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This is the 28th 2015 edition of the Buckeye Yard and Garden Line (BYGL). BYGL is developed from a Tuesday morning conference call of Extension Educators, Specialists, and other contributors in Ohio.

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Plants of The Week

Perennial - Minor Bulbs

Minor bulbs include just about all other spring blooming bulbs that are not daffodils, tulips, and hyacinths. Examples are grape hyacinths (Muscari), Crocus, squill (Scilla sp.), Anemone blanda, Iris reticulate, snowdrops (Galanthus sp.), summer snowflake (Leucojum sp.), Glory of the Snow (Chionodoxa sp.), winter aconite (Eranthis hyemalis), and more.

Like other spring blooming bulbs, they should be planted in the fall. The bloom times as well as flower colors, shapes, plant heights, and spread vary according to the species. Most of them bloom early in the spring with winter aconite starting sometimes in February in Ohio, even under the cover of snow. The exception would be the group of Alliums which can bloom anywhere from early spring to mid-summer. Keep in mind, minor bulbs when planted in masses can have a major impact and be extremely easy to maintain for many years. This group of hardy spring blooming bulbs is often overlooked and certainly not planted enough in my opinion! They can be a great addition to any garden and typically bloom in the early spring and if planted in masses, provide outstanding color.

For More Information:
OSU Extension Factsheet on Growing Hardy Bulbs, HYG -1237-98
http://ohioline.osu.edu/hyg-fact/1000/1237.html
Purdue yard and Garden News information on minor bulbs
https://hort.purdue.edu/ext/minorbulbscolorshow2013.html

Woody - Winterberry (Ilex verticillata)

Winterberry can be a stunning addition for fall interest in the home landscape, with colorful berries remaining on female plants after fall leaf drop. This multi-stemmed shrub is native to the eastern United States ranging from Florida to Maine and can be found as far west as Minnesota and Texas. Because of its wide adaptability it is a great choice for borders, screens, or specimen plants. It is a slow grower, but can reach heights and widths of 15' at full maturity.

Winterberry is an excellent choice for areas that are prone to flooding but dry out during the summer (once established). It also tolerates soil compaction. The preferred pH for growth is 4.5 - 6.5 and it will not thrive at higher pH levels. Winterberry is also sensitive to deicing materials and urban heat sinks and should not be considered for a street median landscape bed.
Winterberry is fairly pest and disease-free although powdery mildew and leaf spots can occasionally develop late in the season.

In the first year of establishment ensure adequate watering for root growth. No nitrogen should be added at planting or during the first year. In June, clusters of small, white flowers will develop in the leaf axils. Winterberry is a dioecious plant (male flowers and female flowers occurring on separate plants) is it recommended to plant a female and male within 50' of each other in order to ensure berry production.

Many outstanding cultivars have been developed. The berries can be red, orange or yellow/gold depending on the cultivars selected. Typically 'Southern Gentleman' or 'Jim Dandy' serves as the male pollinator. 'Jim Dandy' flowers earlier and will pollinate 'Afterglow' (orange berries with a compact growth habit), 'Berry Heavy', 'Berry Nice', 'Goldfinch' (gold/yellow berries), and 'Red Sparkle'. 'Southern Gentleman' will flower later and will pollinate 'Sparkleberry' and 'Winter Red'.

The berries are a favorite of many types of song birds and small mammals. Often the berries are consumed by early winter. However, be aware that deer will also browse the foliage and branches during the growing season.

For More Information:
University of Minnesota Extension

Field bindweed is a twining perennial vine that belongs to the morning glory family. This plant creates dense tangled mats up to 10' across, and climbs by wrapping around nearby plants and objects. Field bindweed is known by many names such as bellbine, corn lily, cornbind, devil's guts, European bindweed, hedge-bells, possession vine, sheep-bine, or wild morning glory. Field bindweed has arrowhead-shaped leaves and pinkish petals fused into funnel-shaped flowers. These plants have a rhizome stem system with both lateral and deep vertical roots, which makes it an aggressive competitor for our crops and turf areas.

Another competitive ability that field bindweed possesses is the seed longevity. The seeds can remain viable for up to 30 - 50 years in the soil. Field bindweed can also vegetatively reproduce from the roots and rhizomes, which can produce adventitious buds. All of these factors make field bindweed extremely difficult to eradicate from an area.

