BUCKEYE YARD AND GARDEN LINE 2013-16
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This is the 16th 2013 edition of the Buckeye Yard and Garden Line (BYGL). BYGL is developed from a Tuesday morning conference call of Extension Educators, Specialists, and other contributors in Ohio.

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1. PLANTS OF THE WEEK.

*ANNUAL - SWEET ALYSSUM (Lobularia maritima). Sweet alyssum is a wonderfully fragrant annual used as a border plant or in containers and hanging baskets. Tiny clusters of flowers cover the entire plant during most of the growing season. However, during the heat of the summer, flower production slows only to resume again with cooler temperatures. When flower production slows and plants appear leggy, shearing or a good "hair cut" helps to rejuvenate the plant and keep it looking great the rest of the season. Once fall arrives, the plant begins to look fantastic again and lasts until a hard freeze.

The plants grow around 6 - 8" tall and in a mound around 1' wide. Several cultivars are available and include flower colors of white, purples, and pinks. The Proven Winner introduction, 'Snow Princess' is a breakthrough in Lobularia breeding for heat tolerance and season-long performance.
*PERENNIAL - ZEBRA GRASS (*Miscanthus sinensis* 'Zebrinus'). The boldly striped foliage, upright form, and stately height of zebra grass make it an excellent accent for a large island bed or perennial border. Zebra grass can grow 7' tall and makes a striking specimen plant in a sunny site. Zebra grass grows well in moist to mostly dry, well-drained soils, but is very adaptable to harsh conditions once established, including poor, compacted soils. This plant is also tolerant of summer heat and drought conditions. In the fall, the zebra grass turns to gold and the copper tinted plumes fade to white. Zebra grass is best divided in the spring.

*WOODY - SOURWOOD (*Oxydendrum arboretum*). Sourwood, also known as sorrel tree or lily-of-the-valley tree is a small to medium sized (30 - 50') tree in the Ericaceae family. Like all members of this plant family, it grows best in acid, well-drained soils. It is more common to our south, but is native as far north as southern Pennsylvania. The key ornamental features of sourwood include glossy green leaves that turn a spectacular scarlet color in the fall and panicles of creamy-white fragrant flowers that appear in late June and into mid-July. Sourwood is a wonderful and uncommon specimen tree which is also a good example of an edible landscape tree due to the renowned quality of sourwood honey and sourwood jelly. Sourwood can be planted in full sun to partial shade.

*VEGETABLE - CILANTRO (*Coriandrum sativum*). Cilantro is an annual herb popular for use in Mexican and Asian cuisine. When used for its foliage or leaves it is referred to as cilantro or CHINESE PARSLEY, but when used for its edible seeds, it is called CORIANDER. Some individuals describe cilantro as soapy, but most people find the taste appealing and it is widely used.

Cilantro is a prolific seed producer and will readily reseed itself in the garden; it can become a weed problem if not controlled. It bolts quickly in hot weather. For a season long cilantro supply, sow every two weeks from spring through summer. Seedlings do not transplant well and must be thinned to 4" apart. Foliage will grow 8 - 10" tall. The flowering plant will grow to 18" tall. It is a prolific seed producer and will quickly establish itself as one of the more weedy residents in the garden - a definite benefit if one also has a yearly patch of tomatillos.

Leaves with petioles attached are harvested individually or the entire clump of leaves can be cut from the plant. Leaves are used fresh as a garnish and in dishes such as salsa or *dal*. The coriander seed is dried for storage then crushed or ground prior to use.

*WEED - BARNYARDGRASS (*Echinochloa crus-galli*). Grassy weeds are dominating fields and landscapes this time of year. Heat and ample rainfall that contributed to the early failure of some pre-emergent herbicides have also encouraged the rapid germination and growth of many annual grasses, including barnyardgrass.

This particular grass begins germinating in early summer and continues into late summer. Early-germinating plants will easily reach heights of 3 - 4' but the late arrivals will normally be much shorter due to competition from surrounding plants. Barnyardgrass is a common weed in waterways and irrigated fields.

It is easily identified by the thick, flattened, often red-tinted stems arising from a central clump. As the stems lean out from the center, they give the plant a definite V-shaped form. Seed heads also have a reddish tint and are covered with bristles, giving the seedhead a spiny appearance. The leaves are hairless. For the grass identification nerds, this plant is very easy to identify as the collar region is completely smooth with no auricles or ligules; a pale yellow band marks the collar.

Control of this and many summer annual grasses can be achieved with pre and post emergent herbicides, mulching, pulling and cultivation. Note that shallow cultivation can actually encourage germination of barnyardgrass seed in upper levels of the soil by exposing them to light and heat.

