BUCKEYE YARD AND GARDEN LINE 2015-26
10/01/15

From: Amy Stone (Lead editor and contributing author) and Joe Boggs (Co-editor and contributing
author).

Pam Bennett, Joe Boggs, Jim Chatfield, Julie Crook, Erik Draper, Denise Johnson, Jacqueline Kowalski,
Ashley Kulhanek, Cindy Meyer, Amy Stone, Nancy Taylor, Marne Titchenell and Curtis E. Young
(Contributing authors).

BYGL is available online at: [ http://bygl.osu.edu ], a website sponsored by Dr. Tim Rhodus, Professor
and designed by Ernest Witney, Systems Manager, Horticulture and Crop Science, Ohio State University
as part of "Horticulture in Virtual Perspective." The online version of BYGL has images associated with
the articles and links to additional information.

This is the 26th 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.

PLEASE MAKE A CONTRIBUTION TO KEEP THE BYGL RUNNING! If you value the information we
provide in the BYGL and want the newsletter to continue, we need your help! The Ohio State University
(OSU) provides significant resources for producing the BYGL, but we do not receive funding necessary
for full support. If we do not receive sufficient funding through your contributions, we will need to
consider all options including discontinuing the BYGL.

To support the BYGL, visit the OSU BYGL gift site: [ http://go.osu.edu/byglsupport ].

You can make a corporate gift or personal gift and you can give one time or monthly. You can also make
your gift a "Tribute" contribution in honor or in memory of someone. The default contribution is $100;
however, you can click any of the boxes under "Select a gift amount." Or, you can select to "Enter a gift
amount" to contribute any amount.

If you have any questions about giving to support the BYGL or to support OSU, 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.

In This Issue:

1. PLANTS OF THE WEEK: Annual (Ornamental Peppers); Perennial (Little Bluestem); Woody (Osage
Orange); Vegetable (Spaghetti Squash); and Weed (Oriental Bittersweet).
2. HORT SHORTS: Using The CWEPPDC Is A Good Investment; A Walk On The Wildside: To Feed
Or Not To Feed (The Ruby-Throated Hummingbird and Eastern Bluebird); and Protecting Trees From
Deer Rubs.
3. BUGBYTES: Grasshoppers Abound; and Brown Marmorated Stink Bugs On The Move;
4. DISEASE DIGEST: Bacterial Scorch On Oaks.
5. INDUSTRY INSIGHTS: Don’t Move Firewood – It Still Bugs Me!
6. WEATHERWATCH.
7. COMING ATTRACTIONS: Septic Systems Program; NW Ohio Woodland Owners Workshop; The
OSU Green Industry Short Course, The Ohio Turfgrass Foundation Conference and Tradeshows, and
Trees on Tap.
8. BYGLOSOPHY.

APPENDIX - Additional Website Resources.
1. PLANTS OF THE WEEK.

*ANNUAL - ORNAMENTAL PEPPERS *(Capsicum annuum)*. These plants may not be the first annual you would pick up in the spring at the garden center when you are starving for color. They look just like regular eating peppers and aren't exactly an impulse purchase early in the season. However, once they start producing peppers, they add great color and a unique look in the garden. Ornamental peppers are grown primarily for their fruits and from July until a hard frost their fruits can be stunning. Pepper fruit colors can be purple, orange, lime green, yellow, red and almost black. There can be all different colors of fruit on the same plant, depending on the species and they can change colors as they ripen.

In order to qualify as an ornamental pepper, plants must have fruits that sit above the foliage and are visible to the passer-by. There are lots of great cultivars available with different heights and widths of plants, as well as colors and sizes of peppers. In addition, peppers such as 'Black Olive' and 'Black Pearl' have dark purple foliage that adds to the garden color in the early spring before the peppers start to show off. They do quite well in full sun and well-drained soil. For best pepper development, treat them like you would your garden peppers with regular watering.

You may not find these plants in the garden center in the early spring so consider starting them indoors from seed or direct seeding to the garden. You won't be disappointed in mid-summer all the way until fall. And, as an added bonus, the peppers are edible. However, most tend to be quite hot so you might want to be cautious when you first try them!

