BUCKEYE YARD AND GARDEN LINE 2014-01
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This is the 1st 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.

****SPECIAL ANNOUNCEMENT: COMING IN DECEMBER 2014 - OSU GREEN INDUSTRY SHORT COURSE. The Ohio State University and the Ohio Turfgrass Foundation announce the 87th running of the Ohio State University 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. Plans are underway, so stay tuned for information throughout the season. The program will have a full range of educational programming, industry certification credits, and registration options. We are all excited about this new opportunity as it develops on the 100th anniversary of the Smith-Lever Act (1914) that established the Cooperative Extension Service of the nation's land grant universities.****

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1. PLANTS OF THE WEEK.

*PERENNIAL - SNOWDROPS (Galanthus nivalis).* Showing up in landscapes (finally) in central Ohio, snowdrops are one of the earliest spring-blooming bulbs. The snowdrop's name is appropriate as cold temperatures and snow isn't a problem. In fact the recent spring snow covered many throughout the state.

Because it shows up so early, when there is little else in bloom, it is very visible in the landscape. The white bell-shaped flowers hang down from 4 - 7" stems. The name comes from the Greek words gala (milk) and anthos (flowers) referencing the milky white flowers. Plant the bulbs in the fall in masses, in full sun or partial shade, and eventually they give a wonderful display of fairly maintenance-free bulbs that stick around for years, spreading as they age. They can be used to fill in around shrubs and trees, in a rock garden and to fill in spots in a perennial bed for early spring color. Snowdrops, in the amaryllis family, are typically deer and rodent resistant as are many plants in this family. Author: Pamela J. Bennett

*WOODY - COMMON WITCHHAZEL (Hamamelis virginiana).* Witchhazels are large shrubs that have many desirable characteristics and offer four-season interest in the landscape. Common witchhazel is our native witchhazel. It differs from the Asian species by flowering in late fall and early winter. If left unpruned, witchhazel has the potential to grow to 20 - 30' in height and 15 - 20' in spread, becoming treelike. It is a valuable shrub for use in a naturalized border under the tall canopy of mature shade trees; however it will tolerate full sun in moist soils.

Witchhazel has no serious disease or insect problems, although it may develop galls on the leaves if planted near birch trees. The botanical name Hamamelis translates to "together with fruit," which refers to the fact that the fruit and flowers occur on the same plant at the same time. The leaf arrangement is alternate with simple, broadly ovate leaves. They are medium-green during the summer months turning to bright yellow in the fall, which can be a spectacular sight. In the late fall after its leaves have mostly fallen, witchhazel produces fragrant, yellow flowers that have four ribbon-like petals, each 0.5 - 0.66" long. The fruit is a 0.5" long capsule that discharges its seeds one year after flowering. Author: Julie S. Crook

*VEGETABLE - PEAS (Pisum sativum).* Peas are frost-hardy, fast maturing, cool-season vegetables which can be planted when the soil temperature reaches 45F and the soil is dry enough to work. There are two types of peas. Garden peas or shelling peas (also known as English peas) are the most common. Garden peas have tough pods and the peas are removed from the pods for consumption. Snap and snow peas (also known as sugar peas) have tender, edible pods. Snow peas are consumed when the seeds are just beginning to develop and snap peas are eaten before the seeds are mature and the pods are still tender.

Peas should be planted 1 - 1.5" deep and one inch apart and can be planted in single or double rows. Plants should be allowed 18 - 24" between single or pairs of rows and 8 - 10" between double rows planted in pairs. Germinating seeds and seedlings are very susceptible to cultivation damage. Caution should be used when hoeing around the plants. Most dwarf and intermediate varieties are self-supporting but taller and vining types of peas will benefit from being trellised which also makes harvesting easier. Fusarium and root rots can be a problematic in poorly-draining soil.

Earlier plantings tend to produce more than later plantings. Shelling peas should be harvested when the pods are swollen and round. Snap peas are harvested when the pods are beginning to round but are not fully mature. Snow peas should be harvested when the pods have reached their full length approximately 5 - 7 days after flowering. Author: Jacqueline Kowalski

*WEED - HAIRY BITTERCRESS (Cardamine hirsuta).* Hairy bittercress is off to an aggressive start thanks to the ideal cool, moist conditions this spring. This summer or winter annual which sometimes acts like a biennial, is a member of the Cruciferae or mustard family. In Columbus it is already flowering.

The early leaves of the plant are hairy and develop in a basal rosette. The mature pinnate leaves are kidney-shaped leaflets and are smaller than the lower leaves and have a glossier surface. This early in the season,
the plant is very petite and the stem is only 3" tall; however, it can grow to 12" tall. Hairy bittercress produces a small cluster of tiny flowers each with 4 white petals that are followed by narrow (silique) seed pods. When dried or disturbed, the seed pods explode and propel numerous seeds into the surrounding area.

Since hairy bittercress seeds can develop throughout the summer, persistent pulling prior to flower development is recommended for cultural control. The use of a pre-emergent herbicide can help reduce the population.