Field bindweed is sometimes confused with similar species, these include: HEDGE BINDWEED (Convolvulus sepium), WILD BUCKWHEAT (Polygonum convolvulus), TALL MORNING GLORY (Ipomoea purpurea) and IVY-LEAF MORNING GLORY (I. hederacea).

When trying to control field bindweed, tillage and hand pulling can remove much of the plant. With continuous monitoring for resprouts and establishment of other plants in the infested area, field bindweed can be controlled successfully.

For More Information:
Penn State Extension
http://extension.psu.edu/pests/weeds/weed-id/field-bindweed

University of Idaho

Utah State University
http://extension.usu.edu/rangeplants/htm/field-bindweed

Hort Shorts »
While evergreens do contain green foliage year round, their individual needles, scales, or leaves do NOT remain forever on the plant indefinitely. Evergreens drop their older foliage periodically as a normal part of their lifecycle. This event is most notable on EASTERN WHITE PINES (Pinus strobus) in Ohio, and we have seen some impressive displays of yellowing needles this year. It is important to note that these are all OLD needles, on the interior of the plant, closest to the trunk. The newest needles should still be green and healthy at the tips of branches.

White pines retain needles for about 3 years. In the fall, the 2-year old needles will die off and shed, leaving only the current season's growth. AUSTRIAN (P. nigra) and SCOTS PINES (P. sylvestris) also hold needles for 3 years before dropping the oldest. RED PINES (P. resinosa) drop needles after 4 years. Spruce and Fir needles also do this, but more gradually and therefore do not attract as much attention as the more dramatic die off of pines. Another notable shedder is the arborvitae, which are notorious for alarming their landowners. ARBORVITAE (Thuja occidentalis) branchlets turn brown and linger in the tree before falling, allowing more opportunity for the casual passer-by to notice what appears to be a dying tree or shrub.

Not all seasonal needle drop occurs in fall however. Some evergreens such as the YEW (Taxus spp.) will drop 3-year-old needles in late spring and early summer. Knowing when evergreens shed can help to determine if needle browning is seasonal or if something else is at work.

For More Information:
University of Illinois
University of Illinois
http://web.extension.illinois.edu/ccdms/yg/121020.html
University of Nebraska Lincoln
http://byf.unl.edu/natural-needle-drop

Fall Colors Brighten the Ohio Skylines
Tis the season to enjoy the changing of the canopies, and begin enjoying this transformation of trees and shrubs. From brilliant reds, to magnificent maroons, to stunning yellows, and every color combination in between, trees provide a natural beauty in ones woods, landscapes, parks and natural areas.

To encourage Ohioans to get out and enjoy the colors of the seasons, the Ohio Department of Natural Resources (ODNR) has developed several fall driving tours in 5 different regions of the state. The maps highlighting each tour can be found on their website at http://fallcolor.ohiodnr.gov/driving.

Enjoy the fall colors and the driving tour too!

For More Information:
ODNR Fall Color Driving Recommendations
Many gardeners don't plant summer blooming bulbs because of the challenges and the work associated with digging and storing them for the winter. However, it can be done relatively easy by following some simple tips.

After a killing frost, which has occurred in most parts of the state by now (unless your plants were in a protected area, if this is the case, wait!) it's time to start digging and storing bulbs such as dahlia, tuberous begonia, calla lily, cannas, and any other summer flowering bulbs. These bulbs are tender and usually won't make it through the winter. I have to say usually in this case because I have had cannas and calla lilies survive the winter in the ground. However, this is unusual and due to the fact that they were in a protected place. Most tender summer bulbs won't make it, therefore, you have to dig up the bulbs and bring them in.

Dahlias are actually tubers, not bulbs. Tubers are thickened parts of an underground stem or root. Dig the tubers after a frost has killed the foliage. Place tubers in sawdust or peat in a box. Store the box in a room that remains around 60F. Calla lilies are rhizomes and are stored in sawdust or peat moss just like dahlias.

For tuberous begonias, remove the stems after the frost has killed the foliage. Let the tubers dry for a week. Place single layers on a table in order for them to dry and to prevent disease. Clean the tubers and then store in a box of peat moss or sawdust in a room around 50F. Don't allow tubers to freeze. Tuberous begonias can be divided by separating the tuberous roots. Keep at least one shoot bud per root.

Cannas are probably the easiest to store for the winter. Cut off the dead foliage and dig the rhizomes out of the soil. Rhizomes are a horizontal stem that grows shoots and roots. Wash the soil off the rhizomes and allow drying. You can place the cannas in a box or crate and store in a room at around 45 - 50F. Again, don't allow them to freeze. Propagate cannas by separating the rhizomes, leaving at least one "eye" or bud on the rhizome.