Author: Pamela J. Bennett; bennett.27@osu.edu

*PERENNIAL - LITTLE BLUESTEM *(Schizachyrium scoparium)*. You will find this North American prairie grass used quite often in landscapes and large commercial designs due to its great drought-resistance, ease of maintenance and excellent foliage color. It is being used in mass plantings along roads and highways, as well as in home landscapes. Little bluestem has a clump-growth habit and grows to around 1 - 2' in height and about as wide. The flowers appear in August and September and develop well above the foliage, giving it an airy appearance.

The silver-blue foliage looks great all summer and some cultivars have a nice fall color as well. 'Blue Heaven', introduced by the University of Minnesota has beautiful fall foliage of dark burgundy fading to red and eventually pink. Other little bluestem cultivars available include 'Carousel', 'The Blues', 'Jazz' and 'Prairie Blues'.

Little bluestem prefers well-drained, drier sandy sites; however, it tolerates heavier clay soils. The cultivars in the OSU Extension trials in Springfield, planted in heavy clay, have all done well this season. These trials are part of the National Grass Trials focusing on 17 species and cultivars of Panicum and 5 cultivars of little bluestem. There are 12 universities and one public garden participating in this multi-year trial. For more details and blog reports, go to: http://www.grasstrials.com

Author: Pamela J. Bennett; bennett.27@osu.edu

*WOODY – OSAGE-ORANGE *(Maclura pomifera)*. This fast-growing tree reaches heights of 30 - 50' with a similar width, yet has dense, decay resistant wood. A member of the Mulberry family (Moraceae) osage-orange is found in all 48 contiguous states thanks to its use as a living fence for livestock in the early history of the West. It provided a thick, thorny fence to contain animals until replaced by barbed wire in the 1870's. The American Indians also used osage-orange to make strong and very valuable bows. The tree has few insect problems, is deer resistant and has orange-colored bark for winter interest. The wood, bark and roots contain extracts that are being explored for their value as pesticides, medicines, manufacturing and other uses.
Osage-orange is gaining renewed interest in the urban landscape. According to the USDA Forest Service Bulletin 654, the osage-orange is "picturesque rather than beautiful, and possessing strong form, texture, and character." It is tolerant of most soils, is salt and drought tolerant, and is unaffected by urban air pollution. The deep glossy green foliage turns yellow late in the fall and drops it leaves almost simultaneous, late in the season. It grows best in full sun. Yes, it is gaining popularity - but this is not your grandmother's osage-orange with thorns and fruit.

There are distinct male and female osage-orange trees - it is dioecious. The female produces large round green fruit commonly called "hedge apples" that are 3 - 6" in diameter and may weigh over 2 lbs. It does require a male tree with flowers for pollination. These grapefruit-sized fruit ripen in September through October. You may have observed people collecting these hedge apples for placement in their basements to deter spiders. Joe Boggs emphasized that this is a myth; the best you can do is to use them to crush spiders. Recent research has found pesticide properties in the fruit but not in concentrations high enough to repel insects. If not collected, the fruit can be very messy, make walking difficult and provide unwanted seedlings.

Then why is there an increase in urban use of this tree? The answer is the male and thornless osage-orange (*Maclura pomifera* var. *inermis*). The thornless male eliminates the litter and scratches while providing the benefits already noted. Three well-known male and thornless varieties are 'White Shield,' 'Wichita' and 'Park.' One source preferred 'White Shield' because the young trees are without thorns; however, another source described 'Wichita' as particularly beautiful. Check these out and any newly developed varieties to add more diversity to your landscape. It is a tree highly prized in my landscape.

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

*VEGETABLE – SPAGHETTI SQUASH (*Cucurbita pepo*). Spaghetti squash is one of the true treasures of the fall harvest. It is low in calories and high in beta carotene and fiber. When baked or broiled, the flesh is scraped out and resembles spaghetti. Topped with butter or sauce, it is super tasty. Some recommended varieties are 'Vegetable Spaghetti', 'Orangetti' (semi-bush), 'Pasta' Tivoli' (bush) and 'Stripette'.

