BUCKEYE YARD AND GARDEN LINE 2014-27
10/02/2014

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Buckeye Yard and Garden Line (BYGL) enhanced with photos and links is available online at: [http://bygl.osu.edu ]. Become a fan of the BYGL on Facebook at [http://www.facebook.com/OSUBYGL ] or follow the BYGL on Twitter at [http://www.twitter.com/OSUBYGL ].

This is the 27th 2014 edition of the Buckeye Yard and Garden Line (BYGL). BYGL is developed from a Tuesday morning conference call of Extension Educators, Specialists, and other contributors in Ohio.

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BYGL READER SURVEY NOTICE: We are doing a short electronic survey to learn about the impact of the BYGL, how the BYGL is used, and how we can improve the BYGL for next season. If you received an e-mail message with a hotlink to the survey, please take a few minutes to complete the survey. Otherwise, you may take the survey online: [http://bygl.osu.edu/ ].

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1. PLANTS OF THE WEEK.

*PERENNIAL - ASTERS (Aster spp.) - Today, there are great cultivars of these plants as well as hybrids on the market. The common New England aster is native to much of the Eastern US and its purple daisy-like flowers can be seen in fields in bloom now. It can grow up to 4’ tall and tends to have a floppy habit in the garden if not supported. Cultivars such as ‘Alma Potschke’ is 3 - 4’ tall but has a much better compact habit with bright rose flowers. ‘Purple Dome’ is more of a mounded habit with purplish-blue flowers. New York aster cultivars include 'Woods Pink' and 'Woods Blue' and are dwarfs that grow 8 - 12” tall with pink and blue flowers respectively.

Asters are great for fall garden color and are quite hardy as long as they don’t get overly wet. Colors range in the pinks, purples, blues, and reds. They bloom from late summer through October. Don’t cut them back until next spring.

Author: Pam Bennett

*WOODY - WINTERBERRY HOLLY AND ITS HYBRIDS (Ilex verticillata and hybrids). The first act of the winterberry holly is now fully underway. These deciduous hollies provide wonderful color in the winter landscape once leaves drop, with their small red fruits (or pumpkin-colored or even yellow fruits on some taxa). Now the leaves are still attached, and although not with showy fall foliage color, the yellow and brown fall leaf color matched with the ripening fruits has its own interesting prelude to the future full monte.

Winterberry hollies can tolerate wet sites, grow lushly and are great landscape assets. The flowering type is dioecious (two-houses); therefore, you will need the occasional male-flowering winterberry as a pollinator for the female-flowering winterberries or else there will be no fruits. And not just any male, if the pollen from the male-flowering winterberry taxon is not synchronized in time with the receptive stigma of the female-flowering winterberry holly taxon, then fertilization will not occur and there will be no fruits. So, for example, 'Southern Gentleman' goes with 'Winter Red', and ‘Jim Dandy’ goes with 'Red Sprite’. Complicated, perhaps, but just look it up in references such as Michael Dirr’s "Manual of Woody Landscape Plants."

Winterberry hollies are a popular nursery plant and not just for plant sales. They are also big money makers for many nurseries for their “specialty cuts”, berry-laden stems for holiday arrangements. There are many red cultivars for December and pumpkin-orange cultivars for Thanksgiving.

Author: Jim Chatfield

*VEGETABLE - WINTER SQUASH (Cucurbita pepo). Winter squash is a warm-season vegetable that can be grown throughout Ohio. Beyond the typical butternut and acorn types of
winter squash, there is an unbelievable rainbow of colors, shapes, sizes and most importantly, unique flavors of winter squash. Winter squash is harvested and eaten when the fruit has fully matured, while summer squash is harvested and eaten when it is tender, succulent and immature. This type of squash can be defined as mature when the seeds have fully developed internally and the exterior skin or rind has hardened into a tough shell. When ripened properly, the fruits of most varieties will be dense and tough enough to resist a thumbnail being pushed into them; consequently, they can be stored for use throughout the winter months, so they were given the name of winter squash.

Most squash plants are indeterminate or vining types, which will require a large garden space for the vines to grow and expand. If garden space is limited, try planting determinant types or "bush" varieties, which should not require as much area to grow. Bees are necessary for pollinating squash and pumpkins. Winter squash can be harvested whenever the fruits have matured and the rind is hard with a uniform, solid color. Harvest most of the fruit before a heavy frost occurs in the garden. Use hand pruners to cut the mature squash from the vines and be sure to leave a portion of the stem attached. Try to avoid creating any bruises or cuts when harvesting and handling the mature fruit. Squash fruits which are not fully mature or damaged (stems knocked off, exposed to a heavy frost, etc.) should be used first and as soon as possible. Store squash in a dry area with the temperatures about 50 - 55F and if possible, keep them individually spaced apart or try not stack more than two fruits on top of each other. By growing winter squash, one may enjoy a taste of summer… IN THE MIDDLE OF WINTER!