Gladioli are corms; corms are swollen underground stems. Dig the corms out of the soil now and remove the soil and any old sub-corms. The sub-corm is the original plant; the new corms or cormels are around the side of the original plant. Air-dry the corms and store in a mesh bag at around 35 to 40F. The cormels can be planted in the spring and will take around 2 years to bloom since they are young plants.

Caladiums are tubers and should be dug now as well. Wipe off the soil and store in peat moss at 65 to 70F. These do not tolerate colder temperatures.

The key to success is to make sure the bulbs are dry when placing them in their storage container and if you are putting them in peat moss or sawdust, make sure you layer them so that the bulbs themselves are not touching.

Having to dig them up and store them is probably the main reason that people don't partake of these fantastic flowering plants. It is sort of a pain but you can enjoy the beauty as well as propagate these plants for many years. In the spring, don't get too anxious to plant them. They don't tolerate cold damp spring soils and will definitely rot. If you want to get a jump on spring, start planting them pots in the house in March and April. This way, you will have blooms earlier in the season. Plant them in the ground around mid- to late May.

For More Information:
OSU Extension Factsheet on Summer Flowering Bulbs HYG-1244-92
http://ohioline.osu.edu/hyg-fact/1000/1244.html
Storing tender bulbs and bulblike structures from the University of Minnesota Extension
http://www.extension.umn.edu/garden/yard-garden/flowers/storing-tender-bulbs/
To quote a widely popular book and TV series, Game of Thrones, 'winter is coming' and Ohio's wildlife are preparing for the frosty temperatures in a variety of different ways. Some animals are preparing winter dens while some are still in search of a winter resting place. Others animals are entering their mating season, and some have already started the long journey south to warmer climates.

Small mammals such as the EASTERN MOLE (Scalopus aquaticus) and EASTERN CHIPMUNK (Tamias striatus) are busy preparing their winter dens. Volcanic-like mounds of dirt present in yards are evidence of moles excavating deeper tunnels and dens. They will continue to tunnel and feed underground throughout the winter. While moles will remain active throughout the winter, chipmunks spend the cold months hibernating in their burrows, waking several times to eat and urinate, but never leaving their cozy underground chambers. Currently, chipmunks are busy collecting a winter food supply and tidying their burrows, so you may see increased activity, especially in areas with mast producing trees such as oaks and hickories.

For WHITE-TAILED DEER (Odocoileus virginianus), the approaching winter also means spending time in search of acorns, and this winter, it may be a little harder than usual. The Ohio Department of Natural Resources, Division of Wildlife reported that white oak acorn production is down by 23% this year, and red oak acorn production is down by 26%. It’s important to realize that acorn production, as well as other hard mast such as hickory nuts and walnuts, is cyclical. Some years will produce higher crops than others. This year just happens to be a lower production year, but that is not atypical. However, a lower acorn crop may influence the activity patterns of deer, causing them to spend more time in search of acorns. In addition, the deer mating season reaches its peak in November which can also lead to an increase in deer activity. This is the time to be extra careful when driving to avoid a deer-vehicle collision (see the next article for more information on deer-vehicle collisions).

BLACK SWALLOWTAIL BUTTERFLIES (Papilio polyxenes) are also preparing for winter. BYGL writer Marne Titchenell was excited to find 2 caterpillars on the carrots and parsnips in her garden several weeks ago. Many of us are familiar with butterfly migrations, particularly the MONARCH BUTTERFLY’S (Danaus plexippus) long migration to Mexico. But Ohio’s butterflies prepare for winter in a variety of ways…and forms. Along with the monarch butterfly, the RED ADMIRAL (Vanessa atalanta) and QUESTION MARK (Polygonia interrogationis) butterflies also migrate to warmer climates at the end of the summer (though some question mark butterflies will also overwinter in Ohio as adults). Other species of butterflies choose to remain in Ohio, spending the winter in different developmental stages. Some species overwinter in the larval stage such as the GREAT SPANGLED FRITILLARY (Speyeria cybele), COMMON WOOD NYMPH (Cercyonis pegala), and VICEROY (Limenitis archippus) butterflies. Other butterflies such as the MOURNING CLOAK (Nymphalis antiopa) overwinter as an adult, taking shelter under logs, rocks, and other natural cover. Finally, species like the black swallowtail overwinter in a chrysalis.

