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This is the 16th 2012 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 - LANTANA (Lantana camara). Lantanas are bold, colorful, and tough tropical plants that are thriving quite well in this dry Ohio summer. These plants like it hot and dry and stand up to this kind of summer, in fact, one might say they are scoffing at the weather! Lantanas also come in all kinds of colors, sizes, and leaf variegations, making it difficult to choose the right selection at times. Recent introductions include plants with lots of bright flower colors including oranges, yellows, reds, purples, cream, white, pinks, and multi-colors. The flowers are very attractive to butterflies and moths as well as hummingbirds. Leaf colors are usually green but some cultivars have yellow and green variegated leaves. Plant them in full sun and don't overwater (not likely to happen this season!).

Plants grow low as groundcovers or can be as tall as 4'. In fact, be sure to check the size of the mature plant as some of these can get quite large. They can be used in beds or borders and containers that fit the size of plant. Whiteflies like Lantana but don't seem to really cause any aesthetic problems. However, if one has a tendency to overwinter some of their tropical plants, this would not be advisable. If the plant has whitefly, the greenhouse owner will have a struggle to eliminate it once indoors.

*PERENNIAL - CONEFLOWER (Echinacea spp.). A plant that should be blooming at its peak right now in central Ohio is actually on the downhill slide if it hasn't been deadheaded. Echinacea or coneflowers normally begin blooming in early July and last most of the summer but with this recent weather, they started blooming the next to the last week in June in
central Ohio gardens. This native plant is another tough one that can take the one-two punch from Mother Nature this season. Native to the prairies of the Midwest, they tolerate lots of heat, sun, and dry soils. However, keep in mind that if they were just planted this season or in the last few years, they need more water in order to establish the tough root system that tolerates this weather. *Echinacea* are drought tolerant and love the sun. As mentioned, if one deadheads the flowers, one will encourage the plant to continue blooming, though the blooms won't be as many or as large. *Echinacea* is one of the easiest perennials to grow and require very little maintenance in the perennial garden.

There are lots of flower colors to choose from as well as really cool, new flower shapes. The species has purple ray petals (the outside flower petals) and dark brown disk petals (the inside part of the flower). Colors include purples, pinks, reds, oranges, greens, whites, and creams. Some flowers have single rays and some double and some are quite fragrant. 'Hot Papaya' for instance has double reddish orange flowers that really stand out in the garden. Another top performer in the Gateway Learning Gardens at the OSUE Clark County office is 'Milkshake' with its off-white double flowers.

Birds, especially goldfinches, love the seeds produced by the disk flowers. On the other hand, letting the flowers go to seed sometimes produces copious amounts of seedlings the next year. Therefore, one has to decide their management strategy if an entire patch of *Echinacea* is not desirable.

*WOODY - EUROPEAN BEECH (*Fagus sylvatica*). European beech needs no greater introduction than the words of Michael Dirr in his "Manual of Woody Landscape Plants." He writes, "There is no finer specimen tree; so beautiful that it overwhelms one at first glance; excellent for public areas, also makes an excellent hedge for it withstands heavy pruning; the cultivars are especially beautiful and at least one will blend into every landscape; my favorites are 'Asplenfolia', 'Fastigiata', Pendula', 'Riversii', and 'Tortuosa'."

It is true, when you think of some of the most stirring moments with trees, often they are of beeches, both European and American (*Fagus grandifolia*)... the magnificent formal structure, the smooth silvery bark that almost defines "sylvan", the marcescent silver and gold leaves in the winter. And those cultivars! Though as Michael Dirr laments we have not selected and marketed cultivars of American beech even though it is an outstanding tree in growth and survival compared to the European beech (though beech bark disease threatens our native species). Cultivars such as 'Asplenifolia', the fern-leaved beech, with its dense compact canopy and cut leaves, the purple-leaved and weeping forms, and if protected from hot, dry conditions, the 'Purpurea Tricolor' beech. Which brings us to a point: beeches are shallow-rooted, even more so than many other trees, so do what you can if those trees are not yet too big to water - mulch and water can really help in a season like 2012.