Author: Erik Draper

*WEED - BITTERSWEET NIGHTSHADE (Solanum dulacamara) - Bittersweet nightshade is a perennial climbing or trailing vine that is found in many areas such as fence rows, yards, gardens, woodlands, and waste areas. This plant prefers areas that have been disturbed but it can also be found in natural areas. Bittersweet prefers partial to full sun and can adapt to a variety of different soil types. There are two shapes of leaves that can be found on bittersweet. The smaller leaves are ovate in shape and often are void of lobes. The larger leaves have a triangular shape with 3 deep lobes. The terminal lobe is much larger than the other 2 lobes. Foliage and stems can emit a foul odor if disturbed. This plant flowers during the summer and will be present for several months. The flowers are purple, approximately 1/3", and have 5 triangular lobes with yellow anthers that are fused together. The flowers are then replaced with green shiny fruit which changes from green to yellow/orange to red later in the season. This fruit is eaten by various birds and small mammals such as skunk and raccoon. Humans should not eat the fruit because it is toxic; the foliage should also be handled with care as it is also toxic. This plant aggressively spreads by rhizomes therefore making it difficult to eradicate from areas.

Author: Cindy Meyer

2. HORT SHORTS.

A. WOODY PLANTS WITH FALL AND WINTER INTEREST. We are moving into autumn but it is not too early for landscape designers to consider which woody plants provide excellent autumn and winter appeal. Features may include fruits: such as winterberry holly fruits now combined with leaves and later alone in clusters along stems, crabapples such as 'Red Jewel', 'Strawberry Parfait', and 'Bob White' which will retain firm and colorful fruits well into winter, and
beautyberry (*Callicarpa*) with its metallic purple to salmon-pink to white fruits that will have color until major frosts.

Trees with interesting bark will also come into their prime in the winterscape. Planting that paperbark maple (*Acer griseum*) will really pay off soon. Thin, curled crisps of peeling paperbark maple bark, with some snow on the branches and maybe some pines and hemlock greenery framing a blue sky scene, is a wonder. For the parkscape and streetscape without overhead power lines, soon it will also be the season for sycamores and London planetrees to stand out in all their snowy majesty. River birch with its cinnamon colored bark is a great winter plant.

A number of shrubs with colorful stems will also soon shine. Japanese kerria will have cheery forsythia-yellow flowers in early spring, but in winter, their skinny, zigzagging stems are a bright green that stands out nicely in the snow. A number of shrub dogwoods provide colors ranging from yellows to oranges to purples to reds. Try a range of these in combination if you have a naturalized area of your landscape near a woodland. 'Britzensis' willow (*Salix alba 'Britzensis'*) has outstanding sunny, red-orange stems that you can enjoy outdoors or cut back each year to enjoy in indoor arrangements.

Author: Jim Chatfield

B. THE MYSTERIOUS YOUNG TREE SAMPLE. Erik Draper reported on a learning experience with a plant sample, which was 2 years old, 7 - 8" tall and 1.75" caliper, that was dropped off at the office to be identified. The plant was one that piqued Erik's interest as he walked by the sample, because it was not immediately recognizable as a typical landscape plant. The leaves were the most intriguing aspect of the tree-like sample because there were 3 lobes, which looked like a turkey foot with a really long middle toe! The leaves ranged in size from 3 - 8" and looked uniformly consistent with the size of the leaf being the seemingly only difference. The trunk of the tree was an interesting tan base color with an orange-yellowish hue to the one year old bark, with white dashes, which upon closer examination were lenticles. The leaves were alternately attached by petioles ranging from 1 - 2.25" in length, buds in the leaf axils were pointed, up to 0.25" in length, containing 3 - 5 bud scales with a scattered fringe of hairs on them.

Erik began by using various dichotomous tree identification keys to try and discover the species of the tree. Once the plant was keyed out, other references, like Michael Dirr's "Manual of Woody Landscape Plants" were consulted to ensure accurate identification. The tree was readily keyed out to be WHITE MULBERRY (*Morus alba*); however, there was a glaring problem with a key aspect of identification on this plant! The problem was the statement of "leaves are polymorphic and occur in three general shapes - entire, mitten (single lobed), and three-lobed." No such leaves were on the branch samples dropped off, just the turkey foot with the long center toe. A call was made and the client gladly dug up the entire tree, mainly because it was growing way too tall and fast for his comfort and brought it into the office. Down on the bottom of the tree were some suckers, which had the more classic 3-lobed leaves of mulberry! What in the world was going on...was this a hybrid mutant or hit with an herbicide or just what happened?

