BUCKEYE YARD AND GARDEN LINE 2013-05
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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 5th 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 - PHLOX (Phlox drummondii and Hybrids). Many enjoy this annual flower in the spring only to be disappointed by its performance in the summer. Annual phlox is typically a cool-weather plant that looks great in the spring and fall. However, some of today's new hybrids are more heat tolerant and bloom nicely during the summer months. The 'Intensia' and 'Astoria' series of Phlox tend to perform well during the heat of summer. For instance, P. drummondii 'Intensia' did quite well in 2012 field trials in Ohio and was in bloom for most of the summer, even during the warm dry spells (it's also drought tolerant).

Annual phlox prefers full sun and grows to about 10 - 12" tall and wide. Flower colors can be pink, purple, white and a blend of these colors, and can be used in landscape beds or in containers. Most of the newer hybrid plants also lack the need for deadheading, a great feature for all who love annuals but dislike this chore. Plant in well-drained soil, and consider protecting it in the early stages from rabbits if they tend to be a problem in the garden. Phlox also attracts hummingbirds and butterflies.

*PERENNIAL - HEARTLEAF BRUNNERA, SIBERIAN BUGLOSS, FALSE FORGET-ME-NOT (Brunnera macrophylla). Heartleaf brunnera is a great plant for shade gardens or moist woodland areas, and is in full bloom in central Ohio gardens. While there is not a lot to choose from when it comes to colorful flowers for shade
gardens, this plant adds an intense blue color to the palette. The blue flowers not only stand out in the shade, they also rise above the heart-shaped leaves and are in full view. They appear in late April and May. In addition, some cultivars provide additional color for the shade garden with variegated or silver foliage.

Brunnera takes part to full shade and requires well-drained soil. It tolerates damp (not soggy) soil but does not tolerate dry soil. It can be a prolific seeder in moist sites but does not become aggressive or invasive. Brunnera can be used to naturalize an area and grows in a small mound that gets to a size of around 1 - 1.5' tall and wide.

Brunnera 'Jack Frost' is a very popular cultivar that has blue flowers and silver and green variegated foliage. Brunnera 'King's Ransom' has variegated green and cream colored foliage with blue flower.

*WOODY - SILVER LINDEN (*Tilia tomentosa*). In much of Ohio this magnificent tree is not yet fully leafed-out and foliage is a great feature, but take a look at how attractive the young miniature leaves are as they emerge. Silver lindens have a magnificent symmetrical pyramidal-oval form as they mature. The name comes from the silvery undersides of the leaves that contrast wonderfully with the glossy green upper leaf surfaces when the foliage blows in the wind. Silver linden is not a preferred host of Japanese beetles than other lindens such as the little-leaf linden. It will become a 50 - 60' tall tree.

*VEGETABLE - LETTUCE (*Lactuca sativa*). Lettuce is a great crop for the early garden. A cold tolerant plant, lettuce prefers cool spring or fall weather over the summer's heat. Ample moisture and cooler weather are needed for good germination and growth of most types of lettuce. In fact, warm weather will cause lettuce to bolt (go to flower).

Seed for lettuce is available in an unbelievable array of shapes, textures and colors. Oakleaf types have deeply cut leaves; bibb lettuce have longer, generally thick leaves; butterheads produce loose heads full of sweet leaves; leaf lettuces grow a continuous supply of individual leaves arising from a single crown. Colors of lettuce range from red and burgundy to yellow, and deep or light green. The seed is inexpensive and can be sown in the garden as soon as the danger of heavy frost is over. Low tunnels or cold frames can be used for an earlier crop or to provide fresh greens from a fall planting well into early winter.

Sow seed every two weeks early in the season. Seed can be sown in rows or scattered in a wide row 12 - 15" across. Cover seed with 1/4 - 1/2" of fine soil. Most varieties of lettuce will go to flower once hot weather arrives. Begin sowing seed again in late summer for fall crops.

*WEED - COMMON TEASEL (*Dipsacus fullonum*). Common teasel is a biennial weed that prefers moist rich soils and can reach heights of 4 - 6'. However, it tends to go unnoticed for much of its life. Common teasel reproduces from seed that germinates in late summer or fall and forms a ground-hugging rosette of leaves like a dandelion. Early the next year, these basal leaves die as they are replaced by the mature plant. The mature common teasel forms an erect stem covered with prickles and marked with vertical parallel lines. The undersides of leaf midribs are also covered with prickles and the leaves are arranged opposite on the stem. In late summer to fall, the erect stem will branch with each branch terminating in a 1.5 - 3" egg-shaped structure consisting of bristles, spines and purple flowers. Seeds are produced one per individual flower, hundreds per head. Seeds drop from the dried flower heads; finches and other seed eating birds are attracted to dried flowers and the prickly flower heads are collected for use in flower arrangements and crafts. Common teasel is most apparent in the fall when the persistent erect stem and flower heads can be seen along roadsides and ditches. It is not usually a problem in cultivation, but can be controlled with post emergent broadleaf herbicides or with pre-emergent herbicides applied to prevent the initial low-growing rosette from getting started in late summer.