A note from Jim's recent European travels: Driving along a remote road in the Champagne region of France near Reims, you may come across a sign for the Forêt de Verzy. Here there is a park with protected specimens of *Fagus sylvatica* 'Tortuosa', the mysterious beeches of Verzy. Hundreds of umbrellas of dwarf beeches, hundreds of years old, most not exceeding 10 - 15' high, often with tortured, twisted branches and stems re-rooting, perfect little havens from a storm if they were not protected from humans in this preserve. Did monks observe, propagate, plant and nurture them? Do they have some allelopathic control of other vegetation? Why are they here in such abundance and strangeness?

*VEGETABLE - BAY LAUREL (*Laurus nobilis*). Bay laurel is an herb commonly used in cooking but rarely grown in Ohio. Native to the Mediterranean, this aromatic evergreen grows as a small tree or large shrub in the wild. The leaves are dried and used in cooking. Berries can also be used but the plants are dioecious (male and female flowers on separate plants) and it is unlikely they will be produced on Ohio-grown shrubs.

Large and small starter plants are available in local garden centers or through mail order sources. They may be listed as SWEET BAY in some catalogs. These woody starter plants are more expensive than annual or perennial herbs. Repot the starter in a container 2 - 3" larger than the original pot. Use a well-drained commercial soil mix and make sure the container has adequate drainage. Keep well watered but not soaking wet. Fertilize regularly or use a slow release fertilizer at the beginning of the growing season. When the plant has filled its container with roots, move up into another pot several inches larger than the current container.

Bay laurel must be moved indoors prior to cold weather. Indoors, provide as much light as possible, do not fertilize, and reduce watering but do not let the plant dry out. To produce a large healthy plant, grow the bay laurel outdoors as long as possible each year. The mature size of the plant is only limited by the size of container one can handle when moving the
plant. Problems include scale insects, mites, and root rot (from overwatering or overpotting). Harvest the oldest leaves for the best flavor. They are best used fresh, but can be dried for long term storage or giving as gifts.

*WEED - COMMON RAGWEED (*Ambrosia artemisiifolia*). Common ragweed is a summer annual commonly recognized for its contribution of pollen to hay fever allergies. Seeds of ragweed germinate early in the season, usually late May through June. The plant is a common weed in fields and in the landscape. Mature plants will reach 1 - 2' in height but can easily grow to 4' or larger under the right conditions. Leaves are twice compound (compound leaves with individual leaflets also compound) giving them a fern-like appearance. The upper surfaces of the leaves are also covered with very small hairs making the overall appearance of the plant soft and fern-like. The flowers are green and inconspicuous at the end of each stem. Because the plant is wind pollinated the flowers produce copious amounts of pollen - causing it to be one of the primary contributors to hay fever. A relative, GIANT RAGWEED (*Ambosia trifida*) is also a summer annual, but with palmately compound leaves and the ability to easily reach up to 6' in height.

2. HORT SHORTS.

A. LES FLEURS DE L'EUROPE. *Research, Renovation and Renewal at Secrest Arboretum* was one of the topics at the 2nd International Symposium on Woody Plants of the Temperate Zone in Ghent, Belgium in early July. One BYGLer followed his short Ghentisburg Address with a vacation in Europe - here are a few observations (with images on the web at [http://bygl.osu.edu](http://bygl.osu.edu]).

First, France is incredibly agricultural. Yes, Paris is the epitome of cosmopolitanism, but the French countryside; *Mon Dieu!* Wheat, cattle, corn, sunflowers, goats for the *chevre*, and of course, the grapes. Though, on a side note, apparently 90% of the mustard seeds used in the mustards of Dijon are from Canada!

Second, France and other European countries are wonderfully horticultural relative to *les fleurs*. There are wonderful urban forests, from planetrees and lindens to beeches and crabapples. But the herbaceous flower displays, in every tiny village, are truly wonderful, not only in how they are cared for, but also in the careful, professional and artistic design of planters and flower beds as you enter those villages. In addition, everyone seems to have their hand in, whether it is a window box of geraniums or a wisteria vine planted in a tiny patch of soil. There are outdoor restaurants screened with pots of bamboo or lined with tiny plantings of boxwood. Flowers matter.