Spaghetti squash can be direct seeded or grown from transplants. To produce transplants, sow 2 - 3 seeds in 1 1/2 - 2" containers or trays 3 weeks before transplanting outdoors. Thin to 1 - 2 plants per cell with scissors. Spaghetti squash produces best in well-draining soils with a pH 6.0-6.5.

Plant spacing will differ with growth habit and are often planted in "hills". For vining types, plant seeds 1" deep per hill and thin to the best two plants and allow 5 - 6' between plants and 7 - 12" between rows. Plant semi-vining varieties plant seeds 1 deep and also thin to the best one or two plants. Allow 8' between rows. Plant bush varieties every 3' with 5' between rows. Thin to one plant per hill. Keep well weed until the vines and foliage cover the ground.

Pests that can be problematic for spaghetti squash are squash bug, cucumber beetle (which can both damage maturing fruits) and squash vine borer. Disease issues can include powdery mildew, bacterial wilt and to a lesser extent, downy mildew.

Harvest the fruit when the skin has darkened to a medium or darkish yellow and the rind has hardened. Leave about 2” of the stem and complete harvest before the first frost. Cure the fruit by keeping at room temperature for 10 - 20 days and then transferring to a cool place such as a basement, but do not allow it to freeze. Spaghetti squash cannot be stored as long as other winter squash and should be used within two months of harvest.

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

*WEED – ORIENTAL BITTERSWEET (*Celastrus orbiculatus*). A woody perennial vine once planted as an ornamental, this non-native has spread throughout the Northeastern United States westward into
Iowa and as far south as Georgia. Its aggressive growth can smoother trees, shrubs and other vegetation. This deciduous twining vine climbs up and over other plants and supporting objects. Sometimes referred to as the “kudzu of the north,” its dense foliage can shade out existing foliage and out-compete other plants in the landscape, woodlot and natural areas.

Oriental bittersweet closely resembles the native American bittersweet (Celastrus scandens). One can use fruit and leaf characteristics of the two species to compare and determine which one you have. The position of the flowers and fruit is often the most definitive means of comparing the two and determining which is which. The Oriental bittersweet has flowers and fruit located in the leaf axils along the length of the stem, whereas the American bittersweet has its flowers and fruit located at the terminal end of the branches. A resource that can help differentiate the two species and includes a usefull key has been published through the Great Lakes Service Center in Ann Arbor, Michigan and is available online at [http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_017307.pdf].

Control of this plant can be challenging. Mechanical control efforts alone typically are unsuccessful as pruning stimulates re-sprouting. In most cases, the most effective control of established stands of Oriental bittersweet includes the use of herbicides. Because its leaves persist much later in the season than many native species, fall treatments may minimize the collateral damage on desirable plants in the same area. Foliar applications, cut stump, basal bark, and injection techniques are all effective methods to help manage and hopefully eliminate this stubborn plant. Always read the label before use and follow all directions on the label.

Oriental bittersweet is a plant listed on the Great Lakes Early Detection Network App and one that we are especially interested in confirming its locations and spread in Ohio, especially in woodland and forested areas. For more information about the App and how you can help by reporting stands of bittersweet in your area, check out GLEDN at [www.gledn.org].

Author: Amy Stone; stone.91@osu.edu

2. HORT SHORTS.

A. USING THE CWEPPDC IS A GOOD INVESTMENT. Landscapes are big investments that sometimes make us dig into our pockets deeper when pest and disease problems arise. When these plant health issues arise many times a visual investigation of the plant is just not enough and requires a skilled diagnostician to provide diagnostic and support services in the identification of plant diseases and insect related problems.

The C. Wayne Ellet Plant Pest Diagnostic Clinic (CWEPPDC) provides these services at a low cost to the client. The CWEPPDC is able to provide diagnostic and support services utilizing the latest in research and education that only a large academic university can provide. Clients are empowered with diagnostic results and educational materials to be able to understand the problem and to be able to implement appropriate management measures.

Getting a good diagnosis of a plant problem is based on the quality of the sample. Sending good plant samples to the CWEPPDC or working through the county Extension office will increase the likelihood of a more accurate diagnosis.