Hairy bittercress is a nuisance in the landscape, turf, greenhouse and nurseries. Now is an ideal time to start identifying and pulling this weed. "Weeds of the Northeast" by Uva, Neal and DiTomaso is an excellent source for weed identification. Author: Denise M. Johnson

2. HORT SHORTS.

A. ASH SNAPS - WHAT CAN HAPPEN AFTER THE EMERALD ASH BORER (EAB). As the EAB continues to kill ash trees (*Fraxinus* spp.) in its path, people need to be aware of what happens next. As EAB feeds on ash trees, the dead and dying trees have a tendency to become brittle and often do not remain standing for long. Kathleen Knight with the US Forest Service in Delaware, Ohio and others are engaged in ongoing research as to what happens to ash trees after EAB.

Amy Stone reported seeing more and more dead ash trees falling over or breaking off in NW Ohio. This failure has been referred to as "ash snaps" and can occur under the soil-line where roots become exposed as the tree falls, or on the main trunk at the ground-level or higher.

Awareness of this problem is important as woodland owners, park managers, communities and homeowners address the dead and dying ash trees. It is also a word of warning for parts of the state where EAB populations are still low, or the insect has not yet been detected. Ash trees located in high traffic areas should be a priority and addressed accordingly. The OSU FactSheet, "My Ash Tree is Dying...What Do I Do?" may help managers in deciding what to do next. This FactSheet can be found at [http://ashalert.osu.edu/userfiles/Ash%20Wood%20Utilization.pdf]. Timing is imperative as we cannot predict when the trees will fail, but we know that they become brittle and hazardous. Author: Amy Stone

B. WINTER INJURIES TO FRUIT CROPS. Gary Gao reported that the "polar vortexes" have caused quite a bit of damage to our fruit plants this year. Low temperatures had dipped down to -14 F in many areas and -22 F in several counties. Peaches, blackberries, and European grapevines are some of the common crops that sustained damage. The flower buds on peaches were severely damaged in many locations of Ohio. The peach crop could be very limited this year, if any at all. Hopefully, peach trees on high elevations or protected areas are okay.

In blackberries, both flower buds and vascular tissue of the floricanes were damaged by cold temperatures. Hence, those blackberry plants without any winter protection may not produce much of a crop this year. European (*Vintfera* sp.) grapevines have sustained damage to both primary buds and secondary buds. The crop from the European grapevines may be very limited. Hopefully, French-American hybrids will bail out Ohio grape growers this year. BYGL readers should still be reminded that Ohio wineries have wines from the last few years and will have more from this year's harvest however, limited it may be. Wine enthusiasts are still encouraged to visit wineries in Ohio.

Blueberry bushes are more cold-hardy than other crops. However, they are not free of cold injuries. Randy Zondag (Lake County) examined flower buds of his blueberry bushes. He reported that 40% of the flower buds were damaged. Time will tell how blueberry bushes fared in other parts of the state.

Gardeners are encouraged to purchase a copy of the "Midwest Home Fruit Production Guide" from their local extension office for more information. Commercial blueberry growers are encouraged to purchase a copy of the new "Midwest Blueberry Production Guide" from OSU South Centers by calling Charissa McGlothin at 740-289-2071, ext. 132. Author: Gary Gao
C. FRUIT BULLETINS FROM OSU EXTENSION. OSU Extension has several bulletins on fruit production. One of them is OSU Extension Bulletin #780, "Controlling Diseases and Insects in Home Fruit Plantings." This bulletin is a handy reference on pest management of fruit crops and is updated every year. This bulletin is available for purchase through OSU Extension offices.

For commercial growers or more serious fruit growers, OSU Extension Bulletin #506B2, "Midwest Small Fruit and Grape Spray Guide" and OSU Extension Bulletin #506A2, "Midwest Tree Fruit Spray Guide" are the preferred references. The "Midwest Small Fruit and Grape Spray Guide" can be purchased for $11.85 (tax, shipping and handling included) from OSU South Centers by calling Charissa McGlothlin at 740-289-2071, ext. 132. The "Midwest Tree Fruit Guide" can be ordered from Iowa State University. Follow this link for more information: [https://store.extension.iastate.edu/Product/2014-Midwest-Tree-Fruit-Spray-Guide]. Author: Gary Gao

D. SPRING WILDLIFE UPDATE. As the loooooong winter slowly comes to a close, signs of spring are popping up, including the wildlife. Migrant songbirds are making their way back to Ohio from warmer, tropical regions. EASTERN PHOEBES, FOX and CHIPPING SPARROWS, YELLOW-RUMPED WARBLERS, BROWN CREEPERS, and YELLOW-BELLIED SAPSUCKERS have been spotted in central Ohio. Nest boxes for EASTERN BLUEBIRDS and TREE SWALLOWS should be cleaned out and ready for occupancy as these two species are also back in Ohio looking for homes.