Hydrangeas are everywhere and the flowering shrubs of choice, with boxwoods and yews as very common broadleaf and narrow-leaved evergreen shrubs, though boxwoods might be pruned into 15 foot gumdrops, and yews might be the centerpiece of the village square with heights reaching 30' or more. Lots of lindens and very hearty horsechestnuts, though most if not all have considerable horse-chestnut leafminer (*Cameraria ohridella*) damage. There was plenty of planetree pollarding. Temperatures in central France and Belgium in early to mid-July? Seventies with plenty of rain; no drought in that time and place. *Vive les fleurs et arbres.*

B. NEED TO BATTEN DOWN THE HATCHES AGAINST BATS? March through September is the active time for bats in Ohio. Ohio's 11 species spend their summer hours like every other species in Ohio - feeding and reproducing. There is no question Ohioans benefit from the feeding of bats - a single bat can consume over 1000 mosquito-sized insects in one night. The reproduction side of things however, can sometimes cause an issue…especially if the result is a colony of bats in the home. Two Ohio bat species will commonly share living space with humans; the little brown bat and the big brown bat. The females of both of these species form maternity colonies (these colonies range in size from 50 to over 100 females) in which the females birth and raise their young together. In their natural habitat, these maternity colonies would be found in hollow trees or under peeling bark. But the little and big brown bats have discovered that human structure also provide good habitat.

It is possible to remove bats from a home with a bit of work and patience. The only effective way to remove a bat colony from a building is exclusion, which involves identifying where the bats are entering the building and covering those access points with one-way exclusion devices. These devices allow bats to leave the building but not reenter. Patience is required to wait for the young to be able to fly on their own. If exclusion takes place before the young can fly, the mothers will be excluded and the young left inside to die. *Excluding a bat colony in Ohio should never take place between May and August.* Bat exclusion professionals are available for hire, but do-it-yourself instructions can be found here: [http://batcon.org/index.php/bats-a-people/bats-in-buildings.html](http://batcon.org/index.php/bats-a-people/bats-in-buildings.html).
Maternity colonies will return to the same place year after year to reproduce. If they are excluded, they will need to find another place to roost and their ferocious appetites will go with them. Consider putting up a bat house to keep them in the area. Bat house plans and instructions on where best to place them can be found here: http://batcon.org/index.php/get-involved/install-a-bat-house.html.

C. OHIO IS THIRSTY AND SO IS THE WILDLIFE! Drought conditions aren't just leaving Ohioans high and dry but also the wildlife. A drought not only eliminates drinking spots such as creeks and streams, but also fresh food, such as berries, nuts, and fish. The dry conditions are forcing wildlife into areas outside their normal foraging grounds in search of food and water. Many times, these new areas are backyards and residential neighborhoods. Deer, rabbits, and groundhogs are looking for anything green in the landscape, while raccoons and skunks will settle for any type of food. Moles in search of earthworms are finding them in the irrigated lawns of homeowners.

There are effective ways to deter these hungry critters from wreaking havoc in backyards. The Internet Center for Wildlife Damage Management has many fact sheets available to help homeowners. In the meantime, apply hot pepper and egg solid repellents on plants for protection against deer, rabbit, and groundhog browsing. Remove any available food outside your home, such as garbage or pet food. Keep trash cans tightly lidded or inside at night, and pick up pet food after a feeding. Pesky raccoons and skunks are best trapped and removed from the property. Moles can be effectively stopped using lethal traps. Remember, there are qualified wildlife control professionals available to help homeowners deal with nuisance wildlife. These professionals can be found listed in the phone book or by an internet search.

3. BUG BYTES.

A. SQUASH BUGS. Squash bugs (Anasa nistis) are present in large numbers attacking squash vines throughout the state. Overwintering as adults, these bugs emerge in spring to mate and begin laying eggs. The eggs are usually laid in groups of 10 or more on the underside of leaves in the angles formed by veins. Spider-like nymphs hatch from the eggs and go through several instars before maturing to adults. Nymphs look more like adults with each molt. There is only one generation per year but the egg-laying process takes place over a long period of time, so one can easily find adults, eggs, and several instars in the garden at the same time.