Nancy Taylor, with the CWEPPDC, reminded BYGLers of the importance of quality samples. The entire plant is the ideal sample; however, since this isn't always possible, diagnosticians rely heavily on whatever parts of the sample are present. If one can't provide the whole plant, send a generous, complete sample. This includes living, healthy portions of the plant as well as the dead or dying portions. It is important to include the transition area between the living and the dying portions as well. For instance, if you suspect Verticillium wilt on a maple, send in branches the size of an adult finger, collected from a wilting, dying branch. It is unlikely that a 2” branch tip will test positive for this disease.
It is very important to supply as much information as possible when filling out the clinic sample form. Clinic staff should be able to get a complete mental picture of the problem from the details provided. Pictures are very helpful in diagnosing the problem as well. Remember, the better the sample and description of the problem, the greater the opportunity for getting an accurate diagnosis.

Finally, always remember that arriving at a correct diagnosis of a plant problem often involves the process of elimination. This means that a negative result is just as valuable as a positive result! For example, learning that wilted, brown leaves on a maple tree is not being caused by Verticillium wilt is just as important as learning that it is being caused by this fungal disease. A negative result eliminates one diagnostic path which will help to guide you to the correct pathway towards making an accurate diagnosis. For complete information on the CWEPPDC, refer to: http://ppdc.osu.edu.

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

B. A WALK ON THE WILDSIDE: TO FEED OR NOT TO FEED, THAT IS THE QUESTION. The RUBY-THROATED HUMMINGBIRD (Archilochus colubris) has been migrating through Ohio for the past month and we may continue to see hummingbirds passing through into October. Hummingbird migration can sometimes last into November. Homeowners often wonder when they should take their hummingbird feeders down for the year. Should all feeders be down by the end of the summer so as not to discourage hummingbirds from migrating? Will a hummingbird forgo the long, treacherous journey south in the face of a feeder full of sugary sustenance? The answer is no.

It is a common misconception that leaving hummingbird feeders up during the migration season will encourage hummingbirds to stay and not migrate. This is simply not true - a hummingbird, whether a seasoned veteran or spring chicken, knows when it is time to head south. What a feeder full of sugary goodness will provide is energy and fuel to begin or continue that long journey. Migration is extremely difficult, especially for such a small bird, but hummingbirds that are able to find good supplies of nectar or feeders have an easier time of it. Homeowners can leave feeders up through October, or when they no longer see hummingbirds visiting the feeder, and then take them down for the year. When should the feeders go back up? Hummingbirds usually return to Ohio in April, sometimes earlier depending on the weather, so have feeders cleaned and ready to go by the end of March.

Along similar lines, leaving bluebird nest boxes open during the winter will not encourage EASTERN BLUEBIRDS (Sialia sialis) to stick around and skip migration. Though it is true that not all bluebirds migrate; some will remain in Ohio during the winter. However it is typically the available food supply, and not open nest boxes that influences whether bluebirds choose stay or go.

If food is plentiful in the area before migration, especially berry producing trees and shrubs, bluebirds may stick around. Bluebirds don’t typically feed on seed at bird feeders, so don’t worry that feeders will encourage bluebirds to stick around either. During the fall and winter, the majority of a bluebird’s diet consists of fruit. Homeowners can plant sumac, blueberries, black cherry, tupelo, currants, wild holly, dogwood, hackberries, pokeweed, Virginia creeper and juniper berries to provide winter food for bluebirds. Winter is a tough season and food can become scarce, leaving bluebirds at risk of starvation. So why do some bluebirds choose to stick around? The payoff is big if bluebirds survive the winter - they get their first pick of nest boxes and natural cavities before the migrant bluebirds return. There are some definite advantages to skipping migration! In addition to planting fall and winter berry producing trees and shrubs, homeowners can also provide a heated water bath, and suet with berries in it to help overwintering bluebirds.

Author: Marne Titchenell, titchenell.4@osu.edu

C. PROTECTING TREES FROM DEER RUBS. While most wildlife is winding down in preparation of winter, Ohio's WHITE-TAILED DEER (Odocoileus virginianus) population is winding up as their breeding season approaches. Bucks are completing their antler growth, which occurs roughly from April through
August, and are ready to start polishing them up in order to attract a mate, or several mates, as is the case with deer. How do bucks polish their antlers? As the antlers grow, they are covered with a layer of soft, vascularized tissue, commonly referred to as velvet. Polishing requires the buck to rub the layer of velvet off in order to display their literal crowning glory, although sometimes the velvet will dry up and slough off without rubbing. Rubbing stations are often the trunks of saplings or small trees that fit in and around the antlers.