While moles, chipmunks, and the black swallowtail butterfly are preparing their winter homes, other species like RACCOONS (Procyon lotor), STRIPED SKUNKS (Mephitis mephitis), and VIRGINIA OPOSSUMS (Didelphis virginiana) are still searching for the best place to spend the winter. Fall typically brings a noticeably higher amount deceased wildlife on the roads. This time of year, young raccoons, skunks, and opossums are heading out on their own in search of territories and winter homes. Adults too, are searching for overwintering spots. This increased activity and dispersal often carries these critters over roads and highways, leading to road-side mortalities...which are a positive to the migrating TURKEY VULTURES (Cathartes aura)! Turkey vultures spend the summer in Ohio, and then migrate to southern North America and South America where they will remain throughout winter. Often migrating turkey vultures will stop to rest and refuel during their migration. These areas are called staging posts, and are often in dead trees. Several times in the past week Marne has noticed a group of 5 - 10 turkey vultures perched in a dead standing tree, resting until the time comes to continue their flight south.

Those shared in this article are just a few of the winter preparations Ohio's wildlife is taking to secure a healthy and prosperous 2016. Homeowners should keep their eyes and ears open in the coming month for more signs of wildlife activity, before the growing season comes to a close.
While WHITE-TAILED DEER (*Odocoileus virginianus*) provide abundant recreation opportunities for hunters and wildlife watchers, they can unfortunately cost us millions of dollars every year through deer-vehicle collisions. So listen up motorists, now is the time when deer are on the move and extra caution is advised when out on the roadways.

So what is happening during October and especially November that increases the chances of Ohio motorists colliding with deer? Some people may think that hunting causes an increase in deer movement, particularly across roads and highways (Ohio's deer hunting season runs from Sept. 26 - Jan. 12), but this isn't always the case. For example, movements of antlered deer in Pennsylvania wearing GPS radio collars were tracked during the weeks before, during, and after muzzleloader and firearms seasons and there were no changes in activity patterns due to the hunting season. Deer movement due to hunting depends on the amount of hunting pressure, and while intense pressure can cause an increase in deer activity, typically deer stay within their normal home ranges. The truth is, deer are on the move at this time of year for multiple reasons, both natural and human related.

Possibly the biggest reason for the increase in deer movement is the breeding season (rut), which takes place October through December in Ohio. In November, deer are entering the peak of their breeding season. Males are actively searching for mates which frequently bring them across roadways. The total distance a single deer moves during a 24-hour period varies from 1 - 4 miles, but that distance is increased dramatically in males during the breeding season. While some female deer may take a brief breeding excursion outside their normal range in search of a mate, the majority stay put and don't travel more than normal during the breeding season.

In between breeding, deer also need to increase their food consumption this time of year in preparation for the winter months. Depending on the available food resources in their home range (such as acorns and other hard mast), deer may have to travel further to find enough food, which can lead to additional travel across roadways to reach alternate resources.

In addition to the increased activity brought on by the breeding season and the approach of winter, daylight savings time plays a role in motorists encountering deer on the roadways. As Ohioans "fall back" (on November 1 this year), the shorter days and longer nights force commuters onto the roads at dawn and dusk - the same times deer are most active. Also, motorists shouldn't make the mistake in thinking that deer will only be encountered crossing roads in rural parts of the state. In fact, urban and suburban areas are also prime sites for deer vehicle collisions.

To summarize, October through November is the prime time for deer vehicle collisions. Deer are sighted frequently during this time for a variety of reasons; breeding season, hunter avoidance, increasing deer populations, and lessening of daylight hours. What can drivers around Ohio do to remain safe and decrease their chances of an accident?

- Take special precautions this time of year to avoid collisions, especially at dawn and after sunset, and during the hours of 5 p.m. - 1 a.m. and 5 a.m. - 8 a.m. Be extra careful throughout November, as the number of accidents peak during this month.

- Remember that breeding season for deer is October - December, and although most accidents occur in October and November, remain vigilant through December.

- Often times when there is one deer, there are more. If one deer crosses the road, slow down because there may be more on their way across.

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

- Pay special attention to deer crossing signs. They are there for a reason - to alert you of a high deer density area.
Stay alert and constantly on watch especially during the dawn and dusk hours. Deer can be very unpredictable, especially when frightened. If you pass a deer on the road side, flash your lights at oncoming traffic to alert the other drivers of potential danger - a little warning can go a long way in avoiding an accident.