Then Erik, clearing away the mental cobwebs, recalled a forestry class in college, which had discussed varying growth patterns of plants while in the juvenile versus mature phases. Juvenility is characterized by the rapid production of vegetative growth, specifically to produce leaves for photosynthesis. Interestingly enough, sometimes these juvenile leaves appeared
nothing like the characteristic leaves of the plant in the mature phase. The royal princess tree (*Paulownia tomentosa*) is one example of a plant which produces huge juvenile leaves, 2 - 3' in length and width, while mature leaves are a mere 5 - 10"! For some strange reason, this arboreal information on differing juvenile and mature leaf/plant habit morphology, is very difficult to both encounter and confirm; delightedly, now as a BYGL newsletter aficionado, this information is being dusted off, revitalized and will be dispersed via your brain...so thanks for the help!

Author: Erik Draper

C. NORMAL SEASONAL NEEDLE YELLOWS AND DROP. Several BYGLers reported that the normal inner needle yellowing of conifers is becoming noticeable, particularly on white pine. The discolored needles will soon detach and drop. This annual fall event is more dramatic some years compared to others spawning calls to Extension offices from concerned land owners asking "what's wrong with my pine trees?" No one has ever topped the metaphorical explanation of this annual event provided by Aldo Leopold in his *A Sand County Almanac*:

"Pines have earned the reputation of being 'evergreen' by the same device that governments use to achieve the appearance of perpetuity: overlapping terms of office. By taking on new needles on the new growth of each year, and discarding old needles at longer intervals, they have led the casual onlooker to believe that needles remain forever green."

"Each species of pine [and spruce, and fir, etc.] has its own constitution, which prescribes a term of office for needles appropriate for its way of life. Thus the white pine retains its needles for a year and a half; the red and the jack pines for two years and a half. Incoming needles take office each June and outgoing needles write their farewell addresses in October. All write the same thing, in the same tawny yellow ink, which by November turns brown. Then the needles fall, and are filed in the duff to enrich the wisdom of the stand. It is this accumulated wisdom that hushes the footsteps of whoever walks under pines."

D. OHIO KUDZU UPDATE. Amy Stone and Joe Boggs dashed hopes that harsh conditions this past winter put the kibosh on kudzu (*Pueraria montana* var. *lobata*) in Ohio by reporting "the vine that ate the south" is continuing to chomp on The Buckeye State. Evidence that cold winter temperatures may not limit the northern spread of kudzu was provided in 2009 when a thriving infestation was found in Leamington, Ontario, CAN, growing on a bluff overlooking Lake Erie; the location was about 19 miles southeast of Windsor. Thus, it came as no surprise that this Asian import was found few years ago growing in southern and northern Ohio. The northern infestation was found in the East Cleveland neighborhood of Collinwood and three southern patches were found in and around Cincinnati.

Amy shared pictures during the BYGL conference that she took last week of the kudzu infestation in Collinwood; it was obvious the vine was doing very well. Joe noted that he recently visited two of Cincinnati kudzu infestations and found thriving vines that were beginning to flower. There appeared to have been some minor winter injury with some dieback of vines on the most elevated areas of the patch; however, it was apparent the vines had recovered meaning the winter injury had failed to put a dent in the onslaught of this non-native invasive.

It is estimated that kudzu currently covers 7.1 million acres in the US. This relentless vine represents more than a threat to landscapes and forests. Soybean rust is a non-native disease that presents a substantial threat to the soybean industry in North America and the rust fungus, *Phakopsora pachyrhizi* infects many legume species including kudzu. In fact, kudzu serves as
an over-wintering reservoir for the fungus, allowing it to infect soybeans at the start of the growing season.

Another Asian import, the "kudzu bug" (Megacopta cribraria) has now been found in several southern states including Alabama, Florida, Louisiana, Mississippi, Tennessee, Virginia, and the Carolinas as well as Maryland and Delaware. The bug is sometimes called the "bean plataspid" because it belongs to the bug family Plataspididae. It feeds on legumes and represents yet another threat to soybeans. The kudzu bug also behaves like the brown marmorated stink bug (Halyomorpha halys) by invading homes en masse in the fall.

Although kudzu has been found in Ohio, it remains important for BYGL readers to report any new infestations found in the state. A handy way to identify, document, and report kudzu infestations, as well as suspected infestations of other non-native plants and pests, is to use the free smart phone app, the Great Lakes Early Detection Network (GLEDN). The app provides a library of photos and descriptions of threats and potential threats to help with field identification. It also allows users to upload their own photos and location information for verification. The submitted field data goes into the web-based Early Detection and Distribution Mapping System, which tracks the locations and spread of invasive species throughout the US and Canada. The app is available for Android and iPhones and can be downloaded at: [http://go.osu.edu/GLEDN].

Author: Joe Boggs

E. EARTHWORM INVASION. Earthworms have been touted as great assets to the garden for many years. Worms aerate the soil, which provides pore space for water, oxygen, and soil microbes. These critters also consume organic material, converting its nutrients into plant-usable nutrient forms. It's no wonder why gardeners and farmers alike appreciate worms in the landscape.