2. HORT SHORTS.
A. WHAT IS THAT? Ashley Kulhanek reported on a mysterious slime found by a homeowner. What could it be? Is it a moss or a fungus or maybe pond scum? What appeared like a bundle of seaweed on a gravel driveway was actually **NOSTOC ALGAE** (*Nostoc* spp.) or **NOSTOC BALLS**. *Nostoc* spp. are actually photosynthesizing bacteria (cyanobacteria). Unlike its water-locked counterparts, *Nostoc* can grow on grass, stone, and even concrete. Though a terrestrial alga, it still needs moisture and warmth to thrive. It stays desiccated and dormant until the right rainy conditions arrive. Then it becomes active, growing into thick folds of green slime. With this warm, humid, rainy weather, it is no surprise that homeowners are starting to spot this "land-loving algae."

It is not harmful nor is it toxic, but it is very slippery and could pose a falling hazard so tread carefully. It is sometimes associated with lawn dieback though it is not the cause. Because *Nostoc* prefers compacted soils and a lot of water, it is often found in areas of the lawn that are not favorable to grass to begin with. It also grows favorably in the presence of phosphorous fertilizers, making landscapes an environment conducive to algal growth. Recently, *Nostoc* has been a problem for the nursery industry due to the favorable greenhouse environment and the slipping hazard it poses.

Management: For small infestations, removing *Nostoc* with a shovel is the most effective solution. For both gravel and lawn issues, improving drainage and reducing irrigation can be one way of reducing growth, but in this rainy, humid weather, drainage may not help. Raking is not recommended as it will merely break up and spread the algae further. Aeration can help with compacted lawns affected by *Nostoc*, but tilling, like raking, may only break apart and spread the algae.

Unfortunately there are few chemical recommendations for homeowners that are long lasting or fully effective, but research is ongoing. Chemical treatments that have been tried require repeat applications every 7 - 14 days and they never eliminate the infestation, only suppress it. Professor and researcher Dr. Hannah Mathers of The Ohio State University has been testing various treatments on liverworts that may hold promise for management of *Nostoc* and other algae in the future. Read more about Dr. Mathers research at [http://basicgreen.osu.edu](http://basicgreen.osu.edu).

For now, all one can do is remove what they can, and hope for a drier season next year.

B. TO EAT THIS OR TO EAT THAT - THAT IS THE QUESTION! There was some discussion on last week's BYGL on whether or not young WHITE-TAILED DEER (*Odocoileus virginianus*) are selective in what they eat. After delving into the world of deer plant selection, Marne Titchenell reported that adult and yearling (ages 1 - 2 years old) deer are in fact, selective in what they eat. Not only that, but sometimes their plant selection changes as the year progresses.

Finding and obtaining the correct nutrients is a major constraint for large herbivores, like white-tailed deer. Plant species differ in the nutrient content available, and in addition, different parts of the same plant offer different nutrients (this is perhaps why the tender blossoms of some plants are preferentially nipped off and eaten by deer and rabbits). White-tailed deer, as much as we may think that they feed on anything and everything, don't feed randomly but on select plants and parts of plants that provide them the best nutrients. (The caveat here of course, is that nothing will stop a hungry animal, and white-tailed deer have been documented feeding on the most unpalatable of plants when they are truly in need of sustenance.) The nutrients deer are selecting for by foraging on certain plants are water, minerals, vitamins, fatty acids, digestible energy, and protein. Of that list, the most limiting are protein and digestible energy (the parts of the plant that are easy to digest). Lignin, for example, is a component of some plants that is not easy to digest. Protein is needed for growth and reproduction, while energy is needed for metabolism and thermoregulation.

In addition to selecting for protein and digestible, energy rich plants, deer are selecting for these plants at different times of the year. During spring and summer, plants with high protein content are selected to aid and encourage healthy growth and reproduction. As summer fades into fall, plants with high energy content are selected in order to "bulk up" for the coming winter. Why do animals "bulk up" over the winter? Yes, often
times because food supplies run low during the winter, but also to stay warm. Mammals especially, have high thermoregulation costs; it takes a lot of energy for them to stay warm in cold temperatures. It's one of the downsides to being an endothermic (warm-blooded) animal. So in order to compensate for those high costs, white-tailed deer, along with growing a thicker coat of fur, are also selective in what they eat heading into winter.