Perhaps you have heard of the hood-mounted deer whistles and ultrasonic devices designed to scare away deer? Skip the purchase - wildlife biologists have found no evidence these devices work.

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

Be safe on the roads this fall season!

### Bug Bytes »

**Boogie-Woogie Aphids Take Center Stage**

Over the years, the late-season BEECH BLIGHT APHID (*Gryllópho.:aphílus imbricátor*) has waltzed through the pages of the BYGL on an annual basis. The aphids have a single venue; they are only found on the twigs and branches of American beech (*Fágus grandífília*). Their yearly return engagements in the BYGL have had nothing to do with harm to their namesake host since they appear to cause little damage. The aphids usually re-take the BYGL-stage because of their obvious, snow-white appearance, their heavy production of honeydew ... and their entertainment value. Joe Boggs reported that the aphids lived-up to their billing during a walk-about he led early this week for the staff and volunteers with the Cincinnati Nature Center.

Beech blight aphid nymphs enshroud themselves in a profuse mass of white, wool-like filaments. Large numbers these "woolly aphids" will gather together in prominent colonies on twigs and branches of American beech trees. When a colony is disturbed, the aphids pulse their posterior ends in unison. This peculiar behavior has been accurately described in past BYGLs as making the aphids look like "dancing dust balls doing the boogie-woogie." This behavior has earned the aphid the alternate common name of the "boogie-woogie aphid." It is speculated that this mass-wiggling is designed to distract and dissuade predators and parasitoids from focusing on single individuals. However, research has shown that if that doesn't work, the nymphs are capable of attacking predators and causing serious damage using their piercing-sucking mouthparts that are normally used to extract sugary juices from the tree's phloem vessels.

Aphid colonies are usually relegated to a few branches. However, they are prolific producers of honeydew causing branches, sidewalks, parked cars, slow-moving gardeners, etc., beneath the colonies to become covered in sticky goo. Indeed, aphid colonies are often found by observing circular or semi-circular spots of sticky honeydew on hard surfaces beneath infested trees. The honeydew on leaves and branches may become heavily colonized by black sooty molds.

Indeed, the fungus (*Scolías spongiosá* (Ascomycete)) is exclusively associated with the aphid and is commonly called "Beech Blight Sooty Mold." It is also sometimes called the "beech blight aphid poop eater" because of its food supply and obligate relationship to the aphid; the fungus only grows on honeydew produced by the beech blight aphid. The fungus starts out behaving like most sooty mold fungi; it grows as a dense, black, "fuzzy" mat on top of the honeydew. Over time, the mat thickens into a brownish, furry mass. Then the fungus progresses into a growth phase that is unlike most sooty molds; it produces a spongy, golden-yellow heap that may rise 1 - 2" or more above the leaf or twig surface. The odd looking fungal growths look like nothing else that would commonly be associated with aphids or honeydew.

Adding to the diagnostic challenge, the fungus will grow anywhere that beech blight aphid honeydew is deposited. So, thick fungal accretions may appear on the leaves and stems of understory plants that are not hosts to the aphids. During the winter, the fungal accretions turn coal black and may remain evident through much of next season. They are sometimes mistaken for more serious plant problems such as black knot on prunus.

Participants in the walk-about observed another challenge associated with this aphid as well as other sucking insects that
produce honeydew. Yellowjackets were swarming around the aphid colonies to imbibe on their abundant sugary efflux. Indeed, Joe observed yellowjackets that appeared to be consuming the spongy fungal accretions. It was assumed they were not behaving as a true fungivores but simply ingesting the fungal growth sweetened with droplets of honeydew.

For More Information:
University of Massachusetts Fact Sheet
https://ag.umass.edu/fact-sheets/beech-blight-aphid

Oleander Aphids Climbing On Climbing Milkweed

Participants in the walk-about at the Cincinnati Nature Center also observed a heavy population of oleander aphids (*Aphis nerii*) on climbing milkweed (*Cynanchum laeve*) which is also known as sand vine, vining milkweed, honeyvine, honeyvine milkweed, bluevine, and bluevine milkweed. This native plant is common in Ohio but often mistaken for other vining plants such as various members of the bindweed/morning glory family, Convolvulaceae. Indeed, Joe Boggs noted that the oleander aphids provided a helpful clue to both the true identity of the climbing milkweed as well as the taxonomy of this interesting plant.