What most people don't realize, however, is that all earthworms throughout the Great Lakes region are considered non-native. Some species are even considered invasive. When the glaciers moved through the region over 10,000 years ago, they scraped away the top layers of soil, including earthworms, therefore, parts of Ohio that are glaciated have no native earthworms. In theory, the unglaciated parts of Ohio still have native earthworms; however, many of the worms we find are non-native and invasive due to their ability to outcompete native species.

Why are earthworms so bad for Ohio? While worms offer tremendous advantages in our gardens and farms, they aren't so great for our woodlands. In a healthy forest, there should be a spongy layer of organic matter, called the duff layer, which is 4 - 5” thick. This duff layer decomposes slowly over time and provides a variety of benefits to forest organisms including plant root stability and providing homes to many macroinvertebrates and microbes. When worms enter a forest, they rapidly break down the duff layer, leaving bare soil on the forest floor. Without the duff layer, the forest will lose its herbaceous plant layer and tree regeneration is greatly compromised. When we lose plant life in an ecosystem, we also lose life forms that depended on that plant life as a food source or habitat. Within just 3 - 5 years, the forest will look drastically different.

Two of the most well-known invasive worms in Ohio are nightcrawlers (Lumbricus terrestris) and red worms (Eisenia fetida). These worms are introduced to Ohio landscapes through poor fishing practices (dumping bait) as well as in imported soils and mulches. Unfortunately, once earthworms invade a woodlot, not much can be done to remove the species. Prevention is a
key aspect in the fight against earthworm invasions. Always be sure to properly dispose of fishing bait. In addition, do not transport or purchase soil, mulch, or compost unless you’re confident that there are no earthworms present.

For more information, visit Great Lakes Worm Watch ([http://www.nrri.umn.edu/worms/])

Author: Danae Wolfe

F. A WALK ON THE WILDSIDE: WATCH THE ROADS! DEER-VEHICLE COLLISIONS PEAK IN FALL. When we think of fall, many of us think of a time for changing leaves, cool temperatures, pumpkins on doorsteps, and Halloween. We likely do not, but we should be thinking about deer-vehicle collisions! Of all the months in the year, October and November are on record as having the highest number of deer-vehicle accidents. In 2013, deer-vehicle collisions totaled 20,201, a slight drop from 2012 in which there were 20,996 deer-vehicle accidents. Perhaps you have seen reports estimating a 6% increase in the likelihood of being involved in a deer-vehicle collision this year? While it’s ever important to be vigilant behind the wheel to avoid a crash, it’s important to keep numbers in perspective. In 2013, motorists had a 1 in 135 chance of hitting a deer (0.74%). A 6% increase raises the likelihood to 0.79% (or a 1 in 127 chance), still a relatively small number. Regardless, any increase, even a small one, is good reason to raise your awareness while on the road.

WHITE-TAILED DEER (*Odocoileus virginianus*) are on the move this time of year and that movement frequently takes them across back roads, urban streets, highways, and other roadways. Motorists are advised to take special precautions this time of year to avoid collisions, especially at dawn and after sunset, and during the hours of 5 p.m. - 1 a.m. and 5 a.m. - 8 a.m. Be extra careful throughout November, as the number of accidents peak during this month. What can drivers around Ohio do to remain safe and decrease their chances of an accident?

* First of all, remember that breeding season for deer is October - December, and although most accidents occur in October and November, remain vigilant through December.

* Oft times when there is one deer, there are more following behind it. If you see one deer cross the road ahead of you, slow down because there may be more on their way across.

* If a deer runs in front of your vehicle, brake firmly but try not to swerve. Swerving can cause the loss of control of your vehicle, which can lead to more damage to you and your car. The Ohio State Highway Patrol reports that more people are injured trying to avoid hitting a deer than those that don’t try to avoid the animal.

* Pay special attention to deer crossing signs. They are there for a reason - to alert you of a high deer density area.

* Stay alert and constantly on watch especially during the dawn and dusk hours. Deer can be very unpredictable, especially when frightened. If you pass a deer on the road side, flash your lights at oncoming traffic to alert the other drivers of potential danger - a little warning can go a long way in avoiding an accident.

* Perhaps you have heard of the hood-mounted deer whistles and ultrasonic devices designed to scare away deer? Skip the purchase - wildlife biologists have found no evidence these devices work.
* Don't make the mistake in thinking that you will only encounter deer crossing roads in rural parts of the state. In fact, urban and suburban areas are also prime sites for deer vehicle collisions. More and more frequently, urban areas around Ohio are becoming home to substantial white-tailed deer populations.