Nymphs and adults feed on squash leaves and stems. While feeding, they inject a toxic substance into the vine causing a wilt that resembles bacterial wilt of cucumber. Leaves and stems then turn brown and brittle. Squash bugs also feed on ripening fruit. They attempt to hide when disturbed and can be found under plant debris.

Control squash bugs early by destroying eggs and overwintering adults. Row covers can be used to protect early growth, but must be removed for pollinators. There are insecticides labeled for control of squash, but be cautious when applying to avoid killing pollinators. Garden and field cleanup to eliminate overwintering sites for adults will reduce the population next season.

B. LACE BUG POTPOURRI. Several BYGLers reported that the handiwork of a number of lace bugs (Hemiptera: Tingidae) are becoming very evident in Ohio including: HAWTHORN LACE BUG (Corythucha cydoniae); OAK LACE BUG (C. arcuata); SYCAMORE LACE BUG (C. ciliata); WALNUT LACE BUG (C. juglandis); and BASSWOOD LACE BUG (Gargaphia tiliae). Lace bugs use their piercing-sucking mouth parts to suck juices from their host plants. The species listed here confine their feeding to the lower leaf surface; however, their feeding activity produces tiny yellow or whitish leaf spots (stippling) on the upper leaf surface.

The leaf stippling may coalesce to produce large areas of yellow to copper colored tissue and heavy damage may cause early leaf drop. It is not unusual for early feeding symptoms of the hawthorn and basswood lace bugs to appear as distinct 1/4 - 1/2" diameter spots on the upper leaf surface. This peculiar leaf stippling pattern is the result of nymphs feeding around egg clusters and may be particularly evident on the dark green upper leaf surface of silver linden. Lace bugs also deposit unsightly hard, black, varnish-like tar spots of excrement onto the leaf surface as they feed. Most lace bugs have multiple generations per season; their damage builds with each succeeding crop of new bugs.
Hawthorn lace bugs have a cosmopolitan palate and will feast on a variety of rosaceous plants as well as a few plants outside of the rose family. They are commonly observed on Cotoneaster spp., Amelanchier spp., and Pyracantha spp., as well as their namesake host. Walnut lace bugs may be found on their namesake host as well as butternut and occasionally on linden. Basswood lace bugs should more accurately be called "Tilia lace bugs" since they may be found on several species in the Tilia genus. Typical landscape hosts including littleleaf linden (T. cordata) and silver linden (T. tomentosa). Oak lace bugs may be found on both red and white oaks. Lace bugs can be managed using a number of insecticides labeled for the host trees; however, topical applications must target lower leaf surfaces and multiple applications are usually required since these lace bugs have multiple generations per season.

C. POTTER WASPS. Curtis Young responded to an ID question from a BYGL reader in Columbus about a potter wasp's (Eumenes sp.) clay nest hanging from the underside of a begonia leaf. The wasp belongs to the family Vespidae, which includes paper wasps, yellowjackets, and hornets; however, potter wasps create their nesting artistry using clay rather than paper.

As their common name describes, potter wasps fashion small rounded jug-like nests out of clay, and they attach the nests to leaves, twigs, or to structures such as window seals. The 3/8 - 3/4" long potter wasp females don't gather mud for their nests. They first collect water and then they mix it with dry soil using their mandibles. The mud mixture is then transported to the nest-making site where it is fashioned into individual pots ranging in size from 1/4 - 3/8" in diameter. The entire construction process may require a couple of hundred trips over several hours.

As the pot nears completion, the female lays a single egg attached by a thread to the inside surface of the nest. They then provision the pot with a caterpillar or beetle larva that has been paralyzed by a sting. Once provisioned, the pot is sealed with a clay plug leaving the hapless paralyzed prey to await an appointment with the wasp's hatchling larva. Thus, potter wasps are considered beneficial … to all but their prey!