2. HORT SHORTS.

A. CRABLANDIA. In a sense all of Ohio is Crablandia, and this week is proof of this statement. Joe Boggs reports a long season of colorful blooms in southern Ohio. Jim Chatfield agrees with Joe for once, and while traveling to Brown County this past week was almost knocked down by the sweet fragrance of crabapples at a
Route 71 rest area near Wilmington. Crabapples are coming into full bloom in central Ohio and just getting started in northeast Ohio. At the OSU Crablandia research plot at the Secrest Arboretum of the Ohio Agricultural Research and Development Center (OARDC) in Wooster, this week is bringing many crabapples into bloom due to the 70F and higher temperatures this week. One fascinating contrast from the spring of 2012 to the spring of 2013 tells it all relative to these very different seasons. In 2012, all of the 78 crabapple taxa at Crablandia were already "past effective bloom", and the earliest-blooming crabapples had first blooms on March 25. In 2013, the first, earliest blooming crabapples did not show their first blooms until April 22 with many taxa still not in bloom.

B. SOLAMENTE POR LOS ARBOLES. "But for the trees" was one of the themes at the Arbor Day celebration on the OSU Oval in Columbus this past Friday.

Solamente por los arboles...

… We would not enjoy the Jesse Owens oak, the Buckeye Grove honoring OSU’s All-American Football players, the mighty sycamores on the Oval providing their bone structure to the landscape, and the white redbuds about to bloom at the Chadwick Arboretum labyrinth.

Solamente por los arboles...

The horror…We might be Wolverines or Boilermakers or Badgers, instead of what we most arboriculturally are - Buckeye - Trees.

Solamente por los arboles...

There would be no apples, peaches, cherries, walnuts, olives, and our native state tree, the pawpaw with its "lurid purple flowers rarely seen by the uninitiated."

Solamente por los arboles...

There would be no true solar power, since trees (and other plants) harness the sun in chloroplasts and with carbon dioxide and water produce carbohydrate energy source. The food chain starts with plants: we all eat plants or animals that eat plants. All power to - photosynthesis!

Solamente por los arboles...

We would not have paper for books that channel Shakespeare's words: "In Nature's infinite book of secrecy/A little I can read."

Solamente por los arboles...

We would not be one of only six universities in the country with more than one Tree Campus USA site: OSU’s Main Campus 2012, OSU Wooster Campus 2013.

Solamente por los arboles...

We would not receive annual storm water remediation benefits valued at $82 from a 27” diameter oak on the Oval Tree walk (check it all out on treebenefits.com) based on the i-Tree model ecological audit model developed by the United States Forest Service, Arbor Day Foundation, International Society of Arboriculture, and the Davey Tree Expert Company.

Solamente por los arboles...

The City of Toledo would not receive over $3.95 million annually in energy savings (shade in summer, windbreaks in winter) just from their street trees alone.
We would not have the Chadwick Arboretum on Main Campus and the Secrest Arboretum on the OSU Wooster Campus.

We would not understand what Helen Keller meant when she said: "I wondered how it was possible, to walk for an hour through the woods and see nothing of note. I, who cannot see, find hundreds of things: The delicate symmetry of a leaf, the smooth skin of a silver birch, the rough, shaggy bark of a pine. I, who am blind, can give one hint to those who see: Use your eyes as if tomorrow you will be stricken blind...Smell the perfume of flowers, taste with relish each morsel, as if tomorrow you would never taste or smell again. Make the most of each sense."

Speaking of which, we would not have that perfect pairing, the genus *Coffea*, the tree that give us coffee, and *Theobroma cacao*, the cocoa tree, that literally translates to "food of the Gods." Case closed. The best time to plant a tree was 20 years ago. The next best time is - today.

C. RARELY SEEN BY THE UNINITIATED. Get thee to your landscapes and woodland walks. Check out the emerging first leaves of beech and maple. Enjoy the once in a season joys of the unfurling of new leaves, as we did on Arbor Day in Columbus last week with the bass viol leaves of the just-planting bur oak, complete with male catkin flowers. Check out new leaves and flowers of hornbeam and enjoy the vigor of nature, such as the woodland scene at Johnson Woods Nature Preserve near Orrville where the emerging may-apple shoots punched through the fallen leaves of beech on their way to their appointment with springtime. Time's a wastin', go forth and feel the sun.