In some cases, the shift in plant selection from protein-rich plants to easily digestible, high energy plants as summer transitions into winter doesn't always happen. A study conducted in 2011 out of Quebec, Canada reported yearling deer selected on the basis of protein content during the summer and fall, and not high energy content. These researchers believed that protein, also good source of energy, was more important to a young, growing deer, such as those in their study. The researchers then compared cultivated plants to wild growing plants in terms of deer foraging preference and amount of protein. It turns out the cultivated plants (alfalfa (*Medicago sativa*), red clover (*Trifolium pratense*), smooth bedstraw (*Gallium mollugo*), and barley (*Hordeum vulgare*)) were preferred over the wild plants (mountain maple (*Acer spicatum*), red-twig dogwood (*Cornus stolonifera*), nodding trillium (*Trillium cernuum*), dandelion (*Taraxacum officinale*), and American red elder (*Sambucus pubens*)). Why? Because of the protein, of course!

So what's the bottom line? It often seems that deer will randomly mow down entire flowerbeds and gardens without pause or care. While the Canada study's cultivated plants aren't typically found in backyard landscapes and gardens, perhaps those that are, are equally high in protein, hence their appeal. Curtis Young reported a preference by deer to *Hosta* sp., while Marne Titchenell and Eric Draper referred to *Arborvitae* sp. as cotton candy and ice cream for deer. Once again, perhaps it's the protein levels in these plants that subject them to such voracious feeding by deer. Further digging by this BYGL writer will need to occur in order to determine protein levels in these and other backyard plants. Surely there are brains out there that study such a subject for a living!

C. KILLDEER: GOOD PARENTS OR NOT? Ashley Kulhanek has received a few reports of discovered killdeer (*Charadrius vociferous*) nests. One was in the middle of a community garden and the other on the grounds of an elementary school. In both places, the nests appeared rather exposed and rudimentary. It seems that mother killdeers would pick a more protective spot in order to "build" a nest! Are killdeer poor parents, or is there something else going on? Like most things in nature, there is more going on than meets the eye. Killdeer are actually good parents; they employ several strategies to protect their nest from harm. The hope is first that the nest never be discovered. Unfortunately, sometimes discovery is inevitable, as was the case in a community garden during weeding time, and a school grounds full of curious children.

The nest of a killdeer is a shallow scrape in soil or gravel. It is sometimes lined with pebbles, grass, twigs, or other bits of debris. Other times, it appears as a shallow depression in the ground with buff, brown speckled eggs in the middle. The strategy behind such a minimal nest is not how the nest is constructed, but where it is placed. Many times, nests are placed in areas where the eggs will blend in perfectly with their surroundings, thus escaping discovery. If the camouflage fails, as it did at both the community garden and elementary school, the female has another trick up her sleeve - or rather her wing!

The female killdeer will employ what is called the "broken-wing defense" if her nest is discovered. In this display the killdeer acts out just what the name implies - a broken wing. It's truly a fascinating time to watch a killdeer perform such a display. What is the point? If you were a fox, for example, wouldn't a wounded bird be easy pickin's? Yes, yes it would! Predators will readily go after the seemingly wounded killdeer and in the process she will lead them further and further away from her nest. Once the threat is a safe distance away, her wing will magically heal and she is able to escape capture.

Killdeer are not the only birds that use this type of strategy to protect their nests; other shorebirds, waterfowl, and ground-nesting birds will feign injury to lure away intruders. The purple sandpiper uses the "rodent-run" display in which it drags its wings to create the illusion of a second pair of legs and erects its feathers to look
like fur. It also squeals while dodging imaginary borders in order to resemble the haphazard dash of a startled rodent. These displays are performed for not just predators, but any intruder. As the volunteers working in the community garden discovered, killdeer will employ the broken-wing defense to humans as well. If you encounter a killdeer feigning a broken wing, realize that you've gotten too close to a nest, so stay out of the area so as not to step on her eggs. Eggs will hatch 24 - 28 days after being laid.

3. BUG BYTES.

A. ORANGESTRIPED OAKWORM MOTHS ON THE WING. Amy Stone reported that orangestriped oakworm (Anisota senatoria) moths are laying eggs in northwest Ohio. While the population density is not known, Amy's observation means this area of the state should be closely monitored. Several Toledo parks, including Oak Openings Metropark, experienced a significant orangestriped oakworm outbreak in 2011 (BYGL 2011-22, 09/02/11). While the caterpillars may be found on all species of oaks, as well as some other hardwoods, they have a distinct preference for oak species that belong to the red oak group. Indeed, in 2011, the red oaks in Oak Openings were nearly 90% defoliates while the white oaks were nearly untouched.

Mature orangestriped oakworms are black caterpillars with eight narrow orange or yellow stripes that run the length of the body. There is a pair of curved spines or "horns" behind the head. The abdominal spines are relatively small. The caterpillars feed in groups until the final instar stage. Early instars feed as skeletonizers, usually confining their feeding to only a few leaves. As the caterpillars mature, they eventually consume the entire leaf except the main veins. Groups of caterpillars will often consume all the leaves on a branch before moving to a new feeding site.