Several other species are currently very vocally searching not for homes, but for mates. SPRING PEEPERS, WESTERN CHORUS FROGS, and WOOD FROGS are calling from the edges of ponds and vernal pools in hopes of attracting a mate. Salamanders, Ohio's silent amphibians, have made their way their preferred mating spots, vernal pools in woodlands. Keep your eyes and ears open as spring continues for more wildlife sight updates! Author: Marne Titchenell

E. WINTER WILDLIFE DAMAGE. It was a long, cold winter for Ohioans, but at least we had the luxuries of heated homes and refrigerators full of food. Ohio wildlife had a difficult time this winter. Extended cold temperatures and long periods of snow cover can make foraging for and finding food difficult. Landscape plants around your home that typically escape damage during the winter may not have been so fortunate this year. For example, WHITE-TAILED DEER were foraging on the prickly leaves of holly this winter in some parts of the state. In areas that received a lot of snow fall (record levels in the northern parts of the state), EASTERN COTTONTAIL RABBIT damage could be seen a foot or more off the ground as the hungry cottontails traversed right on top of the snow to reach tasty vittles. MEADOW VOLE damage, characterized by girdled stems and lower branches of wood plants and surface runways through turf was also occurring.

As the temperatures warm and Ohio greens up, deer and rabbits will switch their diets from woody plants to green leafy foliage and tender plant shoots. Be vigilant and keep an ever-watchful eye out for damage. Protect plants with egg and capsaicin (hot pepper) repellents. Considering adding some new plants to the landscape? If you've experienced deer damage in the past, consider planting less palatable species. A list of plants rarely damaged by deer can be found here: [http://njaes.rutgers.edu/deerresistance/].

CANADA GEESE have paired up by this time of year and many females are already sitting on nests with eggs. At this point, it is next to impossible to use harassment techniques to remove the pair from the area. As this species is protected by law, nests or eggs cannot legally be harmed without a permit. Goose damage permits are issued by the Ohio Department of Natural Resources (ODNR), Division of Wildlife. Visit [http://wildohio.com] and click on ‘Species and Habitats’ then ‘Nuisance Wildlife’. Stay tuned for more information and tips on managing nuisance wildlife in future BYGL articles. Author: Marne Titchenell

F. SPRING CLEAN UP HAS BEGUN! Baseball had opening day and so do Ohio gardens. Despite the fact that it seems like there isn't much happening in the garden right now, it is time to get into the perennial beds and vegetable gardens and start prepping for the spring. First, in both the vegetable and perennial garden cut back any plants that you didn't get to last fall. Old asparagus fronds should be cut back to the ground. In the perennial beds, any plants that you left for winter interest (ornamental grasses, sedum, etc.) should be cut before spring growth begins. It's a lot easier to do it when you don't have the new tender growth to worry
about. If any plants have been pushed out of the ground or "heaved" due to freezing and thawing of the soil, replant them. DO NOT step on them to push them back into the ground! Dig them up and dig an appropriate hole and replace the plant.

Spring is a good time to transplant or divide any perennials that bloom in the summer or fall. Remember, the general recommendation is to divide opposite of their bloom season. This doesn't mean that you can't divide spring bloomers now, especially if it's a must. You will sacrifice the blooms this season but they won't be harmed for next year. Mums, asters, Sedum, Coreopsis, daisies, Rudbeckia, and daylilies are examples of plants to divide now. Ornamental grasses should be divided now but be sure to find someone with extra muscle to dig these bad boys up for you! If they have been in the ground a little while, they are quite reluctant to be taken from their home.

Roses should be cut back at this time. The goal in pruning roses is to shape them up and encourage new growth, and to open the plant up to allow air and sunlight to filter into the middle of the plant. Use sharp pruners and cut any broken or damaged branches first. Then, focus on shaping and opening up the plant. Cut branches back to just above a bud, facing in the direction that you want that branch to grow. In other words, if the bud faces inward, the branch will grow that way. Try to select outward-facing buds in order to keep the center as open as possible. Shrub roses tend to be a little more forgiving than do hybrid tea and floribunda roses when it comes to pruning back to just above a bud. Shrub roses can be cut about half way back without too much worry about cutting above the buds.

A final task is to fertilize plants, if needed. Remember, the first thing to do before applying fertilizer is test the soil in order to determine what nutrients are needed. You may find that very little extra nutrients are necessary. In addition, there are some perennials that don't like a lot of nutrients. Instead of doing a general "spread it everywhere on everything," adopt smart gardening practices and only fertilize if needed, according to the results of the soil test. Author: Pamela J. Bennett

G. STILL TIME TO REJUVENATE DECIDUOUS SHRUBS IF NEEDED. Sometimes shrubs just get out of hand or too big for their britches or just look straggly. If that's the case, spring is a great time tojuvenate these plants in order to get them "back under control." Many types of deciduous shrubs tolerate being cut back to the ground (e.g., some varieties of hydrangea) or if they have a crown (e.g., spirea), cut close to the crown. When they leaf out this season, they will look like a brand new plant. Then in the future, you can keep it under control each year if needed.