D. MILKWEED MENAGERIE. A number of plants in the milkweed family (Asclepiadaceae), including COMMON MILKWEED (Asclepias syriaca), have transcended "weed status" in recent years to join the ranks of plant-respectability. They are used in butterfly gardens, landscapes, and naturalized areas. Their beautiful forms and flowers are enhanced by their special relationship with the MONARCH BUTTERFLY (Danaus plexippus). However, the monarch caterpillars may be joined by other insect herbivores that also enjoy a "special relationship" with their milky hosts. Indeed, milkweed serves as a host for insects that are found in over 50 different taxonomic groups.

Like monarchs, these insects attempt to dodge predation by accumulating in their flesh the alkaloid toxins, called cardiac glycosides (cardenolides), which are concentrated in the milkweed's sap. It's a fascinating twist on the old axiom that "you are what you eat." These members of the milkweed menagerie advertise their toxic character through splashy coloration, usually involving an orange on black motif.

Early in the season, the brightly colored RED MILKWEED BEETLES (Tetraopes tetrophthalmus) are easy to spot feasting on milkweed in Ohio. These tubular-shaped 3/8 - 1/2" long beetles are orangish-red with black dots and streaks on their upper thorax and wing covers. A close examination of the milkweed beetles will reveal that their prominent black antennae bisect their compound eyes creating two sets of eyes with one set located above the antennae and one set below. The genus and specific epithet of the beetle describes this unusual feature; both are derived from the Latin for "four eyes." The adults feed on milkweed leaves and the larvae bore into the roots and stems.

MILKWEED TUSSOCK MOTH (Euchaetes egle) caterpillars appear at about the same time as monarch caterpillars. The caterpillars are covered in rows of black, orange, and white hairs. They feed side-by-side in groups and can rapidly consume entire leaves leaving only the veins. In fact, these caterpillars are considered serious competitors to monarchs and can out-devour even the most voracious monarch caterpillar. LARGE MILKWEED BUGS (Oncopeltus fasciatus) and SMALL EASTERN MILKWEED BUGS (Lygaeus kalmii) are sucking insects that feed on seeds and seed pods, so they arrive with the first appearance of the pods. Fortunately, with the exception of the tussock moth caterpillars, the milkweed menagerie causes little harm to milkweed, and the tussock caterpillars can be selectively removed by hand, sparing the beloved monarchs. After all, monarchs are called monarchs for a reason!

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

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

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

4. DISEASE DIGEST.

A. RUST NEVER SLEEPS: EVEN IN A DROUGHT! As noted in numerous BYGL articles this year, many infectious plant diseases, especially foliar diseases such as apple scab and rose black spot, are low in incidence and severity this droughty season (unless leaves are frequently wet from irrigations). This is not the case for observations by many BYGLers of a number of different diseases caused by RUST FUNGI.

Plant diseases caused by rust fungi are many and quite variable. Some rust diseases are autecyclic, with the fungus completing its life cycle on one host, for example may-apple rust, caused by the fungus *Puccinia podophylli*. Other rust diseases are heterocyclic, with the fungus cycling between different host plants, often quite different hosts, for example being the cedar quince rust fungus in which *Gymnosporangium clavipes* cycles between junipers (a Gymnosperm with no true flowers or fruits) and plants in the rose family (Angiosperms or true flowering plants) such as hawthorn, crabapple, and quince.

Another example of the wide yet specific host range of rust fungi is the black stem rust of wheat fungus, *Puccinia graminis* f. sp. *tritici*, which cycles between wheat (a monocot in the Angiosperms) and barberry (a dicot in the Angiosperms). Both of these rust diseases have long regulatory horticulture histories, as does the white pine blister rust fungus (cycling between white and a few other pines and certain gooseberries and currants) and most recently, the daylily rust fungus.

At any rate, this year we are seeing plenty of rust diseases on ornamentals, despite the dry weather. Randy Zondag reported the presence of rusts on ornamental grasses such as *Miscanthus* in northeast Ohio and Curtis Young and others reported hawthorns looking now almost like ornamented holiday trees from orange cedar quince rust fungus pustules protruding from haws on hawthorns in northwest Ohio and elsewhere. And then there is hollyhock rust…and you get the picture.