Mature caterpillars are about 1 1/2" long. The last instar caterpillars become solitary and will eventually crawl down from infested trees to become a significant nuisance pest if large numbers begin to climb on buildings, wander about on the ground or on hiking trails, or crawl across roads. Eventually, the mature caterpillars will burrow 3 - 4" into the soil to pupate and overwinter. There one generation per season with caterpillars beginning to appear in late-July. Much of the feeding damage occurs during August with the most obvious defoliation occurring in late-August to early September. Thus, the impact on the health of oak trees is considered minimal since the damage is confined to the end of the growing season.

B.AILANTHUS WONDERs. Joe Boggs reported that large numbers of AILANTHUS WEBWORM (Atteva aurea) moths are flying to his porch lights in southwest Ohio. Reports of plant pests generally solicit concerns; however, since the caterpillars of this ermine moth (Family Yponomeutidae) feed exclusively on the non-native, invasive TREE OF HEAVEN (Ailanthus altissima), Joe's report generated delight, if not great hope!

The webworms produce communal nests by pulling leaflets into a network of loose webbing. Several caterpillars live within the nests consuming the leaflets bound by the webbing. The webworms can grow up to 1 - 1 1/2" long and they have a wide, light greenish-brown stripe down their backs and several thin, alternating white and olive green stripes along their sides. The caterpillars are sparsely covered with short, erect hairs, which help to suspend them within the webbing. When disturbed, the caterpillars move backwards out of the nest and drop towards the ground on strands of silk.

Ailanthus webworms are native to tropical regions in Central and South America where the caterpillars feed on native trees in the genus Simarouba (family Simaroubaceae). The moth was originally assigned the scientific name, Atteva punctella, and it was known that the moth jumped from its native hosts to the non-native Tree of Heaven (Simaroubaceae). It was assumed the moths exploited the ever-expanding range of Tree of Heaven to move north into the U.S. and Canada. However, research involving DNA bar-coding, moth morphology, and food plant records eventually revealed that while A. punctella and A. aurea co-inhabit tropical regions of the New World, the moth in the U.S. and Canada is A. aurea.
Ailanthus webworm moths are multivoltine meaning that there are several generations per year. The caterpillars are capable of defoliating their odoriferous namesake host and they may feed on stem tissue once all leaves are devoured. Unfortunately, such extreme damage is rare on large trees. Although feeding by this webworm has yet to halt the spread of tree of heaven, hope springs eternal since this is one of only a few insects known to infest this encroaching interloper.

C. FESTERING BLISTER BEETLES. Joe also reported observing MARGINED BLISTER BEETLES (*Epicauta pestifera*) and BLACK BLISTER BEETLES (*E. pennsylvanica*) feeding on the leaves and flowers of various annuals and perennials in naturalized areas in southwest Ohio. These beetles have a wide host range and may occasionally cause damage to plants in landscapes and vegetable gardens. Aside from producing noticeable defoliation, the beetles also pack a serious defensive punch! The beetle's blood contains cantharidin, a chemical that can cause severe skin blistering if the beetles are mishandled, hence the common name. This chemical can also be toxic to people and animals if ingested. Oddly, cantharidin is extracted from a European blister beetle to produce "Spanish Fly."

Several species of blister beetles may be found in Ohio. They range in size from 3/4 - 1 1/4" long. The beetles have long legs and narrow, elongated soft bodies. Their heads appear almost bulbous because they are much wider than the pronotum ("neck"). The beetle's flexible front wings often fail to extend to the tip of the abdomen. Margined blister beetles are so named because the margins of their black wings are bounded by gray edges. Black blister beetles lack marking; they are totally … black.

The adults of most species are plant feeders and may be found consuming leaves or flowers on plants belonging to several families including Amaranthaceae, Asteraceae (= Compositae), Fabaceae (= Leguminosae), and Solanaceae. The larvae are specialized predators. Some feed on grasshopper eggs while others feed in the nests of solitary bees where they consume bee eggs, larvae, and food stored in the nest. Blister beetle adults may emerge *en masse* and produce rapid plant damage. Fortunately, their visits are usually very short lived, lasting only a week or two. They can be easily controlled if necessary by using a gloved hand to knock them into a bucket of soapy water (to be carefully disposed!), or by using an insecticide labeled for the host plant.

D. ALONG CAME A SPIDER. There are over 600 species of spiders found in Ohio and most feed almost exclusively on insects. Ohioans may be surprised at the large number of spiders living in their landscaping when heavy morning dews reveal the gossamer creations of these important predators. A few of the more obvious webs currently being seen in Ohio landscapes are those created by FUNNEL WEAVERS (Family: Agelenidae); SHEETWEB WEAVERS (Family: Linyphiidae); and ORBWEAVERS (Family: Araneidae).