* Finally, and possibly most important - because a deer-vehicle collision cannot always be avoided no matter how vigilant you are - wear your seat belt. Luckily, most deer vehicle collisions don't result in human fatalities; however, the number of crash deaths is increasing in almost every state, including Ohio, which is one of the top 5 states with the highest fatalities. In a study completed by the Highway Loss Data Institute, 60% of the people killed in an animal collision accident were not wearing their seat belts. So be sure to buckle up.

Be safe on the roads this fall season!

3. BUGBYTES.

A. BROWN MARMORATED STINK BUG (BMSB) UPDATE. BYGLers located throughout Ohio reported that they are getting calls and e-mails from concerned homeowners about BMSBs (Halyomorpha halys) showing-up on the outside walls and window screens of homes and other structures. Their reports lead to Dave Shetlar to provide an instructive update on what has been learned about this Asian import thus far in Ohio and elsewhere.

Dave noted that the major migration of BMSB from forests, farms, and landscapes onto and into homes and other structures typically occurs after the first frost; therefore, the current influx of BMSB is just the tip of the iceberg. Based on field population densities observed by Celeste Welty (OSU Entomology) and others this season, it appears Ohioans may be dealing with the highest BMSB numbers since the bug was first found in the state in 2007. Even worse, Dave reported that recent population studies conducted in Pennsylvania and other eastern states indicate that "peak" BMSB population densities may not occur in Ohio for another 2 - 3 years.

The detection and monitoring of BMSB in the US and Canada has been aided by two discoveries: the recognition that BMSB 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. However, Dave reported that the effectiveness of both monitoring methods varies throughout the season. He noted that while black light traps in central Ohio were highly attractive from July through August with around a dozen bugs captured in each trap per night, beginning around 3 weeks ago, trap catches dropped to around 1 - 2 bugs per night. 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 BMSB; however, they are not effective in reducing populations in and around homes. As Dave noted, 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 sticky homes collect dirt until the next rainfall; keeping porch lights off which is thwarted by bugs flying during the day; and using aerosol "bug bombs" which 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 BMSB.

The best defense against BMSBs 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

B. WOOLLY BEARS ON THE MOVE. Joe Boggs reported that "woolly bear" caterpillars have started their annual crawl-abouts in search of sheltered locations such as under plant debris where they will spend the winter. They may be found on sidewalks, on the walls of homes and buildings, and on roadways which may lead to them being found laminated onto radial tires.

The woolly bears are the caterpillar stage of medium-sized moths known as tiger moths (family Erebidae; subfamily Arctiinae). In the spring, the overwintered caterpillars will feed briefly before spinning a cocoon into which their hairs are incorporated, pupating, and eventually becoming a moth. There are eight or more species of woolly bears in the U.S. Four of the most common species found in Ohio are the BANDED WOOLLY BEAR (Isia (formerly Pyrrharctia) isabella); the YELLOW WOOLLY BEAR (Spilosoma virginica); the SALT MARSH CATERPILLAR (Estigmene acrea); and the GIANT LEOPARD MOTH (Hypercompe (formerly Ecpantheria) scribonia).
The course hairs of the banded woolly bear are black at both ends and reddish-brown in the middle. The adult is called the Isabella moth. This is the woolly bear species mentioned in winter-prediction folklore, which claims the longer the black is at the ends of the body, the more severe the coming winter. Research has debunked this legend by showing the amount of black varies with the age of the caterpillar and the moisture levels in the area where it developed.

The yellow woolly bears are highly variable in color. The fine hairs covering the body vary from beige or yellow to dark reddish-brown. The adult is called the Virginian tiger moth. Likewise, the color of the salt marsh caterpillar is also highly variable ranging from blond to yellow, to black. The adult moths carry the same name as the caterpillar. The giant leopard moth caterpillar is the largest of the four with some reaching a length of 4". The bristles on this caterpillar are jet black projecting outward from black bands on the skin with red bands of hairless skin between the black bands. The adult moth of the same name is white with multiple black rings on the front wings.

The banded woolly bear, yellow woolly bear, and salt marsh moths have 2 generations of caterpillars each year, the largest usually occurring in the fall. The giant leopard moth has 1 - 2 generations per year. All four species will feed on a wide range of plants; the caterpillars chew large irregular holes in foliage. The significance of their feeding damage depends upon the host and the size of the caterpillars. Few would notice their holes in soybean leaves whereas the giant holes produced by late-instar caterpillars in canna leaves are very noticeable.

Author: Joe Boggs

C. BACKERS NEEDED TO BATTLE BORER. Have you lost ash trees to emerald ash borer? Are ash trees in your neighborhood and parks dead or dying due to this insect? Would you like to be a part of an answer to this pest's depredations? Through crowd funding you can contribute to the effort to identify the source(s) of resistance to emerald ash borer in Asian ash.