5. TURF TIPS.

A. DRY CONDITIONS MAKE FAIRY RINGS OBVIOUS. Joe Boggs reported that fairy rings are becoming more obvious in southwest Ohio as the current dry conditions enhances the color contrast between light brown drought-stressed grass and the dark green fairy ring grass. Fairy rings are comprised of areas of dark green grass that grows more rapidly than the surrounding grass. The rings may appear as distinct circles that measures less than 1’ in diameter, to circles measuring hundreds of feet in diameter, to arcs crossing parts of a lawn or arcs crossing several contiguous lawns. The width of the affected band grass is usually around 1’.
The rings are typically most obvious in the spring and fall when the hyper-stimulated fairy ring grass becomes darker and outgrows the surrounding grass. However, certain environmental conditions may also make them obvious at other times of the year. For example, the affected grass tends to take longer to turn brown under droughty conditions. However, for unknown reasons, under extremely dry conditions the fairy ring grass may actually turn brown quicker. This is called a "fairy ring collapse," and the affected turf may fail to recover and die.

The exact causal agents and factors affecting the growth dynamics of fairy rings is poorly understood; however, it is known that ring formation is related to fungal growth in the soil beneath the turfgrass. Indeed, research has shown that a complex of at least 54 species of fungi may be involved in their formation. Most are Basidiomycota (formerly Basidiomycetes) and many of these reproduce by forming mushrooms. Consequently the rings occasionally sprout mushrooms in a circular pattern, thus the common name. It is also known that fairy rings continually expand, getting larger year-after-year.

Controlling fairy rings is difficult and in most cases the cost of pursuing treatments is not justified by the marginal chances of successfully eliminating the ring. For example, soil removal and replacement may be attempted; however, even a small area missed during removal will fire the formation of a new ring. Indirect approaches to fairy ring management using proper fertilization and irrigation are more cost-effective. Following a consistent fertilization program will maintain the growth and color of surrounding grass to mask the fairy ring. Irrigation will also mask the color contrast between the ring and surrounding drought-stressed turfgrass. In the end, it should be remembered that the ring will continue to grow to eventually leave the affected lawn, and become the neighbor's problem.

B. WEBWORMS AND CUTWORMS ARE THRIVING. Unlike much of the plants in Ohio, it appears that webworms and cutworms are doing just fine. Both Curtis Young and Dave Shetlar reported seeing or capturing high numbers of the LUCERNE MOTH (Nomophila nearctica) (a.k.a. Clover Nomophila, False Webworm, Celery Stalkworm and American Celery Webworm). As some of the common names of this moth imply, it has a wide host range that includes crops (e.g. celery and alfalfa), weeds (e.g. knotweeds and sweet-clovers), various other low-growing herbaceous plants, and grasses. Curtis reported encountering numerous specimens of this moth as he walked through semi-dormant, crunchy turfgrass and swarming around his porch lights at night. Dave reported capturing more than 130 lucerne moths in a light-trap at the turfgrass research station over the weekend.

The wingspan is 1 - 1 1/4". When at rest, adults keep their wings overlapped and hugged against the abdomen, giving a long and narrow profile. The forewing is elongate, grayish-brown with two side-by-side dark oval spots near the middle of the wing, and another dark bilobed spot a little farther out. The hindwings are much broader. They are pale brownish-gray with a whitish fringe. Larvae have black head capsules. Their abdomens are variably colored ranging from light-brown to dark-gray with a bumpy surface and sparse long hairs. There is a thin dark dorsal line down the length of the back that is bordered by narrow pale stripes.

Its activity in Ohio has been reported in past BYGLs, but it appears that its numbers have been increasing over the past couple of years to the point that more and more people are noticing it and inquiring about its presence. Some have asked whether this is a new species of webworm, but it is not. It is a wide-spread species found in many areas of the US and Canada. It is just one of many webworms species in Ohio and appears to be on an up-swing in its population cycling. Additionally, the early spring and continued high temperatures thus far through the summer, may result in both webworms and cutworms producing extra generations of each before the onset of fall. Thus, turf managers need to maintain their watch for both types of grass-feeding moths, especially on high maintenance, damage-susceptible turf such as golf greens and tees.