Rejuvenation pruning needs to be accomplished in the early spring, before new growth begins. Deciduous plants store their sugars or energy in the roots for the winter, sending all of this energy into new branches and leaves for the season. By cutting them back before the new growth begins, all of that energy is directed into the new plant.

This is not a practice that can be done on evergreens shrubs such as Taxus, boxwood, arborvitae, and others. These plants store their sugars in the leaves; cutting these plants back to the ground really slows their development, and in some cases, they may take forever to recover. A good rule of thumb to rejuvenate these plants it so cut back to pencil-sized wood. Or, don't let them get out of hand in the first place!

Plants such as forsythia, shrub dogwood, flowering almond, spiraea, and many others can be rejuvenated in the spring. Because the weather has been so chilly, there is still time to do this now, but don't wait too long! Author: Pamela J. Bennett

H. A REPORT ON THE OHIO STATE UNIVERSITY EXTENSION MASTER GARDENER VOLUNTEER INTERNATIONAL OUTREACH PROJECT IN ECUADOR. Pam Bennett and Denise Johnson led a group of 14 OSUE MGVs to Otavalo, Ecuador in late February for the 2nd year of the MGV international outreach projects. The MGVs partnered with the Tandana Foundation, [www.tandanafoundation.org] who has a relationship with 23 indigenous communities in Otavalo. The goal of the project is ultimately to plant trees in order to protect the water supply and to assist the communities with gardening projects.
The communities have a tree nursery that is managed by one person; the work that the MGVs completed at the nursery was comparable to 55 days' worth of work. The work included weeding and filling planting containers with soil. We also had the opportunity to teach a couple of school groups about gardening. We planted potatoes on the hillside and tree seedlings in the schoolyard and other areas. The MGVs enjoyed a community workday or minga, in which everyone in the community participates on a project.

After a morning of work in the communities and the tree nursery, MGVs would then tour and learn more about the culture of the area. This year we visited a rose plantation that does 30% of their entire sales during the week of Valentine's Day. This volunteer vacation is an excellent outreach opportunity for MGVs from any Ohio county or any university. If you have any questions, contact Pam Bennett at [bennett.27@osu.edu] or call 937-521-3860.

For more information on the entire trip and details on next year’s trip, go to this website [http://blogs.extension.org/mastergardener/] and search for Ecuador 2014. Author: Pamela J. Bennett

I. WINTER FISH KILL. One of the results of the long, harsh, snowy winter of 2013-2014 in some ponds is a winter fish kill. Curtis Young reported that he observed one of these fish kills in Putnam County. The shoreline of the pond was covered with multiple species of dead fish including catfish, bass, carp, and bluegills. Most of them were large; the catfish were 12-16" in length.

There are a number of factors that come together to produce a winter fish kill. Several of these factors include total coverage of the pond with ice for long periods of time, snow over top of the ice, small pond size, shallow depth of water in the pond, heavy vegetation growth in the pond the previous summer, and a large fish population. Ultimately, these factors collectively contribute to an oxygen depletion of the water. The ice coverage prevents gas exchange with the atmosphere. The snow coverage prevents light from penetrating into the water to drive photosynthesis which would generate oxygen. Heavy vegetation growth in the pond the previous summer would die and decompose again depleting the oxygen in the water. Even though the fish population would be relatively inactive during the winter, they would still require oxygen to survive. Once the oxygen was depleted below a critical threshold, the fish would suffocate and die. The dead fish frequently do not come to the surface until springtime after the ice melts away and the water begins to warm.

Owners of ponds may be concerned that the fish kill was the result of a chemical contamination and questions will arise as to the cause. Most fish kills are not the result of chemical spills or drifts, but rather a series of unfortunate events that brought about the demise of the fish. For more details on winter fish kills, see an article by Eugene Braig, OSU Program Director, Aquatic Ecosystems entitled, "Your Pond (and Fish) Emerging from a Potent Winter" which can be found at the following web address: [http://senr.osu.edu/YourPondUpdate]. Author: Curtis E. Young

3. BUGBYTES.

A. WHITE PINE WEEVIL WARNING. Joe Boggs reported that with GDD accumulations finally rising in southern Ohio (64 GDD as of Tuesday in Cincinnati), and with a string of warm days predicted for the region, overwintered white pine weevil (Pissodes strobi) females should soon become active. The GDD for overwintered female weevil emergence is 84 which means these snout beetles are primed to spring forth in the southern part of the state. Overwintered females deposit eggs in the terminals of a wide range of conifers including: Douglas-fir; all spruces; and its name-sake host as well as Scotch, Jack, red, and pitch pine. The resulting white, legless, slightly curved, grub-like larvae tunnel downward just beneath the bark, feeding on phloem tissue until pupation. The tops of weevil infested trees become wilted, turn brown, and die. Main leaders are often curved into a “shepherd's crook.”