Funnel weavers produce large, flat, sheet-like webs spun across grass, under rocks or boards, or over the branches of shrubs such as yews and junipers. The webs slope gently towards a narrow funnel or tube where the spider resides, awaiting its next victim. The spiders are medium-sized and resemble small wolf spiders. Funnel webs may measure more than 1’ across and can become very evident when covered by dew, or when they snare dust during droughty conditions.

Sheetweb weavers construct several types of webs depending upon the spider species. Some species spin flat or slightly curved webs that overlay vegetation and rival the sizes of webs spun by funnel weavers. However, there is no funnel in the web. The spiders hide beneath one edge of the web, or in plant foliage along the edge of the web, to await their prey.

One of the more interesting sheetweb weavers appearing on plants in the southwest part of the state is known as the BOWL AND DOILY WEAVER (*Frontinella communis*). This spider constructs a distinctly bowl-shaped web suspended from plant stems by a crisscrossing array of silk threads and anchored below by interweaving threads. Flying insects drop into the web-bowl after bouncing in pin-ball fashion off the interlacing silk threads used to suspend the web. Of course, when they drop into the web-bowl, they fall into the "arms" (and fangs!) of the awaiting spider!
Orb weavers create circular webs, as their common name describes. Web construction involves sticky and non-sticky silk. Non-sticky silk is used for "radial threads" which radiate from a central point in a bicycle spoke-like pattern. The non-sticky silk is also used for "frame threads" which encircle the web like a bicycle wheel to hold the radial threads in place and to attach the web to support structures such as plant stems or grass blades. "Spiral threads" are composed of sticky silk arranged in a spiral pattern emanating from the center of the web; it's sticky silk that captures the spider's prey. Orb webs range in size from more than 1' to only a few inches in diameter, depending upon the spider species. While some orb weavers create vertical webs, others spin horizontal webs and are often found in home lawns.

Although there are several insecticides labeled for spider control, this is not a recommended practice. Homeowners are urged to practice restraint, appreciation, and understanding. Spiders are very important in reducing insect pest populations; they provide a great service free-of-charge by reducing the need for controlling more significant pests.

E. A BEAUTIFUL BEETLE. BYGL reports are usually focused on plant nasties. However, this week Curtis Young and Joe Boggs reported observing one of the most beautiful beetles found in Ohio. The beetle lacks a common name, but is generally referred to as the "DOGBANE BEETLE" because it primarily feeds on dogbane. The beetle's scientific name is *Chrysochus auratus*, which loosely translates to "made of gold."

Indeed, these beautiful iridescent beetles may look like shimmering spots of gold on the leaves of dogbane, or they may blaze with an array of other colors depending on the viewer's angle to the beetle. A slight change in viewing angle will cause the beetles to glisten with multiple shades of green, copper, blue, and red. The secret to this medley of colors can be found just below the surface of the exoskeleton. Beneath an outer translucent layer rests stacks of tiny slanting plates that cover color pigments. Light rays that strike the surface of the plates are reflected as a shimmering sheen, while light rays that bounce off the pigments produce an array of colors. The result is a lustrous mix of ever-changing hues; a kaleidoscope of colors that are almost unmatched in the insect world.

The beetles are found during the day feeding and resting on dogbane leaves. They are not picked-off by predators because just like the insects belonging to the aforementioned "milkweed menagerie," dogbane beetles have a nasty chemical defense although their delivery method is very different. Dogbane has milky sap that contains poisonous alkaloids (cardiac glycosides), as with the closely related "milkweeds." The beetle ingests the cardiac glycosides, stores them in glands, and then secretes them when threatened by predators. It is believed that the bright colors of the beetles advertise their ability to practice chemical warfare. Pay close attention to areas with dogbane to see these iridescent spots of gold.

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

* This week, a homeowner found a green PANDORUS SPHINX (*Eumorpha pandorus*) in her garage. The Pandorus sphinx is a native moth with its native range from Texas to Wisconsin eastward to Nova Scotia and Florida. They are often found at forest and river edges. Their host plant includes Virginia creeper, peppervine, and grape, and therefore they are also often found in vineyards but are usually not a serious pest.