Dr. Pierluigi (Enrico) Bonello, Department of Plant Pathology at Ohio State University and graduate student David Showalter are seeking funding for a project investigating the reason ash from Asia can resist emerald ash borer compared to North American ash. Visit this web site: [https://experiment.com/projects/can-we-save-ash-trees-from-the-invasive-emerald-ash-borer ] to learn more about the project and how you can participate.

This project will be funded only if it reaches its goal; you will be charged your pledged amount only if and when the full amount is funded.

Author: David Showalter

D. WINDSHIELD WIPES. BYGLers also ran into a few other arthropods this week including:

* Dave Shetlar reported that populations densities of PAPER WASPS (Polistes spp.), as well as YELLOWJACKETS and BALDFACED HORNETS (Vespula spp. and Dolichovespula spp.) seem to be unusually high this season in Ohio. This is the time of the year when these insects switch from a high-protein diet (e.g. caterpillars, sawfly larvae, etc.) to a high carbohydrate diet (e.g. donuts, soda, fermented adult beverages, etc.) which can lead to stinging encounters. Yellowjacket and hornet nest populations in the fall may climb to over 5,000 workers which translate into a considerable number of flying stingers on the wing in search of a carbohydrate-fix. Thankfully, yellowjacket, wasp, and hornet nests die out at the end of the season; only new queens survive the winter to start new nests next spring.
**Author: Joe Boggs**

* BOXWOOD LEAFMINER (*Monarthropalpus flavus*) populations are once again heavy this season in southern and central Ohio. Females of this non-native midge fly use their sharp ovipositors to insert eggs between the upper and lower leaf surfaces of boxwood leaves in late-spring. The resulting yellowish-orange larvae (maggots) spend the remainder of the season developing through the 1st and 2nd instar stages as they consume interior leaf tissue to produce blister-like mines. Joe Boggs noted the mines are very evident but remain green in color masking their occurrence. Winter is spent as 3rd instar larvae inside the blister mines. In the spring, the larvae resume feeding and develop through a 4th instar stage. During this time, mines expand rapidly, and damage becomes evident with mined leaves turning from yellow to orangish-brown. The leafminer damage mimics winter injury. An application of a neonicotinoid systemic insecticide will kill the leafmining larvae, but will not mitigate the damage that has already occurred.

**Author: Joe Boggs**

* Mating swarms of CHIRONOMID MIDGE FLIES (Family Chironomidae) were observed hovering along roads and trails in southwestern Ohio. The cloud-like clusters of these small insects can be hauntingly beautiful as thousands of gossamer wings reflect the early morning or evening sunlight. The swarms are composed of a throng of lovesick male midge flies. Every now and then, an adventurous female midge will try to fly through the aerial mass of zooming, swooping amorous males. The males fly with their legs outstretched in the hope they will snag the female...to get acquainted. Love is in the air! The larvae live in many types of aquatic or semi-aquatic habitats so the swarms are usually found near ponds, lakes, slow moving streams, drainage ditches, or poorly drained wet soil. Most species of Chironomid midge fly larvae feed on living or decaying plant matter and are an important part of aquatic food chains; they are considered beneficial insects. While the midge flies superficially resemble mosquitoes, they do not bite or cause any harm...unless inhaled by a passing jogger or bicyclist!

**Author: Joe Boggs**

* In 2012, we reported that SPOTTED CUCUMBER BEETLES (*Diabrotica undecimpunctata*) were showing up in large numbers in some unusual places such as feeding on ripening tomatoes, feeding on the petals of a wide range of late-season flowers including Jerusalem artichoke, and hiding-out deep within the flowers of chrysanthemums waiting to be sold in garden centers (BYGL 2012-24, 09/13/12; 2012-25, 09/20/12). This week, Joe Boggs reported finding large numbers of the beetles feeding on late season flowers including Maximilian sunflower as well as Jerusalem artichoke in southwest Ohio. The shiny beetles are approximately 0.25" long and yellowish-green. Their head, antennae, and legs are solid black. Their common name refers to the distinct black spots on their wing covers (elytra). The same is true for the specific epithet, *undecimpunctata*, which is Latin for "eleven" (undecim-) "spots" (-punctata). Whether or not finding the beetles feeding on wild flowers will translate into a repeat performance with beetles showing-up in garden centers remains to be seen, but outdoor garden center plants should be monitored.

**Author: Joe Boggs**

4. DISEASE DIGEST.
A. REDBUD LEAF SPOT SYMPTOMS. There are a number of late-season leaf spot diseases of trees that are noted this time of year, including tar spot of maple, Mycospharella leaf spot of ash, and Pseudocercospora leaf spot of redbud (Pathogen: *Pseudocercospora vitis*). Though these late season leaf spots are quite noticeable this time of year, they are generally not considered to be serious relative to plant health. This is due to the fact that they occur in mid- to late summer and late fall, well after much of the crucial photosynthetic food-production in the leaves has occurred.