D. SELECT DISEASE RESISTANT APPLE CULTIVARS. One of the most common mistakes that home fruit growers make is to select apple cultivars to plant solely based on fruit taste. Good examples are 'Gala' and 'Honeycrisp' apples. They definitely taste great. However, both cultivars are neither resistant to diseases nor insects. They are very challenging to grow, even to commercial fruit growers. To produce high quality apples, a regular spray schedule is absolutely necessary to keep diseases and insects at bay. Most home gardeners do not have the proper equipment for spraying and are not prepared for that much work.

How should gardeners select apple cultivars then? Gary Gao suggested that home fruit growers should select disease resistant apple cultivars. Common examples are 'Enterprise', 'Freedom', 'Jonafree', and 'Liberty'. These apple cultivars are highly resistant to many diseases and also have excellent taste. Fungicides may not be needed at all for disease control.

Since most apple trees need cross pollination for successful fruit set, multiple apple cultivars with similar bloom time need to be planted in the same area. Some nurseries also carry "3-in-1" or "5-in-1", which means three or five apple cultivars grafted on one tree. This is really neat. Gardeners only need one tree. It is also high beneficial to select a dwarf tree for ease of spraying, pruning and harvesting.

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Home fruit growers need to remember that insect control is needed for quality apple production. Bagging fruits with a commercial apple bags, plastic bags, or paper bags could be one way to keep insects from attacking fruits. For more information on apple production, gardeners are encouraged to purchase a copy OSU Extension Bulletin 940, "Midwest Home Fruit Production Guide," and OSU Extension Bulletin 780, "Controlling Insects and Diseases in Home Fruit Plantings" from their local OSU Extension office or OSU Extension eStore: [http://estore.osu-extension.org/index.cfm](http://estore.osu-extension.org/index.cfm).

E. GROWING BLUEBERRIES IN THE BACKYARD. Blueberries are fun to eat and good for you, but are very hard to grow. Gary Gao reminded BYGLers that blueberry bushes need acidic soil (pH between 4.5 - 5.2), good soil drainage, high organic matter (5 - 7%), and a consistent supply of water. Some of the recommended blueberry cultivars are Blue Crop, Blue Jay, Blueray, Draper and Elliott. It is a good idea to plant two different cultivars for...
cross pollination to boost yield even though one blueberry bush can still produce fruit. It is important to do a soil test first to determine where soil pH is. Apply elemental sulfur to lower soil pH, if necessary. Grow blueberry bushes on raised beds for improved drainage. Incorporate 50% (by volume) sphagnum peat moss into the garden soil to increase organic matter content. Make 5 - 6 vertical slits on the side of rootball to "tease" the roots out when planting container grown blueberry bushes. Cover the top of the rootball with 1" of amended soil. Mulch around the blueberry bushes with 4 - 5" of bark mulch. Make sure that the mulch does not touch the blueberry canes at the crown level. Water blueberry bushes 2 - 3 times a week. Container-grown bushes are better than bare-rooted ones; however, poorly planted and managed blueberry bushes could die within a year or two. Amend the soil, and water blueberry plants regularly. Hopefully, gardeners can grow their blueberries. If not, they can still buy blueberries from blueberry growers in Ohio. Refer to the OSU Extension fact sheet on blueberries at [http://ohioline.osu.edu/hyg-fact/1000/pdf/1422.pdf] for more information.

3. BUG BYTES.

A. BUCKEYE LADY BEETLE BLITZ (BLBB). BLBB is a network of volunteers trained to collect lady beetle biodiversity data in Ohio. Lady beetles provide important natural pest control in gardens and on farms. Unfortunately, many native species are declining and the BLBB program has been established to track and understand these declines.

BLBB training includes a full day workshop for volunteers to learn more about lady beetles and participate in research efforts. This year BLBB training will be offered in Columbus, Wooster, and online. Sign up for one of our 2013 training sessions using the registration links below. Registration is $20. Space is limited please register soon!

* May 20, 2013, 9 a.m. - 3:30 p.m., 4H Center, Columbus, to register visit the following web site: [http://www.regonline.com/Register/Checkin.aspx?EventID=1220148].
* May 22, 2013, 9 a.m. - 3:30 p.m., Fisher Auditorium, OARDC, Wooster, to register visit the following web site: [http://www.regonline.com/Register/Checkin.aspx?EventID=1223717].
* Online Training: Interested in attending an online version of our workshop? Contact Mary Griffith [Griffith.483@osu.edu] to register before May 15, 2013.