* Also this week, Cindy Meyer was brought a specimen of the WHITESPOTTED PINE SAWYER (*Monochamus scottellatus*). The whitespotted pine sawyer is a forest pest that is sometimes confused with the ASIAN LONGHORNED BEETLE (ALB) due to the white spots on both species' elytra (wing coverings). Unlike ALB, whitespotted pine sawyer is a native insect and only infests weakened or recently dead conifers, particularly white pine. ALB is an invasive species attacking healthy hardwood trees including all maples, birch, sycamore, willow, buckeye and more. While both are important forest pests, management responses are different for the two, and homeowners and tree service employees should have insects positively verified before beginning any treatment or control regimens. Bring insect specimens to a county OSU Extension office for
help with correct identification, especially those suspected of being invasive species. It is through observations made by the public that many invasive species of plants and insects are first brought to the attention of proper authorities.

* Curtis Young reported observing COMMON STAG BEETLES (also called PINCHING BUGS) (*Psuedolucanus* spp.) at his porch light for a couple of nights in a row, plus a few that did not survive the night lying dead in bedding areas around homes. Stag beetles are large, dark red-brown beetles. Male stag beetles have large mandibles used to battle with each other vying for the attentions of female stag beetles. Mated females lay their eggs on dead or rotting logs. Live trees with internal trunk rot can also be infested. When larvae (grubs that look similar to white grubs) hatch, they tunnel into the rotted wood to extract the juices of the wood decay. Larvae take several years to complete their development. These larvae are often discovered when trees are damaged in stores or cut down to remove a hazard tree. Larvae are found in the loose, moist, pulverized, decayed wood in the bottom of the stump.

* Curtis Young also reported that another large porch light beetle has been with the stag beetles, the GRAPEVINE BEETLE (*Pelidnota punctata*). These beetles are also called SPOTTED JUNE BEETLES or SPOTTED PELIDNOTAS. Grapevine beetles look like oversized lady beetles however they are in a different beetle family, the Scarabidae which includes the Japanese beetle and May/June beetles. The adult beetle eats the leaves and fruit of wild and cultivated grapevines. However it does not occur in great enough numbers to be a serious pest of cultivated grapes in vineyards, thus not requiring management. Like the stag beetles, eggs of the grapevine beetle are laid in rotten wood, tree stumps, or on soil near the host plant, where they hatch into larvae (a true type of white grub). Larvae feed on rotted wood of roots and trunks.

4. DISEASE DIGEST.

A. REPORT FROM CRABLANDIA. For the past several decades, OSU Extension has done extensive crabapple evaluations at the Crablandia plots at the Secrest Arboretum of the Ohio Agricultural Research and Development Center of Ohio State University in Wooster. The current plot is a replicated, randomized plot of 76 crabapple (ornamental *Malus*) taxa. Three new members joined the Crablandia team of Erik Draper, Ken Cochran, Dan Herms and Jim Chatfield this year. The new members of the team are the new OSU Department of Plant Pathology Extension ornamental pathologist Francesca Peduto-Hand, David Wiesenberg of the Wooster Book Company, and professional photographer Stephen Tomasko.

We did our second disease evaluation this past Wednesday and the level of APPLE SCAB infection is at about an average level for this time of the year. Spring was a bit below normal for rainfall, which is such a key factor for the development of this disease. And as a result, apple scab infection was a bit below average level for the spring as well, but the record 16 days in a row of rain in late June - early July resulted in numerous secondary infections of the apple scab fungal pathogen (*Venturia inaequalis*). BACTERIAL FIREBLIGHT is lower than normal at Crablandia this year, reflecting the fact that it was not particularly warm and wet during crabapple bloom in Wooster when infection would have occurred. However, this was not true for some other areas of Ohio relative to fireblight development on apple and other hosts of the fireblight bacterium (*Erwinia amylovora*).

FROGEYE LEAF SPOT (*Botryosphaeria obtusa*) incidence level is normal, but severe and causing defoliation on a few taxa such as 'Red Splendor' and 'Professor Sprenger'. The yellow foliar flecking from APPLE MOSAIC VIRUS was present in the plot on the usual suspects, but not a major problem in any event.

As to insects, JAPANESE BEETLE (*Popillia japonica*) adults are a little more numerous this year in our Wooster plots than in the past few seasons. Japanese beetle adults were busily feeding and mating or is it mating and feeding on crabapple foliage this week.
B. WALNUT ANTHRACNOSE. Walnut anthracnose disease (caused by the fungus *Gnomonia leptostyla*) is specific to the genus *Juglans* including black walnut (*Juglans nigra*). This anthracnose disease typically results in symptoms late in the growing season which is somewhat unusual for many of the other common anthracnose diseases which are springtime-occurring. These springtime-occurring foliage diseases include ash, sycamore, maple, and oak anthracnose. Last year it was first reported in BYGL as occurring in southwest Ohio on August 23, 2012. This year it was noted in northeast Ohio over the past several weeks, probably associated with the extensive rains in recent weeks. Symptoms include small, dark, round spots (1/4" or less in diameter) with accompanying yellowing of walnut leaflets. The infection causes leaf and leaflet drop. Leaf spots are typically surrounded by yellow halos. Incidence of the disease begins on lower leaves where air movement is more limited. The disease is not usually a major health problem for the trees unless it is severe year after year. Significant defoliation early in the season can result in a reduced nut crop. Nut quality can also be affected by infections of the walnut husks. Fungicide applications to control walnut anthracnose are generally not made except in walnut plantations. Cleaning up diseased leaves can help reduce overwintering fungal inoculum.