Removing the paper-thin bark from infested leaders later in the season will reveal reddish-brown frass (insect excrement) and cream-colored weevil larvae. As the larvae near pupation, they excavate tube-shaped chambers in the xylem and surround themselves in Excelsior-like wood fibers. This forms the so-called "chip-cocoon" within which the larvae pupate. New adults emerge through the bark creating small, round exit holes.
The adults mate and feed on bud and twig tissue; however, their damage is inconsequential. The weevils then move to the duff beneath conifers to spend the winter. There is one generation per year.

Trees may be protected by making topical applications targeting tree terminals using specially formulated "borer sprays" such as Onyx (bifenthrin) prior to the females laying their eggs. Populations may be reduced later in the season by removing and destroying infested terminals. Wilted terminals should be pruned from trees and the cut ends closely examined for reddish-brown tunnels in the phloem; no tunnels mean that all of the larvae are confined to the cut top. Infested material must be destroyed since the weevils will complete their development in cut tops left on the ground. A soil drench or soil injection application of imidacloprid (e.g. Merit, Xytec, etc.) in the fall has been shown be effective in protecting trees against white pine weevil infestations the following season. This application is generally considered economically feasible only for landscape trees and should be reserved for landscapes that have a history of white pine weevil activity. Author: Joe Boggs

B. HOME INVADERS EMERGE. We reported in last season’s very last BYGL (2013-18, 10/17/13) that a number of insects that seek protected overwintering quarters in and around homes were practicing a little breaking-and-entering. The goal of these "cold-blooded" home invaders was to find sheltered locations where cool temperatures will slow their metabolism so they will not "burn up" their stored fat reserves. Since there is nothing for them to eat throughout the winter, this strategy keeps them alive. Of course, occasionally these insects accidentally move all the way into homes and while the high inside temperatures doom the insects (they burn through their fat and starve to death) their movement into homes can make them significant nuisance pests.

The fall home invaders reverse course in the spring with the intention of emerging into the great outdoors. However, lacking home blueprints, the insects occasionally crawl into rather than out of homes. Several BYGLers noted that spring emergence is commencing for a number of home-space invaders including BOXELDER BUGS (Boisea trivittatus) and the look-a-like GOLDENRAIN TREE BUGS (Jadera haematoloma); the notorious MULTICOLORED ASIAN LADY BEETLE (MALB) (Harmonia axyridis); and the becoming-more-notorious BROWN MARMORATED STINK BUG (BMSB) (Halyomorpha halys). Indeed, Julie Crook reported that the OSU Extension, Hamilton County office is currently becoming a great place to experience both MALB and BMSB - it’s an entomological paradise!

The best way to deal with these footloose nomads is to prevent them from gaining entry in the first place. Insect exclusion efforts include finding and sealing-off entry points such as cracks around windows, doors, or utility pipes. Poorly attached home siding and rips in window screens provide an open invitation. Check homes for unprotected vents, such as bathroom and kitchen vents, or unscreened attic vents. Also, while in the attic, look for openings around soffits. The large opening created by a worn-out exterior door sweep may as well have a flashing neon "Enter Here" sign hanging above it. Leave the garage door up? Say hello to our little friends! An ounce of prevention is worth a pound of bugs.

Once inside the home, the best method to manage the offending invader is to "Hooverize'em." Swatting or otherwise smashing these bugs can cause more damage than leaving them alone since fluids inside their bodies can leave permanent stains on furniture, carpets, and walls. Also, mashing MALBs and BMSBs can release a lingering "eau de bug;" lady beetles have stinky blood and stink bugs are called stink bugs for a reason! Thus, a vacuum cleaner is the preferred method for giving the invader the bums rush. However, make certain the vacuum cleaner is a "by-pass" type, meaning refuse is not passed through an impeller. Otherwise, you will create a horrifying bug-blender. Author: Joe Boggs

C. EMERALD ASH BORER UNIVERSITY (EABU) - ONLINE TRAINING OPPORTUNITY ON EAB AND OTHER INVASIVE SPECIES AND THEIR IMPACTS. EABU is web-based training brought to you by the US Forest Service, Michigan State University, Purdue University and Ohio State University. The training is free. Individuals can participate in the scheduled live sessions (see Coming Attractions A. EABU Spring Schedule), or watch the recorded sessions at their convenience. EABU is housed on the Emerald Ash Borer Regional Website [ http://www.emeraldashborer.info ].

EABU provides educational sessions on EAB and other invasive species to a variety of audiences. A sample of recorded sessions include: Invasions by Non-Native Insect Pests and Aboriculture - Mike Rapp, University
4. DISEASE DIGEST. No Report this week.

5. TURF TIPS.

A. EARLY SEASON CRABGRASS MANAGEMENT. Now that outdoor temperatures have finally begun to warm, it is time to apply early season crabgrass control measures, if needed. The crabgrasses (Digitaria spp.) are summer annual grasses that reestablish themselves each year from seed that was produced the previous summer. The seed of crabgrass begins to germinate in the spring in areas of a lawn where light can penetrate to the soil surface and soil temperatures warm to nighttime minimum temperatures of 52 - 54 F for at least 5 consecutive nights under conditions of moist soils. Phenologically, these conditions usually occur two weeks after the forsythia blooms begin to drop.