Although the oleander aphid is considered a "cosmopolitan feeder" because it may be found on a wide number of plant host species, the aphid still confines its feeding to members of the dogbane family, Apocynaceae. Of course, oleander belongs to the dogbane family along with other hosts for this aphid such as members of the genera *Vinca* and *Asclepias*. Favorited milkweed hosts include native species such as common milkweed (*A. syriaca*), butterfly weed (*A. tuberosa*), and non-native species such as tropical milkweed (*A. curassavica*). Indeed, the aphid is so common on milkweeds it is often called the "milkweed aphid." However, "Oleander Aphid" is the only common name that has been approved by the Entomological Society of America (ESA) http://www.entsoc.org/common-names.

Oleander aphids are parthenogenetic meaning that there are no males; all the aphids of this species are females. The brightly colored yellow to yellowish-orange females may be winged or wingless. The wingless form has black legs, antennae, and cornicles which are the two "stovepipes" on top of the back-end of the abdomen. The winged form is similarly colored but the wing veins and the top of the thorax are black.

The sap of oleander and milkweeds contains cardenolide glycosides (heart poisons). These are very serious toxins. As with a number of other insects that feed on plants in the dogbane family, the aphid incorporates the glycosides into their flesh as protection against predators. It is speculated that the bright coloration of the aphid warns predators against taking a taste. This is called "aposomatic" or "warning" coloration. Research has shown that predators that dine on insects protected by cardenolide glycosides suffer a range of malevolent maladies including death. Nature teaches tough lessons.

For More Information:
University of Florida, Creature Features
http://entnemdept.ifas.ufl.edu/creatures/orn/shrubs/oleander_aphid.htm

Beautiful Fall Displays Beyond Leaf Color

Although flamboyant displays of fall leaf colors are in full swing across Ohio, Dave Shetlar shared two other fall-related displays long enjoyed by entomologists. This is the time of the year when many species of aphids produce winged forms (alates) that migrate from secondary summer host plants to their primary hosts where they lay eggs. The aphids may migrate en masse with huge numbers rising from agricultural fields or naturalized areas to waft considerable distances before settling. The mass migrations are weather related; however, they often occur in early morning or early evening hours allowing the slanting sun to glint off tens of thousands of aphid wings. As Dave noted, the scene can be breathtaking!

Fall is also the egg-hatch season for many species of spiders. The mass hatching of spider eggs gives rise to huge numbers of spiderlings. Upon hatching, each tiny spiderling produces a long silk thread to catch the wind allowing the attached spiderling to "balloon" to new locations. The silk filaments are often several feet long and very noticeable in the early morning hours. It is not uncommon for thousands of shimmering, gossamer threads to be seen blowing through the air. The surreal eye-catching scene can be beautiful, but almost impossible to capture in a photograph. Dave recommended that early morning travelers should pull to the side of roadways to safely enjoy this ephemeral natural display. Of course, beauty is indeed in the eye of the beholder!
**Turf Tips »**

**Late Fall Turf Fertilization**

Cool-season turfgrass benefit from a fall fertilization which should take place early to mid-September. An additional fertilization in mid to late November will help maintain a healthy turf. This late fall application, otherwise known as a winterizing fertilizer, helps promote good root health because little foliar growth is occurring. Winterizing fertilizers often contain higher amounts of potassium to aid with plant hardiness. Late fall applications should be done before the soil freezes.

The benefits from the fall fertilization will be seen next spring as turf will generally green-up quicker, be denser, and will have higher tolerance to diseases such as red thread and pink patch. Spring applications of fertilizer encourage green up and foliar growth. Over-applying nitrogen in the spring produces excess growth and uses up food reserves needed for root growth and disease resistance.

For More Information:
- Ohio State University Extension
  [http://ohioline.osu.edu/hyg-fact/4000/4006.html](http://ohioline.osu.edu/hyg-fact/4000/4006.html)
- University of Minnesota Extension

**Fall Broadleaf Weed Control**

Fall is an excellent opportunity to attack hard-to-control perennial broadleaf weeds such as clover, dandelions, ground ivy and wild violets. Because these weeds are perennial, they will be bolstering their reserves in their root systems and crowns that are needed to get them through the winter and growing again next spring. Thus, the dominant direction for the flow of photosynthate and other nutrients in these plants is toward the root systems and crowns. If application timing coincides with this flow, our herbicides will more readily reach the critical parts of the plants that need to be killed to rid lawns of these pesky weeds.