6. INDUSTRY INSIGHTS.

A. LOW WATER WOES. Randy Zondag, always a water-quality evangelist, cautioned growers to monitor pond water closely this season. The current drought has taken many irrigation ponds to a new low with no clear sign of recharge in the near future. As a result, irrigation water from ponds has been of a questionable quality. Nutrients and soluble salts have been concentrating in the remaining pond water and plants have been damaged from these higher levels - perennials such as heuchra, coreopsis, and bergennia have proven particularly sensitive. Other problems experienced also include pH changes in containers and field due to material pumped from low ponds. Soluble salts, pH and other parameters can easily be monitored in-house or samples can be sent out for analysis.
B. CALICO SCALE CRAWLERS REDUX. In BYGL 2012-11 (06/14/12), Joe Boggs reported that calico scale (Eulecanium cerasorum) crawlers had settled on the underside of tree leaves in southwest Ohio. He also noted that like the adult females, the crawlers also exude copious quantities of sugary, sticky honeydew. This week, Joe reported that he visited a commercial landscape that had heavily infested honeylocusts with leaflets, branches, and trunks coated in honeydew and the honeydew had become colonized by black sooty molds. The branches and trunks appeared blackened.

The tiny yellowish-tan, oval-shaped crawlers appear flattened and they attach themselves to the leaf veins and midveins. They use their piercing-sucking mouthparts to tap into phloem vessels. High crawler populations can remove enough plant sap to cause significant injury. Indeed, in past years, high populations of calico scale crawlers in central and southern Ohio produced visible damage to honeylocusts causing leaflets to turn yellow, then brown and then drop from the tree. The leaf discoloration and defoliation were sometimes mistaken for moisture stress. As fall approaches, the crawlers will move to stems where they overwinter.

Calico scale can infest a wide variety of deciduous trees. The stems of off-colored trees should be closely examined for globular, reddish-brown, or dark-brown dead female scales. Trials in Ohio have indicated calico scale can be managed using soil drenches of neonicotinoid systemic insecticides such as imidacloprid (e.g. Merit, Marathon), clothianidin (e.g. Arena), and dinotefuran (e.g. Safari) made from September into November.

C. LEAF CURL ASH APHID REDUX. In BYGL 2012-14 (07/05/12), BYGLers who visited the Minnesota Landscape Arboretum in Minneapolis reported coming across the leafcurl ash aphid (Prociphilus (Meliarhizophagus) fraxinifolii) on 'Leprechaun' green ash in the Arboretum's ash collection. It was noted in that BYGL report that although the literature indicates this aphid is a native pest and ranges from the eastern U.S. across the Great Plains, BYGLers had never seen the aphid in Ohio. This week, Joe Boggs reported observing damage caused by the aphid on a green ash in southwest Ohio. However, it appeared that an injected application of emamectin-benzoate targeting EMERALD ASH BORER (Agrilus planipennis) had the collateral benefit of suppressing the aphid.

The feeding activity by this unusual "woolly-type" aphid on newly expanding leaves produces rosette-like symptoms with the ash leaves becoming stunted, curled, and distorted. Indeed, the symptoms may be mistaken for herbicide injury. The aphid is also called the "woolly ash aphid" because of the white, waxy filaments covering the aphids. It is capable of producing prodigious quantities of sugary, sticky honeydew that coats the leaves and branches in an around the aphid colonies. The honeydew commonly becomes colonized by black sooty molds which only add to the unsightly mess created by this aphid on heavily infested trees. The literature notes that this aphid only feeds on green ash.

7. WEATHERWATCH. The following weather information summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations spanning the dates from July 1-July 18, 2012, with the exception of the soil temperatures which are readings from Wednesday, July 18, 2012 at 6:30 a.m.