One of the most important strategies to remember when combating wildlife damage is to be proactive. Don't wait for the damage to occur; if a tree was damaged last year by rubbing, protect it now before it happens again. The white-tail deer breeding season ranges from October through December and is preceded by velvet removal, which typically begins in and continues through September. Saplings and small trees can be protected from deer rubs by using tree guards, which are wrapped around the trunk of the tree, preventing access to the bark. A tree guard should be 4 - 5' high with several inches of space between the tree and the guard. There are many types of tree guards commercially available made of various materials. Tree guards made of hard plastic or chicken wire can sometimes cause just as much damage to the tree as a buck rubbing on an unprotected tree. When a buck rubs on a tree protected by chicken wire, for example, the wire rubbing up against the tree can cut up the bark. A guard made of a softer plastic may work better to prevent damage.

Nursery growers often face a significant challenge when it comes to protecting their trees from deer damage. A second strategy, equally important as being proactive, is remembering there is no silver bullet to combat wildlife damage of any kind, especially white-tailed deer damage. This means that using multiple management options, sometimes in conjunction with one another, is the best strategy to take. A combination of tree guards and repellents can be effective. In areas sustaining moderate to severe deer damage, the best management option is to reduce the population. Deer damage permits allow the removal of deer outside of the hunting season and are issued by the Ohio Division of Wildlife, 1-800-WILDLIFE.

Rubbing is often most intense during and shortly after velvet removal, but can continue throughout the breeding season, as bucks will rub their glandular foreheads over rubs to leave a scent behind. If tree guards are used, be sure to leave them up through the winter.

Author: Marne Titchenell; titchenell.4@osu.edu

D. FARM SCIENCE REVIEW - HAVE YOU EVER EXPERIENCED THE REVIEW? Last week, Farm Science Review (FSR) was held in London, Ohio. A small town comes to life along Interstate 70 between Columbus and Springfield. FSR is a joint program between Ohio State University and Purdue University and is recognized as Ohio’s premier agricultural event. Typical crowds are usually well over 100,000 agriculture and natural resource enthusiasts from across the U.S. and Canada. Participants are able to peruse 4,000 product lines from roughly 620 commercial exhibitors and engage in educational workshops, presentations and demonstrations delivered by experts from Ohio State University Extension and the Ohio Agricultural Research and Development Center, and Specialists from Purdue. In addition to the agriculture side of the review - there is more. The Utzinger Garden on the main grounds is a beautiful setting maintained by the Clark County Master Gardeners. There are educational programs in the garden throughout the event. Across the highway, and a short shuttle ride away, is the Gwynne Conservation Area. You can tour the area and also take in educational sessions in the Woodland Tent, the Aquatic and Wildlife Tent and in the Log Cabin. Natural resource related displays and vendors are on the grounds. As you can see, there is something for everyone! Don’t miss next year's FSR September 20 - 22, 2016.

Author: Amy Stone; stone.91@osu.edu

3. BUGBYTES.
A. GRASSHOPPERS ABOUND. Joe Boggs reported observing high localized grasshopper populations in southwest Ohio. This is the time of the year when most species of grasshoppers have reached the adult stage and are most apparent. The four most common grasshopper species found in Ohio landscapes include the Differential Grasshopper (*Melanoplus differentialis*), Red-Legged Grasshopper (*M. femurrubrum*), Green-Legged Grasshopper (*M. viridipes*) and the Carolina Locust (*Dissosteira carolina*). All are capable of producing dramatically high populations (= outbreaks).

Adult differential grasshoppers measure around 1" in length and they have markings on their hind femurs that look like inverted chevrons. Adult red-legged grasshoppers are around 1" in length and they also have inverted chevrons on their hind femurs; however, the lower portion of their femurs and their entire tibias are bright red. Adult green-legged grasshoppers measure around 3/4" - 1" in length. Their front and middle legs are green and their hind legs are greenish-white with mottled black markings. However, their most striking feature is the length of their wings; adults have very short, stubby wings that are less than half the length of the abdomen which may cause mature adults to be mistaken for nymphs. The mottled coloration of the large (1 1/2 - 2" long) Carolina locust provides almost perfect camouflage. It may remain unnoticed until it takes flight revealing its striking hind wings that are blackish-brown and trimmed in yellow.