Recommended products for this fall application are 2,4-D, dicamba, MCPP and triclopyr usually applied as combination of two or three of these active ingredients together (e.g., Trimec, Triplet). For lawns dominated by some of the more problematic weeds (i.e. clover, ground ivy and wild violets) using a combination of four active ingredients may be needed such as triclopyr, sulfentrazone, 2,4-D and dicamba (e.g., T Zone SE). To improve activity of these products, it is recommended to wait until after 1 or 2 frosts have occurred but before temperatures drop and remain below 50F for most days.

Unfortunately this year, most of Ohio is faced with a bit of a challenge to our fall herbicide applications...most of Ohio has not had much measurable rain for several weeks. This is not a good condition for the herbicides to be effectively absorbed and moved through the plants. If we don't have a soaking rain (1" or more) in our near future, fall herbicide treatments are not going to be very effective. If one really wants to move forward with weed control yet this fall, lawns will need to be irrigated before applying the herbicide products.

For More Information:
- Purdue University - Control of Broadleaf Weed Control in Home Lawns
- Iowa State University - Control of Broadleaf Weeds in the Lawn

**Industry Insight »**

**Asian Longhorned Beetle Update**

In 2011, the Asian longhorned beetle (ALB) was discovered in SW Ohio in Clermont County. Since that detection occurred, there has been a tremendous amount of efforts with one goal in mind - ERADICATION. Those efforts are led by the United States Department of Agriculture (USDA) and the Ohio Department of Agriculture (ODA) working cooperatively. Eradication efforts have been successful in other states including Illinois and New Jersey, while battles continue in Massachusetts and New York in addition to Ohio. Below is a summary of efforts in Ohio:
* 1,618,888 Number of tree surveys conducted as of 10/10/15 (since surveys began on 7/1/11)
* 17,257 Number of ALB infested trees confirmed as of 10/10/15 (since detection on 6/17/11)
* 16,158 Number of ALB infested trees removed as of 10/10/15 (since removals started on 11/14/11)
* 57,528 Number of ALB high risk host trees removed as of 10/10/15 (since removals started on 5/1/13)
* 36,130 Number of ALB high risk host tree treatments conducted since 2013
* 61 Square-miles under regulation; see "Regulated Area" map:
  http://agri.ohio.gov/topnews/asianbeetle/docs/ALB_ohio_quarantine_082112.pdf

These updates can be followed on the ALB website over the winter months while BYGL is on hiatus. As always, if you
suspect you have seen ALB, reporting can be done through the website, or be calling the ALB office in Amelia, Ohio at 513-
381-7180.

For More Information:
  ALB Website
  http://asianlonghornedbeetle.com/
  Twitter
  https://twitter.com/stopalb
  Facebook
  https://www.facebook.com/asianlonghornbeetle
  Don't Move Firewood Website
  http://dontmovefirewood.org/

**WeatherWatch**

**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 - October 21, 2015, with the exception of the soil
temperatures which are readings from Wednesday, October 21, 2015 at 5:05 p.m.

Weather reports from BYGLers across the state had a single word in common - dry! Well, Curtis Young and Pam Bennett's
reports were actually three words - really, really dry! Weekend temperatures did fall into the frost / freeze zone. Some
snowflakes even flew in northwest, northeast, and central Ohio. Temperatures did rebound into the 60s and 70s mid-week.

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Ashtabula</td>
<td>NE</td>
<td>59.5</td>
<td>40.9</td>
<td>24.49</td>
<td>32.4</td>
<td>60.99/59.82</td>
</tr>
<tr>
<td>Wooster</td>
<td>NE</td>
<td>62.5</td>
<td>41.4</td>
<td>26.60</td>
<td>32.6</td>
<td>57.62/56.58</td>
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<tr>
<td>Hoytville</td>
<td>NW</td>
<td>62.1</td>
<td>41.4</td>
<td>29.71</td>
<td>27.4</td>
<td>62.95/60.66</td>
</tr>
<tr>
<td>Columbus</td>
<td>Central</td>
<td>65.0</td>
<td>44.9</td>
<td>33.57</td>
<td>35.3</td>
<td>61.26/59.33</td>
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<tr>
<td>Piketon</td>
<td>South</td>
<td>66.6</td>
<td>43.7</td>
<td>35.63</td>
<td>31.4</td>
<td>60.26/58.44</td>
</tr>
</tbody>
</table>

*Weather data collected at the Columbus weather station was being displayed incorrectly when this week's information was
being summarized for BYGL.

