE TOUR & TALKS - AUGUST 25, 2015. Have you ever seen a Kinki Winki? Or a Zydico Twist? Join us for an opportunity to see an amazing collection of rare and unusual trees on this tour of a private property, "Barboretum". Afterward, enjoy lunch and the presentations of our 3 renowned speakers. Everyone is welcome and Master Gardeners receive 5 CEUs. This event will take place in Miami County, in Tipp City. Contact Deb Castle at debcastle@live.com or 937-409-1582 to register. Cost is $60 per person.

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

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

9. BYGLOSOPHY. "The keeping of bees is like the direction of sunbeams." - Henry David Thoreau

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
beelab.osu.edu

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

Ohio Woodlands Stewards Program
http://woodlandstewards.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 August 4th conference call: Joe Boggs (Hamilton); Julie Crook (Hamilton); Erik Draper (Geauga); Denise Johnson (Master Gardener Volunteer program); Jacqueline Kowalski (Cuyahoga); Cindy Meyer (Butler); Dave Shetlar (Entomology); 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.

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.

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: [http://go.osu.edu/cfaesdiversity].