Since crabgrasses and other annual grass weeds must regrow or start anew from seed every year, there is the opportunity to manage them with preemergence herbicides. Preemergence herbicides can be very effective with timely placement before germination begins. The mode of action by which preemergence herbicides work is by interfering with cell division in germinating, young seedlings. Preemergence treatments are preferred because they are generally more effective for crabgrass control and less injurious to the turfgrass than postemergence treatments. Typically, preemergence herbicides should be applied when soil temperatures reach 50 - 55 F, or when forsythia is in full bloom. This will give the preemergence herbicide time to move into the soil and form a barrier before the crabgrass seedlings emerge.

Does every lawn need to be treated with a preemergence herbicide for crabgrass control? No! At least not every square foot of every lawn needs to be treated.

One of the best methods of managing crabgrass is to have a healthy, thick stand of turfgrass that will out-compete many weeds including crabgrasses for space in the lawn. The first step in this cultural practice of controlling weeds is to seed or sod a properly adapted turfgrass species in the lawn. Following the establishment of the turfgrass, adequate fertilization programs and cultural practices facilitating the maintenance of a dense canopy including proper mowing practices, good watering practices, and insect and disease control programs are important.

If one has a healthy, well maintained stand of turfgrass, then there may only be a few troublesome areas that would require attention. These troublesome areas mostly found at the edges of the lawn where it comes in contact with sidewalks, curbs, driveways, patios, and gardens. These areas are susceptible to very harsh environmental conditions that result in opportunities for crabgrass to get a foothold. Through the summer, soils at these edge areas will be susceptible to drying out and may shrink away from the cement or asphalt exposing bare soil in which crabgrass seeds can germinate. These areas may require special attention as the season progresses to catch the crabgrass before it gets out of hand.

Lawns that may need every square foot treated for crabgrass are those that have a thin, unhealthy stand, have disturbed areas in them (e.g., damage from construction, utility work, snow removal, tree removal, etc.), or are mown too short (i.e. less than 2.5"). These types of lawns are much more susceptible to invasion by crabgrass and would benefit from a total preemergence herbicide treatment.

Homeowner-applied crabgrass management products will typically include in the products name terms such as "crabgrass preventer" or "crabgrass killer." Examples of preemergence herbicide active ingredients used to prevent crabgrass germination include dithiopyr (e.g. Dimension, Crab-Buster), benefin and trifluralin (e.g. Team), prodiamine (e.g. Barricade, Regalkade), pendimethalin (e.g. Pendulum 3.3 EC, Pendulum WDG, Pendulum Aquacap, LESCO PRE-M 3.3 EC), and quinclorac (e.g., Bayer Advanced Crabgrass Control, Ortho...
Weed-B-Gone Weed Killer for Lawns Plus Crabgrass Control, Drive). Corn gluten meal is a popular natural fertilizer that also has substances in it that are reported to inhibit crabgrass and other weed seed germination.

Once crabgrass germinates and emerges, there are a few postemergence products available to suppress or eliminate it from lawns. Examples of postemergence herbicide active ingredients include fenoxaprop (Acclaim Extra) and quinclorac (e.g., Bayer Advanced Crabgrass Control, Drive). Both Acclaim Extra and Drive are foliar absorbed, so care must be taken to apply on a dry, windless day, when crabgrass is actively growing, and no rainfall is expected for 6 - 12 hours. While Acclaim Extra contains a surfactant, Drive must have a surfactant added. Best efficacy has been obtained with methylated seed oil or crop oil concentrate. Always read and follow label directions.

Author: Curtis E. Young

6. INDUSTRY INSIGHTS.

A. ASIAN LONGHOREND BEETLE (ALB) UPDATES. Amy Stone and Joe Boggs provided a summary of a March 31, 2014, news release from the United State Department of Agriculture, Animal and Plant Health Inspection Service (USDA, APHIS), titled, "Ohio Asian Longhorned Beetle Eradication Program Announces 2014 Plans for Fighting the Beetle in Clermont County" [http://content.govdelivery.com/accounts/USDAAPHIS/bulletins/ae2e19]. Highlights from the news release include the report that ALB host tree surveys will continue within the current regulated areas of Tate, Monroe, and Stonelick/Batavia Townships with over 1 million trees surveyed thus far. Infested trees will continue to be removed as they are discovered, with 10,741 infested trees and 24,104 high-risk host trees removed so far within the regulated areas.

The eradication program will again use pesticide treatments this season in the regulated areas of Monroe and Stonelick/Batavia Townships which are the same areas where treatments were performed in 2013. Pesticide treatments will not be used in Tate Township where host tree surveys and infested tree removals remain priorities.