With *Pseudocercospora* leaf spot, lesions are dark-brownish to black, often with yellow halos of plant tissue around the lesions. Sometimes these lesions occur near the major veins of the leaves but some lesions occur between major veins. Often, especially later in the season, some of the lesions coalesce, resulting in areas of blighting on the leaves. Little is known about which redbud taxa are most susceptible to this disease, but fortunately since damage is generally not severe, specific controls are not recommended.

5. TURF TIPS.

A. A GRUBBY REPORT. Dave Shetlar reported that late instar JAPANESE BEETLE grubs (*Popillia japonica*) in central Ohio are now yellowish-white in color, meaning they have accumulated enough fat to stop feeding and successfully survive the winter. Indeed, the grubs have begun to descend into soil to seek overwintering sites. However, MASKED CHAFER grubs (*Cyclocephala* spp.) remain white and are continuing to feed. Dave noted that high localized grub populations have been attracting skunks and raccoons and he continues to get reports of these animals causing damage to turfgrass as they grub for grubs.

Skunks tend to make discrete cone-shaped holes as they search for grub-morsels while raccoons rip-up the turfgrass sometimes damaging large areas. Unfortunately, both animals have long memories, particularly raccoons, and they will revisit turfgrass with a history of providing grub-feasts to cause damage even if no grubs are present. It is too late to prevent animal damage by controlling white grubs; however, an application of "human scented" Milorganite fertilizer may discourage the skunks and raccoons from destructively searching for a grub-meal. The fertilizer application can also be helpful in supporting over-seeding and turfgrass recovery.

*Author: Joe Boggs*

B. GRUB NEMESIS. Dave also reported that he’s getting calls from concerned homeowners of BLUEWINGED WASPS (*Scolia dubia*) performing their low-level flight plans over home lawns. This is actually a good thing since the larvae of these blue bombers feeds on white grubs. The wasps may be seen cruising a few inches above the turfgrass, often in loops or a figure-8 pattern, searching for signs of white grubs. They are excellent flyers and their flight behavior sometimes causes them to be mistaken for the much larger, and different colored CICADA KILLER WASP (*Sphecius speciosus*). The wasp will parasitize all white grubs, but is particularly fond of GREEN JUNE BEETLE (*Continus nitida*) grubs.

Once grubs are located, the wasp will dig into the soil, or simply enter the green June beetle grub’s burrow. It first stings and paralyzes the grub, then it lays an egg in the grub’s body. When the egg hatches, the wasp larva first consumes the non-essential parts of the paralyzed
grub, keeping the hapless grub alive and "unspoiled." Later, the ravenous wasp larva applies the coup de grace, killing the grub. The immature wasp pupates inside the carcass.

The bluewinged wasp is around 1.25" in length. As the common name implies the wings as well as the head, thorax, legs, and first two abdominal segments are dark blue. The third abdominal segment is orangish-red with two side-by-side yellow spots on a black background. The remaining abdominal segments are orangish-red, and all segments are somewhat hairy. These solitary wasps may be found cruising turfgrass from June through early October. Since the wasp is strongly connected to green June beetles, they are most often found where the beetles occur. The wasps are not aggressive and they are one of the "good bugs," so they should be conserved, not destroyed.

_Author: Joe Boggs_

6. INDUSTRY INSIGHTS.

A. THE 87TH OHIO STATE UNIVERSITY GREEN INDUSTRY SHORT COURSE. The full program will be out by next week, with an extended item in next week’s BYGL of some of the features. Recently, several ENLTTers visited this year’s site for the OSU Short Course at the Kalahari Resort in Sandusky, along with Brian Laurent and John Street of the Ohio Turfgrass Foundation. Although we had attended and enjoyed conferences there before, it was a revelation to see it in the light of preparing for this new joint effort of OTF and OSU. No parking issues or charge! Excellent rooms for the conference dates, starting at $99. Comfortable lounge chairs and eating and libation venues right in the Convention Center. The entire Kalahari Convention Center will be fully focused on this joint conference, warm and relaxing.

Granted, the site is not in central Ohio, but it is such a convenient venue once there at the Kalahari Resort. Convention goers may want to get their rooms somewhat away from the central indoor water park area where there is a good deal of resort buzz, but on the other hand, the convention is well apart from this part of the resort, and in case you can swing a day or so with the family present, there are four tickets for the water park that go with every room each day, and though all hotels have pools, this one is rather large!

As indicated earlier, this year’s event will be held in conjunction with the 48th Annual Ohio Turfgrass Foundation Conference and Show on December 9 - 11, 2014 at the Kalahari Resort and Convention Center in Sandusky, Ohio. Remember that this broad-based OSU green industry program will be coupled with the great Ohio Turfgrass Foundation Conference program that covers all aspects of the world of turfgrass and their additional partnerships with the Ohio Landscape Association and the Ohio Lawncare Association. Naturally, the programs will cover a wide range of pesticide applicator and professional certification credits.