B. BUCKEYE LEAFMINING FLY. Joe Boggs reported observing leafmining damage on Ohio buckeyes (Aesculus glabra) in a forest in southwest Ohio. Leafminers create mines by consuming the tissue sandwiched between the upper and lower leaf surfaces. Leafminers may belong to a number of insect orders including Lepidoptera (moths), Coleoptera (beetles), Hymenoptera (sawflies) and Diptera (flies). One of the most notorious leafminers is the HORSECHESTNUT LEAFMINER (Cameraria ohridella), a leafmining moth (family Gracillariidae) that is wreaking havoc on its namesake host in Europe. However, this leafminer has not been found in North America.

Joe opened the mines and found maggots, not caterpillars (a moth), or sawfly or beetle larvae. The fly is most likely a member of the family Agromyzidae (leafmining flies); however, Dave Shetlar consulted a compendium of North American agromyzid leafminers, but could not find a reference to a leafmining fly that feeds on buckeye. Since we cannot provide a scientific name or approved common name, we will refer to the fly as the "buckeye leafmining fly" or "buckeye agromyzid."

Buckeye leafmining fly maggots produce snaking (serpentine) leaf mines along the edges of the leaf or within the boundaries of the leaf veins. As the maggots mature, the mines simply become wider; they do not balloon into blotch mines. Leaves may be infested with only a single maggot that produces a meandering serpentine mine across much of the leaf or several maggots that produce parallel mines bounded by leaf veins. Like other agromyzids, the buckeye agromyzid females use their sharp ovipositors to pierce the upper leaf surface so they can feed on the exuding sap. This produces tiny spot-like holes in the leaf surface; a symptom shared with other agromyzids such as the NATIVE HOLLY LEAFMINER (Phytomyza ilicicola).

Seeking the true identify of this leafmining fly revealed a cautionary note. A Google search using the keywords "buckeye serpentine leaf miner" or "Aesculus leafminer" will point seekers in the direction of the horsechestnut
leafminer and although this moth has not been found in North America, seekers may also find reports of "Aesculus leafminer" occurring on Ohio buckeyes in the upper Midwest. Presumably, since the reports describe serpentine leafmines, not the blotchy mines produced by the European moth, the reports were based on observing either the leafmining fly we are reporting or some other agromyzid.

C. CARPENTER BEES BUZZING. Joe and Dave reported that carpenter bees (Xylocopa virginica) have commenced their annual heart-stopping aerial antics in central and southern Ohio. This includes buzz-bombing people or hovering eye-to-eye until even the most well-informed person tends to backs away. Carpenter bees look very similar to bumblebees except their abdomen is an iridescent blue instead of being covered with black or yellow hairs.

Each spring, the newly emerged males and females begin the characteristic behavior that, if not understood, seems terrifying. While the females are busily collecting pollen and nectar wads to shove into their wood tunnels to feed their progeny, the males buzz back and forth around the area guarding their territory from other males. The males may appear to be menacing; however, they lack stingers (ovipositors). Of course, the hovering bees make easy targets for a well-aimed tennis racket; a control strategy that's also good practice for developing a wicked backhand.

Although carpenter bees are excellent pollinators, the females can cause extensive damage to exposed horizontal wood, particularly boards made from redwood, pine, or cedar. They drill holes measuring almost 1/2" in diameter vertically into the wood, and then they tunnel horizontally to construct larval chambers. The best strategy is to plug the holes with steel wool, caulk the holes, and then paint the wood with at least two coats of an acrylic paint. However, the holes should not be plugged until fall. Closing the "door" now with the bees inside their chambers will only result in more damage as the bees chew lateral holes to free themselves.

D. GREEN TIGERS ON THE PROWL. Joe and Curtis Young reported observing SIX-SPOTTED TIGER BEETLES (Cicindela sexguttata) on the prowl in wooded parks in southwest and northwest Ohio, respectively. This native beetle has a curious affinity for darting about on woodland trails. The shiny beetle is actually more emerald green in color than EMERALD ASH BORER (Agrilus planipennis) causing it to sometimes be mistaken for the borer. The tiger has excellent eyesight, quick speed, and it is an agile flyer. These traits make it difficult for people to get a close look for identification.

As the common name implies, the six-spotted green tiger beetle has white spots that are arranged along the trailing edge of the wing covers, three spots per side. The spots are small and sometimes obscured by light bouncing off their highly reflective shiny green bodies. The beetles have elongated bodies with the thorax about half the width of the front wings and abdomen. They have long legs and their bulging black eyes make them look like their wearing dark goggles.

As with all tiger beetles (family Cicindelidae), this is a ferocious predator and it sports powerful sickle-shaped mandibles that are used to grab and dispatch hapless arthropod prey. A word of caution: these carnivores can also use their impressive mandibles to deliver a painful bite to the hand of the overly curious. So, keep your eyes peeled for and hands away from these tigers prowling woodland trails ... and don't kill them since they are good guys!