A compliance agreement continues to be required for businesses and individuals doing work that involves moving wood materials (e.g., tree care companies, forest products companies, etc.) in the 61 square mile regulated area in Clermont County. Thus far, the eradication program holds compliance agreements with 232 companies. Compliance training will continue to be offered; to register, please call 513-381-7180.

The informative USDA APHIS website [http://asianlonthornedbeetle.com/] provides a wealth of information on ALB happenings elsewhere in the U.S. This includes news releases describing 2014 eradication program plans for the active ALB sites in New York and Massachusetts as well as an Interim Rule to amend the ALB regulations by removing New Jersey from the list of quarantine areas. Additionally, "Hungry Pests" [http://www.hungrypests.com/] is highlighted with its highly creative (and entertaining!) public service announcement titled, "A Lot of Mouths to Feed" [http://www.hungrypests.com/press-room/psa.php]. The USDA, APHIS Hungry Pests website is dedicated to providing information on other non-native invasive pests in the U.S. such as the KHAJRA BEETLE (Trogoderma granarium) which is one of the world's most destructive stored grain pests! Author: Joe Boggs

B. ADDITIONAL FINDS OF HEMLOCK WOOLLY ADELGID IN OHIO ON THE RISE. The Ohio Department of Agriculture (ODA) and the Ohio Department of Natural Resources (ODNR) announced the discovery of a hemlock-killing pest in Lawrence, Monroe and Vinton counties in southeast Ohio on March 28, 2014. The hemlock woolly adelgid (HWA) is a small, aphid-like insect native to Asia that threatens the health and sustainability of eastern hemlock and Carolina hemlock in the eastern United States.

HWA was first reported in the eastern United States in 1951 near Richmond, Virginia. By 2005, it was established in portions of 16 states from Maine to Georgia, where infestations covered about half of the range of hemlock.

The infestations were recently detected by ODA and ODNR officials in Dean State Forest in Lawrence County, Zaleski State Forest in Vinton County, and in a landscape setting in Monroe County. Officials have been
conducting surveys in the newly detected areas to determine the scope of the infestations. HWA is primarily transmitted by wind and birds. Officials believe the new findings in Ohio are the result of natural spread from nearby areas where the pest has become established.

There are six counties in Ohio where HWA has been detected in a naturally occurring stand of hemlock. In 2012, infestations were found in Meigs and Washington counties, and an infestation was detected in Hocking County in 2013.

ODA will move to expand its hemlock quarantine, enforced by ODA’s Plant Health division, to include Lawrence, Monroe and Vinton counties. Ohio quarantine regulations restrict the movement of hemlock materials from counties known to be infested into non-infested Ohio counties. Ohio's quarantine law also requires hemlock materials grown in non-infested counties in quarantined states to be inspected before being shipped and have a phytosanitary certificate verifying that the plant material is free of HWA when entering Ohio.

Additional information about the HWA and Ohio’s quarantine, can be found by visiting the ODA website at [http://www.agri.ohio.gov ]. Author: Amy Stone

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 - March 31, 2014, with the exception of the soil temperatures which are readings from Wednesday, April 2, 2014 at 5:20 p.m.

This winter has been one for the record books. Many areas across Ohio have either broken, tied, or ended in the top 5 for weather records, including the most snowfall recorded, and the coldest winter on record. Other records challenged this season included monthly records for both snowfall and cold temperatures in December, January, February, and March.

This winter will not soon be forgotten in Ohio and much of the country. The Weather Channel headlines this winter included: "Deep Freeze Recap: Coldest Temperatures of the Century for Some;" "10 Major Cities with the Worst Winter of 2013 - 2014;" and "Another Foot of Snow." Those headlines recap what Ohioans will remember for a long time. Stay tuned to BYGL this season for updates on how this winter weather has impacted our plants.

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<td>3.79&quot;</td>
<td>6.0&quot;</td>
<td>58.20/49.85</td>
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<td>9.8&quot;</td>
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For a link to the OARDC Weather Stations, visit: [http://www.oardc.ohio-state.edu/centernet/weather.htm ]. Author: Amy Stone

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 the site below.

The range of GDD accumulations in Ohio from north to south is 16 to 89. Following is a report of GDD for several locations around Ohio as of end of the day of April 2, 2014: Painesville, 18; Cleveland, 20; Toledo, 16; Canfield, 24; Findlay, 16; Van Wert, 18; Wooster, 31; Coshocton, 43; Columbus, 48; Springfield, 46; Dayton, 50; Cincinnati, 75; Ironton, 88; Portsmouth, 89; and Piketon, 86.
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 web site, one can see what is approximately taking place in the landscape.

Silver maple, first bloom, 34; Cornelian cherry dogwood, first bloom, 40; silver maple, full bloom, 42; red maple, first bloom, 44; speckled alder, first bloom, 52; northern lights forsythia, first bloom, 58; Japanese pieris, first bloom, 60; red maple, full bloom, 75; star magnolia, first bloom, 83; border forsythia, first bloom, 86; eastern tent caterpillar, egg hatch, 92; Manchu cherry, first bloom, 93; northern lights forsythia, full bloom, 94; Norway maple, first bloom, 116; border forsythia, full bloom, 116; chinticleer callery pear, first bloom, 123; sargent cherry, first bloom, 127; larch casebearer, egg hatch, 128; and Japanese pieris, full bloom, 129.