5. TURF TIPS.

A. CICADA KILLERS CRUISING OHIO LAWNS AND LANDSCAPES. Joe Boggs reported receiving an e-mail message from a distraught home owner describing hundreds of cicada killer wasps (*Sphecius speciosus*) buzzing around their back yard . . . 'tis the season! These giant wasps are the nemesis of ANNUAL DOG-DAY CICADAS (*Tibicen* spp.), so they are considered beneficial. However, their low-level flights over sand volleyball courts, sparse lawns, and bare areas in landscapes can be disconcerting. Their attack on a cicada is signaled by an abrupt halt in the staccato "singing" of the cicada, often punctuated by a high-pitched screech, which usually means a cicada killer has committed an insecticidal act. It is no accident that the arrival of the wasps coincides with the arrival of the dog-day cicadas.

Cicada killers are the largest wasps found in Ohio, measuring 1 1/8 - 1 5/8" in length. The wasps have black bodies that are marked with yellow to white patches on the first three abdominal (rear part) segments. The head, thorax and legs are rusty red and the wings russet-yellow. As with all hymenoptera (wasps, bees, etc.), only the females possess stingers (ovipositors); however, they are not aggressive.

The females spend their time digging and provisioning burrows with paralyzed cicada-prey. The males spend their time establishing and defending territories that encompass females. They will aggressively buzz any transgressor who dares to enter their territory; including people. The females prefer to dig their brood burrows in bare, well-drained soil that is exposed to full sunlight. Although the wasps are considered solitary, all of the females have the same nesting requirements. Thus, it is not unusual for there to be numerous burrows, and wasps, in relatively small areas. The males are notoriously territorial and will chase after other males as well as picnickers, golfers, volleyball enthusiasts, and gardeners. Fortunately, it's all a rouse since the males lack stingers.

Cultural practices that promote a thick growth of turfgrass will usually eliminate a cicada killer infestation in a lawn in one or two seasons. In landscapes, the wasps prefer loose soil in full sun; however, they will occasionally set-up shop in open areas that are covered in a thin layer of mulch. Deepening the mulch layer and periodical raking to disturb the mulch or adding plants to shade the soil will make conditions less favorable for the wasps. Since this is a beneficial insect, there are no insecticide recommendations specific to controlling these wasps. Indeed, the homeowner noted that they were not able to find a lawncare service that would make an application targeting the wasps. Education is one of the best approaches to reducing the angst sometimes caused by these wasps.

6. INDUSTRY INSIGHTS.
A. EMERALD ASH BORER CONFIRMED IN HOLMES COUNTY. An adult emerald ash borer (EAB) has been submitted and confirmed from Holmes County, Ohio this week. The insect was found in Baltic, Ohio and submitted to United States Department of Agriculture (USDA) for confirmation. Samples need only be submitted from counties not currently known to be infested. Information, including the link to the Specimen of Determination form, can be found on the Ohio Department of Agriculture's (ODA) website at [http://www.agri.ohio.gov/divs/plant/eab/eab-index.aspx].

Additionally in the world of EAB, the green menace has been positively identified in a residential tree in the city of Burlington, Iowa in Des Moines County. This is the second Iowa location where the invasive beetle has been found. In 2010, EAB was found on Henderson Island in the Mississippi River in Allamakee County. To date, twenty states have found and confirmed EAB infestations.

B. GET YOUR GREEN INDUSTRY FIX WEBINAR: AUGUST 14. We had a great Webinar session on powdery mildew disease, Ginkgoes, the Great Lakes Early Detection Network Application for Androids and iPhones, bagworms, Japanese beetles, and mushrooms in turfgrass during the last Webinar. Next up: Wednesday, August 14, 8:00 - 8:50 a.m. Join OSU Buckeye Yard and Garden Line (BYGL) experts for this Ohio Nursery Landscape Association's Green Industry Webinar then. If you have questions about registering, contact ONLA at 614-899-1195 or 800-825-5062.

7. WEATHERWATCH.

A. WEATHER UPDATE. The following weather information summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations spanning the dates from July 1 - 17, 2013, with the exception of the soil temperatures which are readings from Wednesday, July 17, 2013 at 5:20 p.m.