For More Information:
  OARDC Weather Stations
  http://www.oardc.ohio-state.edu/newweather/
Here is a great way for the latest information about the emerald ash borer (EAB), while not leaving your home or office. The fall schedule of EABU online sessions has been scheduled. The sessions offered as a result of a Forest Service project last approximately one hour and are free. You can participate in the live version of the sessions on the dates listed below, or view all recorded sessions by visiting the regional EAB website at www.emeraldashborer.info. Here is a listing of the upcoming webinars and the session presenters:

* Thursday, October 29, 11:00 a.m. EST; Walnut Twig Beetle and Thousand Cankers Update; Matt Ginzel, Purdue University
* Thursday, November 12, 11:00 a.m. EST; Biological Control of EAB: Putting into Perspective; Roy van Driesche, University of Massachusetts
* Thursday, December 3, 11 a.m. EST; Fringe Tree and EAB Infestation Update; Don Cipollini, Wright State University

Recent recorded sessions include:
* Great Lakes Restoration Initiative; Jill Johnson, Midwest Forestry Coordinator, USDA Forest Service
* Effects of EAB Treatments on Pollinators; Reed Johnson, Ohio State University's Ohio Agriculture Research and Development Center (OARDC)

For more information, or find other recorded sessions on the EAB or other selected invasive species, check out the regional EAB website at www.emeraldashborer.info.

Northwest Ohio Landowner Conference: Natural Resources At Home
Join us on Saturday, November 14, 2015 for a day filled with presentations and conversations about a variety of natural resource based topics. Everything from woodlands and wildlife to ponds and pollinators are on the agenda. If you are a landowner interested in the woods, water, and wildlife on your land, this conference is for you. Registration is $40 per person and includes morning snacks, lunch and materials. Register now at http://woodlandstewards.osu.edu.

The OSU Green Industry Short Course, The Ohio Turfgrass Foundation Conference And Show, And Trees On Tap Programs
Mark your calendars now, as these shows will be here sooner than you think. The event will be moving back to the Columbus Convention Center in 2015 and will be held on December 8 - 10, 2015, with the addition of a special tree program on Monday, December 7, 2015. Details on over 100 educational programs and a wide array of certification credits will be coming throughout the BYGL season. We are happy to acknowledge the robust support of the Ohio Turfgrass Foundation for their financial and other aid of the educational efforts of the OSU Extension Nursery Landscape and Turf (ENLT) Team, a group of Extension Educators and OSU Specialists that brings to you a range of programs including field diagnostic walkabouts (such as BYGLive! in southwest Ohio) and diagnostic workshops as well as help with horticulture problem troubleshooting, numerous publications, and of course, the BYGL.

A key speaker for both the Trees on Tap program and the tree care track of the Green Industry Short Course will be Dr. Ed Gilman of the University of Florida Environmental Horticulture program. Ed is Professor of Urban Trees and Landscape Plants and his research and educational efforts focus on tree care practices such as the effect of tree pruning on tree biology, production practices and landscape establishment, root pruning, and irrigation and fertilization practices. He is reason enough alone to attend the conference.

Tri-State Green Industry Conference
Save the date for the 2016 Tri-State Green Industry Conference on February 4, 2016 at the Sharonville Convention Center, 11355 Chester Rd., Cincinnati, OH 45246. The Tri-State Green Industry Conference is a collaborative effort between Ohio State University Extension, Purdue Extension, University of Kentucky Extension, Cincinnati State Technical and Community College, and the Cincinnati Zoo and Botanical Garden. It features a variety of high quality education and training for professionals in the areas of Annuals & Perennials, Garden Center & Greenhouse Innovation, Tree & Shrub Care, Turfgrass Management, Sustainable Landscaping, Emerging Ideas & Issues, Sediment & Erosion Control and General Pest & Disease Management and also features a vendor trade show. Pesticide recertification credits for Ohio, Indiana and Kentucky will be given, OCNT training credit is available, ASLA CEUs are available and CEUs will be available for ISA Certified Arborists. For more information visit: http://hamilton.osu.edu/program-areas/agriculture-and-natural-resources/horticulture/2016-tri-state-green-industry.

*Just before the death of flowers,
And before they are buried in snow,
There comes a festival season
There comes a festival season
When nature is all aglow.

- Author Unknown

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