Populations for these and other grasshopper species can fluctuate dramatically from year-to-year with climate playing a critical role. Dry summer conditions support grasshopper egg survival which is one of the reasons grasshopper outbreaks are more common on the Great Plains compared to Ohio. Grasshoppers lay their eggs in the soil. Long periods with saturated soils can drown eggs and continually high soil moisture can support fungal infections that will kill the eggs. Conversely, low soil moisture favors egg survival. Thus, it is speculated that differing localized soil moisture conditions in some areas of Ohio, particularly this year, may be responsible for highly variable grasshopper populations throughout the state.

Both the nymphs and adults have chewing mouthparts and are capable of causing serious plant damage; however, as the nymphs mature to adulthood, the potential for grasshopper damage increases. This because late instar nymphs eat more compared to early instars and adult grasshoppers are more prone to move en masse to new locations. Severe problems may arise when adjacent agricultural crops are harvested or grasslands mature causing grasshoppers to move to find new food sources. Defoliation is the primary injury to plants, but fruit and ripening kernels of grain will also serve as food. Indeed, grasshoppers will feed on just about anything as long as they do not detect a feeding deterrent. Reports from the Great Plains are common of grasshoppers eating paper, paint, window screen, window or caulk, fence posts, hoe handles, etc. during grasshopper outbreaks. Heavy infestations of grasshoppers may require chemical treatment to reduce or prevent serious damage to sensitive plants.

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

B. BROWN MARMORATED STINK BUGS ON THE MOVE. BYGLers located in southern Ohio reported that brown marmorated stink bugs (*Halyomorpha halys*) are beginning to show-up on the outside walls and window screens of home and other structures. All agreed that this seems a bit early and may be a portent of things to come because the major migration of the bugs from forests, farms and landscapes onto and into homes and other structures typically occurs after the first frost. The current influx may just be the tip of the iceberg. Of course, all Ohioans may not experience the same stink buggy problem this fall. Erik Draper and Jaqueline Kowalski both reported that their monitoring traps in the northeast part of the state have caught very few stink bugs thus far this season which means that part of the state may dodge the bug bullet. However, Joe Boggs noted that he is commonly counting 5 or more bugs per window screen on his home in southwest Ohio.

The detection and monitoring of these non-native Asian imports in the U.S. and Canada has been aided by two discoveries: the recognition that the bugs are attracted to "black light" traps and the discovery of
a male-produced aggregation pheromone. Insect pheromones are chemicals that stimulate certain insect behavior; aggregation pheromones cause both males and females to congregate.

Researchers have refined the practical use of these monitoring tools by learning that the effectiveness of both methods varies throughout the season. Dave Shetlar (OSU Entomology) reported last season that black light traps in central Ohio were highly attractive from July into August with around a dozen bugs captured in each trap per night; however, trap catches dropped to around 1 - 2 bugs per night around mid-August. The relative attractiveness of the aggregation pheromone appears to also have an "on and off switch"; at certain times of the year, the traps are highly attractive while at other times of the year they are much less attractive. Research is continuing on refining the chemical mixtures used in the traps.

Light and pheromone traps are helpful with detecting and monitoring for brown marmorated stink bugs; however, they are not effective in reducing populations in and around homes. Even during the times of the season when both types of traps are attractive, the relatively few bugs captured in the traps are a drop in the bucket compared to the huge number of bugs that may be crawling in landscaping or lurking in attics! Other ineffective methods that have been touted to combat the bugs include spraying the outside of homes with soap solutions which just makes homes sticky and collect dirt until the next rainfall; keeping porch lights off is thwarted by bugs flying during the day; and aerosol "bug bombs" may kill bugs moving around inside homes, but will not kill bugs in walls and attics or prevent new bugs from entering homes. Worse, large numbers of dead stink bugs will eventually stink and the meat source will attract other home pests such as carpet beetles that feed on the stinking bodies. Even perimeter sprays have proven to be problematic providing only limited relief from the bug onslaught.