The constant rain has somewhat ceased, but temperatures are on the rise. The thermometer has topped the 90F mark for the first time this year, and is accompanied with high humidity.

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<td>2.0&quot;</td>
<td>88.63/82.30</td>
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<tr>
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<td>76.69/76.06</td>
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<td>65.7</td>
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<td>1.8&quot;</td>
<td>88.21/85.65</td>
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For a link to the OARDC Weather Stations, visit: [http://www.oardc.ohio-state.edu/centernet/weather.htm].

8. COMING ATTRACTIONS.

A. DIAGNOSTIC WALKABOUT FOR THE GREEN INDUSTRY. Diagnostic Walkabout for the Green Industry series is once again occurring around Ohio this summer. ONLA, AGI and OSU Extension will be hosting 4 more events in 2013: August 1, Stan Hywet Hall and Gardens, Akron; August 15, Toledo Botanical Gardens; September 12, Inniswood Metro Gardens, Westerville; September 26, Sunset Memorial Park, North Olmsted. Pre-registration is required and class size is limited to 30 per class. ODA, ISA and OCNT credits available. For registration, location and pesticide credit information see: [http://www.onla.org].
B. TCD WORKSHOP. On Wednesday, July 31, 2013, a workshop will be held in Hamilton, Ohio to discuss THOUSAND CANKER DISEASE ON WALNUT. The program will be held at the Butler County Extension and include both an indoor and outdoor portion. Information, including a flyer about the workshop can be found on the Woodland Stewards website at [http://woodlandstewards.osu.edu/]. The workshop runs from 9:00 a.m. - 3:45 p.m. Registration cost is $20.00 per person. Questions about the program can be directed to Kathy Smith at 614-688-3136.

C. GREEN INDUSTRY SUMMER SESSION IN NW OHIO. This year's event will be held on Wednesday, August 7, 2013 beginning at 11:00 a.m. on the campus of Owens Community College's Toledo Campus. Registration information can be requested by contacting Lee Richter at [richter.71@osu.edu]. OCNT, ODA, and ISA credits are available.

D. YOUTH SCIENTIST ADULT EDUCATION CLASS. OSU Extension, USDA Forest Service, Ohio Woodland Stewards, and the Ohio Environmental Protection Agency- Ohio Environmental Education Fund are sponsoring an adult education class August 8-9, 2013. This class will showcase a new hands-on curriculum being developed for youth to learn about invasive species utilizing their own neighborhoods, school yards, and local parks. This curriculum fulfills newly revised State science curriculum standards. The program will be held at the OSU Mansfield campus and includes lots of hand-on activities! Information about the workshop can be found on the Woodland Stewards website at [http://woodlandstewards.osu.edu]. The workshop runs from 9:00 a.m. Thursday through 3:00 p.m. Friday. Registration cost is $225 with Graduate Credit or $50 without graduate credit. Deadline for registration is July 31, 2013. Questions about the program can be directed to Cindy Meyer at 513-887-3722.

9. BYGLOSOPHY. "On every stem, on every leaf . . . and at the root of everything that grew, was a professional specialist in the shape of grub, caterpillar, aphis, or other expert, whose business it was to devour that particular part." - Oliver Wendell Holmes

APPENDIX - ADDITIONAL WEBSITE RESOURCES:

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

Buckeye Turf
http://buckeyeturf.osu.edu

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

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

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

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

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

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

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

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

Following are the participants in the July 16th conference call: Joe Boggs (Hamilton); Jim Chatfield (Hort and Crop Science); Erik Draper (Geauga); Denise Johnson (State Master Gardener Volunteer Program), Ashley Kulhanek (Medina); Tim Malinich (Erie); Cindy Meyer (Butler); Any Stone (Lucas); Nancy Taylor (PPDC); Marne Titchenell (School of Natural Resources); and Curtis Young (Van Wert).

BYGL is available via email, contact Cheryl Fischnich [fischnich.1@cfaes.osu.edu] to subscribe or to unsubscribe. Additional fact sheet information on any of these articles may be found through the OSU FactSheet database [http://plantfacts.osu.edu/web].

BYGL is a service of OSU Extension and is aided by support from the ONLA (Ohio Nursery and Landscape Association) [http://onla.org/; http://buckeyegardening.com/] to the OSU Extension Nursery, Landscape and Turf Team (ENLTT). Any materials in this newsletter may be reproduced for educational purposes providing the source is credited.

BYGL is available online at: [http://bygl.osu.edu], a website sponsored by the Ohio State University Department of Horticulture and Crop Sciences (HCS) as part of the "Horticulture in Virtual Perspective." The online version of BYGL has images associated with the articles and links to additional information.

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