E. BUZZ-BUMBLING BEETLES. The familiar "bzzzzzzz...thud!" sound made by MAY/JUNE BEETLES as they fly around porch lights at night and bounce off walls, doors, windows, startled homeowners, etc., is now being heard in southwest Ohio. There are five species of beetles in the genus Phyllophaga in Ohio that share the general common name of May or June Beetles. The 0.5 - 1" long adults are slightly oblong, and reddish-brown to black in color. Their obnoxious evening behavior often causes them to be dismissed as nuisance pests. In most cases, this is true. Although adults of most of these species feed at night on flowers, or on tree and shrub foliage, they seldom cause significant damage.

However, large numbers of these beetles occasionally produce noticeable leaf damage, and their nocturnal life-style makes them a deceptive defoliator. In 2000 and again in 2011, conspicuous defoliation of oaks and maples caused by these beetles was reported in Ohio and Kentucky. In a few cases, heavy damage literally occurred overnight. The defoliation involved the removal of all of the leaf tissue with the exception of the main veins. Since the beetles are night feeders, casual observers were left in the dark trying to explain the damage. Although damage may
appear severe, the beetles only fly for a few weeks, leaving plenty of time for defoliated trees to produce new leaves.

Larvae of these beetles are white grubs with feeding habits similar to JAPANESE BEETLE (*Popillia japonica*) and MASKED CHAFER (*Cyclocephala* spp.) grubs; however, May/June beetle grubs prefer pasture grasses. Hence, damage to trees most often occurs near pastures. Likewise, significant May/June beetle grub populations are seldom found beneath older lawns, but are sometimes observed where new homes occupy ground which was recently in pasture. Larvae require anywhere from 1 - 5 years to complete their development, depending upon the species.

F. GRASSHOPPER REBOUND. Last year, Joe Boggs reported observing a localized population "outbreak" of GREEN-LEGGED GRASSHOPPERS (*Melanoplus viridipes*) in southwest Ohio near the Little Miami State Park, Fort Ancient Access, along the "Rail to Trail" bike path (BYGL 2012-04, 04/26/12). In a late-breaking report, Joe revisited the site this week and found grasshopper nymphs in numbers at least equal to if not greater than those observed last season. The green-legged grasshopper is so-named because the front and middle pairs of legs are light to yellowish-green. Indeed, the specific epithet "*viridipes*" comes from the Latin "viridis" which means "green" and "pes" which means "foot."

The adults of this striking-looking medium-sized grasshopper measure around 0.75 - 1" in length. Mature adults have very short, stubby wings that are less than half the length of the abdomen; the short wings may cause mature adults to be mistaken for nymphs. Adults also have a broad black stripe that begins at the eye and runs the full length of the pronotum (first thoracic segment); the stripe appears to blend into the black, stubby wings. Their hind legs are greenish-white with mottled black markings on the outside and black bands on the inside. The grasshoppers prefer to feed on low vegetation, including small trees, in open woods or wood edges.

G. VIBURNUM LEAF BEETLE EGG HATCH. Denise Ellsworth wanted to remind readers that everyone should be on the alert for viburnum leaf beetle (VLB) (*Pyrrhalta viburni*) egg hatch. VLB spends the winter in the egg stage of its life cycle. The eggs were deposited in pits chewed into the bark and wood of viburnum stems last summer. VLB eggs typically hatch in the springtime around the same time that Koreanspice viburnum blooms (VLB's phenological indicator plant). Newly-hatched VLB larvae are extremely small (3/32" in length).

The newly-hatched VLB larvae move from the egg pits to newly-expanding viburnum leaves. Typically the larvae feed from the underside of the leaves. The young larvae also tend to hug the main veins of the leaves. The color of their bodies is a light yellow-green color and as described above, larvae are tiny. All of these characteristics will initially make finding larvae a difficult task. As they mature, their bodies and the amount of defoliation will both increase making them more easily observed.