Updates will occur throughout the fall as we approach the Conference and Short Course, and the full program will soon be online. Look for information on the websites at [http://www.ohioturfgrass.org](http://www.ohioturfgrass.org) and [http://www.osushortcourse.com](http://www.osushortcourse.com) and here in the Buckeye Yard and Garden Line (BYGL).

B. MONITOR FOR SPRUCE SPIDER MITES. Dave Shetlar reported that summer eggs of the spruce spider mite (Oligonychus ununguis) have hatched in central Ohio. This means that host trees should be closely monitored to determine whether or not control measures are required. The mite spends the summer and winter months in the egg stage. As temperatures cool in the
fall, or warm in the spring, the eggs hatch making this a "cool-season" mite. Typically, fall
generations are more damaging than the spring generations owing to a longer feeding period.
Unfortunately, fall feeding symptoms do not become evident until next season.

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

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

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

**Author: Joe Boggs**

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 - September 30, 2014, with the exception of the soil temperatures
which are readings from Wednesday, October 1, 2014 at 5:20 p.m.

There seems to be a switch in the weather. Areas that had abundant rain early in the season,
are now complaining about how dry it has been. Joe Boggs reported that it has been at least 3
weeks since SW Ohio has received any rain of substance and there are cracks in the ground to
prove it. On the flip side, the Toledo area which had been dry most of the season, now regular
rainfall events are common. If you look at the year-to-date total for each of the stations listed
below, all are running behind of the average.

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<td>67.44/64.04</td>
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<td>Central</td>
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<td>43.6</td>
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<td>65.68/65.19</td>
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<td>24.91</td>
<td>30.0</td>
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8. COMING ATTRACTIONS.

A. ARBOREALUM FEAST, PART DEUX IS NEXT WEEK! MAPLE SYRUP TASTING IS ADDED TO THE MIX! The 2nd annual ArborEatum edible landscape feast and sharing will be held on Wednesday, October 8, 2014 from 5:00 - 8:00 p.m. at the Miller Pavilion of the OSU Secrest Arboretum, Ohio Agricultural Research and Development Center in Wooster. Last year’s hits were legion, including Mark Hoenigman’s ramps soup to over 30 entries from Cleveland’s Lois Rose (from bitter orange marmalade to medlar jelly). And Lois plans to outdo herself (if that is possible) this year.

B. WOOD-DESTROYING INSECT INSPECTION TRAINING, October 8, 2014. Mandatory training is required for applicators becoming licensed in commercial Category 12. Recertification credit is available. The session will be held at the ODA in Reynoldsburg, Ohio. For more information about this event, check out the PestED website at [http://pested.osu.edu].

C. THE 87TH OHIO STATE UNIVERSITY GREEN INDUSTRY SHORT COURSE. Mark your calendars! The 87th OSU Green Industry Short Course, formerly the OSU Nursery Short Course, will be held in conjunction with the 48th Annual Ohio Turfgrass Foundation Conference and Show on December 9 - 11, 2014 at the Kalahari Resort and Convention Center in Sandusky, Ohio. For more information, visit the Short Course website at: [http://www.osushortcourse.com].

D. TRI-STATE GREEN INDUSTRY CONFERENCE. Save the Date - 2015 Tri-State Green Industry Conference on February 5, 2015 at the Sharonville Convention Center, 11355 Chester Rd., Cincinnati, OH 45246. The Tri-State Green Industry Conference is a collaborative effort between Ohio State University Extension, Purdue Extension, Cincinnati State Technical and Community College, and the Cincinnati Zoo and Botanical Garden. It features a variety of high quality education and training for professionals in the areas of Annuals & Perennials, Garden Center & Greenhouse Innovation, Tree & Shrub Care, Turfgrass Management, Green Infrastructure and General Pest & Disease Management and also features a vendor trade show. Pesticide recertification credits for Ohio, Indiana and Kentucky will be given, OCNT training credit is available, ASLA CEUs are available and CEUs will be available for ISA Certified Arborists. For more information visit: [http://hamilton.osu.edu/topics/horticulture/2015-Tri-State-Green-Industry-Conference].

8. BYGYLOSOPHY.
"Fall has always been my favorite season. The time when everything bursts with its last beauty, as if nature had been saving up all year for the grand finale." - Lauren DeStefano
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
http://u.osu.edu/beelab/

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

Ohio Woodland 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 30th conference call: Joe Boggs (Hamilton); Jim Chatfield (Hort and Crop Science and Plant Pathology); Julie Crook (Hamilton); Erik Draper (Geauga); Dave Shetlar (Entomology); Amy Stone (Lucas); Marne Titchenell (School of Environment and Natural Resources); 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 a service of the OSU Extension Nursery, Landscape, and Turf Team (ENLTT). 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.