The best defense against these bugs buzzing or lumbering around inside a home is to prevent them from entering the home in the first place. The bugs are too large to squeeze through all but the largest of openings into homes. Although they may loiter on window screens, they're too large to fit through the screens. However, large openings created by the loss of old caulking around window frames or door jams provide easy access into homes. The same is true of worn-out exterior door sweeps including doors leading into attached garages. The bugs seem to have an affinity for open garages, so don't leave garage doors open. Bugs finding their way into attics and then into homes can be prevented by attaching window screening to the inside of attic vents. Loose fitting soffits also provide a bug-doorway into attics; they should be repositioned, covered with screening, or replaced.

If the bugs do find their way into a home, they should be dealt with carefully. Crushing them will release a repugnant cloud of stink bug stink! Just disturbing the bugs may cause them to release their pungent aroma from scent glands on their thorax and abdomen. Using a vacuum cleaner to suck-up the bugs is not recommended. Even a "fan-bypass" type (e.g. Shop-Vac) with the refuse bypassing the impeller will develop a distinctive eau de bug odor because the bugs become a bit disturbed as they swirl around inside the vacuum tank. Of course, a "direct-fan" type of vacuum cleaner should never be considered; passing the refuse through an impeller would create a horrible bug-blender!

Fragrant misadventures can be avoided by constructing a simple but effective "bug collector" using a plastic pint water bottle. Cut the top 1/4 of the bottle off and invert and insert the cut top to create a funnel into the bottom part of the bottle. The inverted cut-top should extend about 1/4" above the cut lip of the bottom part of the bottle so that a ring of tape will join the two parts together; the only way in is through the funnel. Holding the collector beneath a stink bug and gently nudging it with an inside edge will cause the bug to drop through the funnel and into the bottom chamber; the funnel prevents the captured bugs from escaping. A small amount of soapy water inside the chamber will kill the bugs reducing the chances of bug-stink escaping the collector. The collector will hold a sizable number of bugs before it and the bugs are discarded.

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

4. DISEASE DIGEST.
A. BACTERIAL LEAF SCORCH ON OAK. Nancy Taylor, director of the CWEPPDC, shared with BYGLers her diagnostic process on a pin oak sample from Hamilton County that showed symptoms of bacterial leaf scorch (BLS). Nancy informed the group that she confirmed BLS which is caused by the bacterium, *Xylella fastidiosa*. One of the classic diagnostic symptoms of this bacterial disease is the necrosis of leaf tissue, however another key symptom is a chlorotic front on the transition zone between the necrotic tissue and live, active tissue. Although this bacterium can be spread by both leafhoppers and treehoppers, it does not appear to spread from tree to tree very rapidly.

BLS may be present for many years in the host trees, which tend to gradually decline over time, before finally succumbing to this disease. The bacterium infects the xylem or water conducting tissues of the tree. The large concentrations of bacterial bodies results in a partial blockage of the water flow to the leaves, ultimately causing the symptoms of marginal necrosis, premature leaf browning and defoliation. Infected trees will typically leaf-out normally the following year; however, leaves on a few more branches turn prematurely brown in late summer. This cycle of browning with symptoms affecting leaves and branches, continues to repeat over a period of several years, until the entire tree turns prematurely brown. Trees gradually decline over the years as twigs, branches and limbs die from the continual onslaught of defoliation. Unfortunately, there is no cure for bacterial leaf scorch; therefore, one should be eventually prepared for the loss of the infected trees.

Because symptoms of this disease can be easily confused with abiotic, stress-related problems, it is strongly recommended to have the suspected samples diagnosed in plant diagnostic laboratory.

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

5. INDUSTRY INSIGHTS.

A. DON'T MOVE FIREWOOD – IT STILL BUGS ME! When someone mentions not moving firewood, people often think of the emerald ash borer (EAB). It was this non-native invasive insect that has been most notably connected with the message of not moving firewood. While EAB has moved through much of Ohio and has been found in over 20 states in the United States, it is not the only pest that can use firewood as a means of moving from one area into a potentially new area. Additionally, it is important to realize that there are other quarantines in place that can still restrict the movement of firewood. In Ohio, two important quarantines that everyone should be aware of include the gypsy moth quarantine and the Asian longhorned beetle quarantine. Quarantine information can be found on the Ohio Department of Agriculture’s website at [http://www.ohioagriculture.gov/].