Recommendations for management of VLB may include both foliar and systemic insecticides, however, there are concerns being raised about the use of systemic insecticides on flowering ornamental plants that are attractive to foraging honey bees and other pollinators. Denise Ellsworth posed this concern to Dave Shetlar and the following is his response, "Actually, the pollinator issue may solve some other problems with VLB management. If you use the drench or soil inject with imidaclorpriid in the spring for larval control, you can't go back and to a second treatment for the adults. In this case, it may be a better strategy to spray the foliage with a pyrethroid or something like TriStar (sic acetamiprid) or Arena (sic clothianidin) to knock out the larvae. Foliar applications of TriStar or Arena do not get translocated into the nectar and flowers. When flowering is over (most of the species and cultivars bloom from late April through May with a couple of late bloomers in mid-June), a drench or soil injection in late June/early July could be used to knock out the adult beetles and try to stop egg lay. Without the pollinator issue, the standard recommendation was to drench or soil inject at leaf bud break (for the larvae), then you would have to go back in late June through July and do foliar sprays with a pyrethroid or translaminar neonic[itinoid]s to take out the adults. We just reverse this strategy!"
Ohio, respectively. Larvae of this tiny moth bore into leaf petioles causing new leaves to droop, shrivel, and turn dark green to black. Symptoms may superficially resemble frost or freeze damage. Look for a slight swelling and a small hole in the petioles of affected leaves. Small quantities of sawdust-like frass (insect excrement) may hang from the hole. Damage by this borer may appear conspicuous; however, the insect seldom causes significant leaf loss, so no chemical control recommendations are currently available. Hand-picking and destroying infested leaves now will reduce the number of moths available for producing a second generation later in the season.

* Joe also reported that with Cincinnati currently at 279 accumulated Growing Degree Days (GDD), landscapers and nursery growers should be closely monitoring for first generation PINE NEEDLE SCALE (Chionaspis pinifoliæ) 1st instar nymphs (crawlers) since eggs hatch at 305 GDD. The tiny, mobile, rusty-red crawlers can be detected with a hand-lens. Crawler populations can be reduced using a contact insecticide including soaps, oils, or standard insecticides labeled for use on the infested conifer species. Infested trees should be closely monitored because eggs may hatch over an extended period time requiring a second insecticide application to kill the late arrivers. Another option is to make an application of the systemic insecticide dinofeturan (e.g. Safari). There are two generations per season in Ohio.

4. DISEASE DIGEST.

A. MAYAPPLE RUST. Mayapple rust is a spectacular annual reminder that plant pathogens interacting with plants is part of the fabric of nature, not just a landscape or garden aberration. The bright orange pustules of the Mayapple rust fungus (Puccinia podophylli) are now becoming more and more evident on the parasol-like leaves of Mayapple in southern Ohio and will become more evident further north in the coming week. The disease is seen as yellow spots as symptoms on the upper leaf surfaces and incredibly bright orange pustules of the rust fungus itself on the undersurface of the leaves. In some cases these pustules result in major distortion and early senescence of the leaves. This is an autoecious rust, occurring only on Mayapples, not going back and forth between two different plants such as with cedar rusts (junipers and rosaceous hosts) or white pine blister rust (white pines and gooseberries). Populations of Mayapples in the woods seem to handle the annual occurrence of this disease each year and no controls are recommended for these habitats.

5. TURF TIPS.

A. DANDELION, DANDELION, PUFFBALL. Curtis Young, Joe Boggs and Pam Bennett all reported on dandelion (Taraxacum officinale) development. Dandelions in northern Ohio are in full bloom, in central Ohio they are in partial puffball and in southern Ohio the majority is in the puffball stage. Dandelions are one of the most common lawn weeds throughout the state and a lot of time and effort is expended trying to manage them. Dandelions grow best in sunny, thin lawns, and can tolerate a wide range of soil types and conditions.

Dandelions are perennial weeds. The leaves of the plant grow in a rosette mostly flat on the ground from a long taproot. The bright yellow flowers are usually produced on 12 - 18" long stalks.

Dandelion management can be accomplished with a combination of tactics, cultural, mechanical and chemical.

Culturally, maintaining a strong, thick, healthy lawn is the first step in reducing dandelion populations. Parts of maintaining the healthy lawn are not mowing shorter than 2.5" in height, limiting unnecessary traffic on the lawn when conditions are stressful, maintaining proper fertility, and watering when needed.

When there are only a small number of dandelions, digging them out is an effective method of control. This is most easily accomplished after the ground has been softened by rainfall or a thorough watering. Use a dandelion digger to try to get as much of the taproot (minimally 4 - 6") as possible so the remaining portion of the root doesn't have enough energy to sprout new buds and leaves. If the root does re-sprout a new plant, dig it out again. Mowing frequently and collecting clippings when the dandelions are going to seed helps reduce seed production and spread. However, seeds can and will blow in from other locations.
Chemical management of dandelions is best accomplished with 2,4-D, a common broad-leaf herbicide. 2,4-D can be purchased as a single active ingredient or in a mixture with other broad-leaf herbicides such as MCPP (Mecoprop) and dicamba. The best time to apply these products is in September when the plants are transporting carbohydrates from the leaves to the roots for winter storage. 2,4-D is absorbed into the plant and translocated to the roots resulting in the death of the taproot and thus the entire plant. One may not see much response by the plant in the fall after the application, but it’s unlikely the dandelions will sprout again the following spring.