Author: Curtis E. Young

8. COMING ATTRACTIONS.

A. EMERALD ASH BORER UNIVERSITY (EABU) SPRING SCHEDULE. Be sure to tune into EABU this spring to learn more about EAB and other related topics. Sessions can be accessed through the Regional Emerald Ash Borer website [http://www.emeraldashborer.info]. Here is a listing of the live sessions scheduled this spring:

*April 10, 2014, 11:00 AM (EST)  Success Stories (and How to Become One) in EAB Management - Adam Witte, Exotic Forest Pest Educator, Purdue University

*April 23, 2014, 11:00 AM (EST)  Using Semiochemicals to Detect and Monitor Invasive Ambrosia Beetles in Hardwood Forests - Matt Ginzel, PhD., Purdue University

*May 8, 2014, 11:00 AM (EST)  In Defense of Urban Forestry - Lindsey Purcell, Urban Forest Specialist, Purdue University

*May 19, 2014, 11:00 AM (EST)  EAB101: What Happened and What's Happening Now - Amy Stone, Extension Educator, Ohio State University and Robin Usborne, Communication Manager, Michigan State University

Have questions about EABU? Contact Amy Stone at [stone.91@osu.edu]. Author: Amy Stone

B. SOUTHWEST OHIO BYGLIVE! DIAGNOSTIC WALK-ABOUTS. This is the 17th year for the Diagnostic Walk-About series in Southwest Ohio. The first 2014 BYGLive! Diagnostic Walk-About will be held Monday, April 21, at Spring Grove Cemetery and Arboretum from 12:00 - 3:00 p.m. This monthly hands-on training series for green industry professionals focuses on diagnosing plant pest, disease, and physiological problems. ISA Certified Arborist CEUs, Landscape Architecture Continuing Education System (LA CES) CEU’s for Landscape Architects, and ONLA OCNT credits will be available. Visit the following website for registration information as well as driving directions: [http://hamilton.osu.edu/topics/horticulture/byglive-diagnostic-walk-about]. You can also email Joe Boggs [boggs.47@osu.edu] to learn more about this diagnostic training series.

C. TREE SCHOOL. Tree School is an all-day workshop on all things trees! It takes place May 3, 2014 at the Ohio State Mansfield Campus. Are you a woodland owner, Christmas tree grower, gardener, wildlife enthusiast, landscaper, or just interested in learning more about trees? Tree School features 12 different educational sessions on a variety of tree-related topics - including things like tree planting, the top landscape trees, mapping your property and invasive species management and more! Registration is now open at: [http://www.woodlandstewards.osu.edu] and closes April 25, 2014.
D. WILDLIFE IN YOUR WOODS. Interested in learning more about the wildlife that is in your woods? Want to learn how to attract deer, birds, and amphibians to your woods? Then this class is for you! Come to the Ohio State Mansfield campus on May 9, 2014 to spend a day learning how to not only attract a variety of these species to your woodlot with proper management but also how to monitor them! We will begin indoors in the morning and end outdoors with a walk through the woods where we will further discuss monitoring techniques, management tips, and search a vernal pool for frogs and salamanders. Registration is now open at: [http://www.woodlandstewards.osu.edu] and closes May 2, 2014. Don’t wait - register now!

E. THE BUCKEYE LADY BEETLE BLITZ 2014! The Agricultural Landscape Ecology Lab is hosting three sessions of a workshop this year in May to kick off The Buckeye Lady Beetle Blitz 2014! This workshop will focus on the 'secret lives' of beneficial garden arthropods. You will learn about the diversity of predators, parasitoids, and pollinators that inhabit your garden. They will discuss foraging strategies, courtship, parental care of young, shelter and nest building, and much more! Participants can also get involved with two exciting research projects, the Buckeye Lady Beetle Blitz and a NEW study examining pollination services in home gardens!

They have three locations for this workshop:

*May 14, 2014 at OARDC's Fisher Auditorium, 1680 Madison Ave, Wooster, OH

*May 15, 2014 at the Rocky River Nature Center, 24000 Valley Parkway, North Olmsted, OH

*May 16, 2014 at the Civic Garden Center, 2715 Reading Road, Cincinnati, OH

For more information visit: [http://gardinerlab-dev.cfaes.ohio-state.edu/node/31/person-workshop-new-and-existing-blbb-volunteers].

9. BYGLOSOPHY. "I love spring anywhere, but if I could choose I would always greet it in a garden." - Ruth Stout

APPENDIX
ADDITIONAL WEBSITE RESOURCES:

Ask a Master Gardener Volunteer
http://mastergardener.osu.edu/ask

Buckeye Turf
http://bucceyturf.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/
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].

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.

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).

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.