Other states have crafted regulations related to the movement of all firewood, usually limiting the movement within a certain number of miles. The don’t-move-firewood-website [http://www.dontmovefirewood.org/] is a great go-to resource with state specific links that can help you find the information you need, in addition to a rich social media presence that can be useful if you help spread the word.

Author: Amy Stone; stone.91@osu.edu

6. WEATHERWATCH. The following weather information summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations spanning the dates from January 1 - September 30, 2015, with the exception of the soil temperatures which are readings from September 30, 2015 at 11:05 p.m.
Autumn temperatures have finally arrived. While some of the state did receive rain this week, other areas remain dry. Pam Bennett reported that she has been recommending to homeowners that they water plants to ensure that they don’t go into winter on the dry side. Erik Draper said his area in NE Ohio is waiting for the first frost which is typically the first week in October. After that the snow will start flying.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashtabula</td>
<td>NE</td>
<td>59.3</td>
<td>40.4</td>
<td>50.0</td>
<td>51.9</td>
<td>53.05/58.36</td>
</tr>
<tr>
<td>Wooster</td>
<td>NE</td>
<td>62.3</td>
<td>41.2</td>
<td>26.07</td>
<td>30.9</td>
<td>62.86/63.49</td>
</tr>
<tr>
<td>Hoytville</td>
<td>NW</td>
<td>61.7</td>
<td>41.1</td>
<td>29.61</td>
<td>25.7</td>
<td>63.08/64.72</td>
</tr>
<tr>
<td>Columbus</td>
<td>Central</td>
<td>63.5</td>
<td>43.8</td>
<td>31.8</td>
<td>33.6</td>
<td>75.46/75.41</td>
</tr>
<tr>
<td>Piketon</td>
<td>South</td>
<td>66.5</td>
<td>43.7</td>
<td>35.11</td>
<td>30.0</td>
<td>65.57/66.58</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

7. COMING ATTRACTIONS.

A. SEPTIC SYSTEM PROGRAM FOR HOMEOWNERS. Free educational session on septic systems for homeowners. Learn how your system works and why things can go wrong. Dr. Karen Mancl will present on systems and preventative management to maintain a healthy system and help avoid costly repairs in the future. This program is appropriate for new or experienced septic owners or people interested in buying or building a home in the future that requires septic. Come with your questions. A local health department official will also be on hand to answer any questions.

Program Details:
Septic Ownership Program
October 8, 2015
6:30 pm - 8:30 pm
Location: A.I. Root Candle Community Room
623 West Liberty St.
Medina, OH 44256

The program is FREE but RSVP is requested, as space is limited. Call 330-725-4911. This will also allow us to contact you should information change regarding the program.

B. NORTHWEST OHIO LANDOWNER CONFERENCE: NATURAL RESOURCES AT HOME. Join us on Saturday, November 14, 2015 for a day filled with presentations and conversations about a variety of natural resource based topics. Everything from woodlands and wildlife to ponds and pollinators are on the agenda. If you are a landowner interested in the woods, water, and wildlife on your land, this conference is for you. Registration is $40 per person and includes morning snacks, lunch and materials. Register now at [http://woodlandstewards.osu.edu].

C. 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. "Autumn carries more gold in its pocket than all the other seasons." – Jim Bishop

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 September 29th conference call: Pam Bennett (Clark); Joe Boggs (Hamilton); Erik Draper (Geauga); Denise Johnson (MGV); Jacqueline Kowalski (Cuyahoga); Cindy Meyer (Butler); Amy Stone (Lucas); Nancy Taylor (CWEPPCD); and Marne Titchenell (SENR).

BYGL is available via email, send requests to subscribe at [bygl@osu.edu]. Additional fact sheet information on any of these articles may be found through the OSU FactSheet database [http://plantfacts.osu.edu/web].

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.

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