If one chooses to use an herbicide in spring, the best time to apply it is after the dandelions bloom and puffballs begin to appear. Dandelions are at their weakest and vulnerable to herbicides right after they bloom in the spring and reserves in their roots are at their lowest.

Temperatures should be in the 60s or 70s, wind should be calm, and there should be no rain forecast for at least 24 hours; preferably 48 hours. However, extreme care should be taken when applying herbicides in the spring. It is much easier to damage non-target plants in spring than fall, because tender young leaves are much more sensitive to spray drift than tougher, older leaves. Direct spray toward target plants, keep spray nozzles as close to the ground as recommended, and spray only those parts of the lawn that need it. Always read the label carefully and follow its directions each and every time you use the herbicide.

6. INDUSTRY INSIGHTS.

A. MONITOR FOR SPRUCE SPIDER MITES. Dave Shetlar reported that the overwintered 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 winter and summer months in the egg stage. As temperatures warm in the spring, or cool in the fall, the eggs hatch making this a "cool-season" mite. Typically, fall generations are more damaging than the spring generations owing to a more extended feeding period. However, fall feeding symptoms do not become evident until the following season, so damage that is observed now most likely occurred last fall.

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 1/2 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.

B. GET YOUR GREEN INDUSTRY FIX WEBINARS. We are now hearing about Imprelis again. Impatiens downy mildew has suddenly resulted in a dearth in garden centers this spring of the previous #1 bedding plant in the country. Rose rosette virus is quite a challenge to the ever-popular landscape roses. Just how far is this season behind last year? What are some of the plants "rarely seen by the uninitiated" in landscapes this spring? Why do we P[osphorus]? What is the latest (in a little more detail) from the Buckeye Yard and Garden Line? Join OSU
BYGL experts on the Ohio Nursery and Landscape Association's Green Industry Webinars, the second Wednesday of the month from May-October, starting May 8, 2013. If you have questions about registering, contact ONLA at 614-899-1195 or 800-825-5062.

C. THE GYPSIES ARE COMING, THE GYPSIES ARE COMING. GYPSY MOTH caterpillars have begun hatching across much of the state. Their emergence occurs at nearly the same time as the first bloom of REDBUD (Cercis canadensis) based on the OARDC Growing Degree Day Calendar. While emergence begins at 192 GDDs, optimal time to treat isn't until approximately 370 GDDs.

The Ohio Department of Agriculture (ODA) works diligently to monitor and manage gypsy moth populations in cooperation with the United States Department of Agriculture's Forest Service (USDA FS). Counties across Ohio that will have aerial treatments applied to manage the moth this spring include: Allen, Athens, Champaign, Defiance, Fairfield, Hancock, Hardin, Hocking, Logan, Marion, Meigs, Putnam, Ross, Union, Van Wert, Vinton, and Wyandot counties. Information about each treatment block, including digital maps, is available on the ODA website at [http://www.agri.ohio.gov/gypsymoth/].

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 January 1 - April 30, 2013, with the exception of the soil temperatures which are readings from Wednesday, May 1, 2013 at 8:30 a.m.

While many areas of the state have received rain recently, year-to-date totals recorded at each of the weather stations are less than the normal precipitation amounts thus far in 2013. Temperatures are beginning to feel more "spring-like" - let's hope they are here to stay.

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

B. GROWING DEGREE DAYS (GDD). GDD is a measure of the daily maximum and minimum temperature and directly relates to growth and development of plants and insects. The GDD of any zip code location in Ohio is estimated using the GDD of ten OARDC weather stations and available on the web at: [http://www.oardc.ohio-state.edu/gdd/].

The range of GDD accumulations in Ohio from north to south is 162 to 309. Following is a report of GDD for several locations around Ohio as of May 1, 2013: Painesville, 162; Cleveland, 167; Toledo, 160; Canfield, 180; Findlay, 166; Van Wert, 169; Wooster, 195; Coshocton, 243; Columbus, 262; Springfield, 245; Dayton, 250; Cincinnati, 293; Ironton, 308; Portsmouth, 309; and Piketon, 308.

To put these GDD accumulations into perspective, the following is an abbreviated listing of plant and insect species with their respective phenological event and average GDD accumulations at which these events occur. Due to variations in weather, temperature, humidity, etc., these events may occur a few days earlier or later than predicted by the average GDD. By looking at a city, town, or village nearby on the above list, or visiting the above website, one can see what is taking place in the landscape.
Manchu cherry, full bloom, 155; spring snow crabapple, first bloom, 155; apple serviceberry, first bloom, 159; spruce spider mite, egg hatch, 162; Bradford callery pear, full bloom, 164; Allegheny serviceberry, full bloom, 169; saucer magnolia, full bloom, 174; P.J.M. rhododendron, full bloom, 178; boxwood psyllid, egg hatch, 179; weeping Higan cherry, full bloom, 179; Koreanspice viburnum, first bloom, 185; regent serviceberry, first bloom, 186; Japanese flowering crabapple, first bloom, 189; eastern redbud, first bloom, 191; gypsy moth, egg hatch, 192; Koreanspice viburnum, full bloom, 205; azalea lace bug, egg hatch, 206; 'Spring Snow' crabapple, full bloom, 209; common flowering quince, full bloom, 214; birch leafminer, adult emergence, 215; 'Coralburst' crabapple, first bloom, 217; elm leafminer, adult emergence, 219; common chokecherry, full bloom, 221; alder leafminer, adult emergence, 224; honeylocust plant bug, egg hatch, 230; sargent crabapple, first bloom, 230; common lilac, first bloom, 234; Ohio buckeye, first bloom, 245; common horsechestnut, first bloom, 251; hawthorn lace bug, adult emergence, 253; hawthorn leafminer, adult emergence, 260; flowering dogwood, first bloom, 263; red buckeye, first bloom, 265; blackhawk viburnum, first bloom, 269; imported willow leaf beetle, adult emergence, 274; Sargent crabapple, full bloom, 298; red horsechestnut, first bloom, 304; pine needle scale, egg hatch - 1st generation, 305; cooley spruce gall adelgid, egg hatch, 308; eastern spruce gall adelgid, egg hatch, 308; common lilac, full bloom, 315; 'Pink Princess' weigela, first bloom, 316; blackhawk viburnum, full bloom, 322; redosier dogwood, first bloom, 323; dwarf fothergilla, full bloom, 325; 'Winter King' hawthorn, first bloom, 328; and lilac borer, adult emergence, 330.

8. COMING ATTRACTIONS.

A. OHIO'S NON-NATIVE INVASIVES. The Ohio Woodland Stewards Program is offering an all day workshop on Ohio's Non-Native Invasives at the Ohio State University, Mansfield Campus, 229 Riedl Hall, 1760 University Drive, Mansfield, Ohio, May 17, 2013, 8:15 a.m. - 4:00 p.m. Information can be found on the website at [http://woodlandstewards.osu.edu]. Registration deadline is May 10, 2013.

B. TREE SCHOOL. The Ohio Woodland Stewards Program is offering an all-day Tree School at the Ohio State University, Mansfield Campus, 229 Riedl Hall, 1760 University Drive, Mansfield, Ohio, May 18, 2013. Information can be found on the website at [http://woodlandstewards.osu.edu]. Registration deadline is May 10, 2013.

C. OHIO'S INVASIVE SPECIES SERIES, JUNE 2013, OSU MANSFIELD CAMPUS. Invasive species come in all shapes and sizes. Whether a plant, insect, fungus or vertebrate, each invasive species impacts their segment of the ecosystem in different ways. This seminar series focuses on some of the key issues associated with non-native, as well as how to identify them and deal with them in your own backyard.

*June 4 - This evening's topic will cover two non-native invasive insects impacting Ohio's trees. Learn how to identify emerald ash borer (EAB) and Asian longhorned beetle (ALB) and understand their impact on your trees.
*June 11 - While EAB and ALB have gotten a lot of attention lately, there are still other non-native pests that you should be aware of. This seminar will cover gypsy moth, thousand canker disease on black walnut, viburnum leaf beetle and hemlock wooly adelgid.
*June 18 - Non-native invasives don't impact just our trees. This evening seminar will focus on the impacts non-native invasives have on wildlife and the wood products our woodland produce.
*June 25 - The last seminar session will focus on specific non-native invasive plants. Characteristics for identification will be covered along with control options.

Registration for each seminar is $15 OR register for all 4 seminars for $45. Information can be found on the website at [http://woodlandstewards.osu.edu].

9. BYGLOSOPHY. "If it's drama that you sigh for, plant a garden and you'll get it. You will know the thrill of battle fighting foes that will beset it. If you long for entertainment and for pageantry most glowing, plant a garden and this summer spend your time with green things growing." - Edward A. Guest
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 April 30th conference call: Pam Bennett (Clark); Joe Boggs (Hamilton); Jim Chatfield (Hort and Crop Science); Julie Crook (Hamilton); Erik Draper (Geauga); Gary Gao (Hort and Crop Science); Denise Johnson (Master Gardener Volunteer program); Tim Malinich (Erie); Dave Shetlar (Entomology); Paul Snyder (OARDC and Secrest Arboretum); Nancy Taylor (C. Wayne Ellett Plant and Pest Diagnostic Clinic); and Curtis Young (Van Wert).

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

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

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