Rainfall amounts continue to be spotty and have been a hit-or-miss scenario. Some BYGLers reported measuring rainfall in inches, while the only moisture received in other areas were the tears as the storms went north or south, missing already very dry areas of Ohio. Dave Dyke, Julie Crook, Cindy Meyer, and Nancy Taylor reported receiving weekend precipitation totals ranging from 1 - 3".

Paired with the lack of moisture, Ohio has been experiencing brutal temperatures. The Toledo television stations have reported 24 days above 90F this season, with 3 of those days above 100F. Similar scorchers are being felt across the buckeye state. The US Drought Monitor website is an excellent resource to look at the BIG picture. You can link to this site at [http://droughtmonitor.unl.edu/].

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<tr>
<td>Ashtabula</td>
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<td>85.4</td>
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<td>1.7&quot;</td>
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<td>Wooster</td>
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<td>65.3</td>
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<td>2.4&quot;</td>
<td>76.98/77.11</td>
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<tr>
<td>Hoytville</td>
<td>NW</td>
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<td>66.8</td>
<td>0.4&quot;</td>
<td>2.0&quot;</td>
<td>78.03/79.06</td>
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<tr>
<td>Columbus</td>
<td>Central</td>
<td>94.1</td>
<td>69.8</td>
<td>0.94&quot;</td>
<td>2.8&quot;</td>
<td>82.52/82.31</td>
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<tr>
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<td>South</td>
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<td>67.1</td>
<td>0.9&quot;</td>
<td>1.9&quot;</td>
<td>78.32/79.36</td>
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For a link to the OARDC Weather Stations, visit: [http://www.oardc.ohio-state.edu/centernet/weather.htm].

8. COMING ATTRACTIONS.

A. 2012 NW OHIO SUMMER SESSION. Save the date for this year's NW Ohio Summer Session for green industry professionals. The event will be held on Wednesday, August 1, 2012 at Owens Community College just south of Toledo, Ohio. The yearly event is kicked off with lunch, followed by concurrent sessions during the afternoon. Registration information is available online at [http://lucas.osu.edu/topics/green-industry-summer-session] or by calling 419-578-6783 and registration materials will be mailed to you.

B. WOODY PLANT ID WORKSHOP AT SECREST ARBORETUM - NOTE: DATE CHANGE!!! On Wednesday, August 8, 2012 from 10:00 a.m. - 3:30 p.m., there will be a woody plant identification class held at Secrest Arboretum in Wooster, Ohio. This workshop will highlight plant identification terms, describe and explain them, and then show these characteristics on plants and samples, common taxonomic terms used in most dichotomous plant identification keys. Jim Chatfield and Erik Draper will be the instructors for this hands-on, samples galore workshop. Lunch, handouts, snacks and prizes are all included in the $40 fee for this workshop. To register for this workshop or to obtain additional information, contact the Ohio State University Extension, Geauga County at 440-834-4656.

C. PESTICIDE COLLECTION DAY HELD IN GEAUGA COUNTY. The Ohio Department of Agriculture will be sponsoring a collection for farmers wishing to dispose of unwanted pesticides on August 9, 2012 from 10:30 a.m. - 2:30 p.m. at the Geauga County Fairgrounds, 14373 N. Cheshire Street, Burton, OH 44021. This collection day will be the only one located in northeast Ohio this year and all counties are welcome to participate in this event. The pesticide collection and disposal service is free of charge, but only farm chemicals will be accepted. Paint, antifreeze, solvents, and household or non-farm pesticides will not be accepted. To pre-register, or for more information, contact the Ohio Department of Agriculture at 614-728-6987.

D. DIAGNOSTIC WALKABOUT FOR THE GREEN INDUSTRY will be held at Inniswood Metro Gardens in Westerville, 7:30 - 9:00 a.m., on Thursday August 16, 2012. Pre-registration is required and class size is limited to 30 per class. ODA, ISA and OCNT credits available. For registration, location and pesticide credit information see: [http://www.onla.org].

E. 2012 COMMERCIAL NEW APPLICATOR TRAINING SCHEDULED. The Ohio State University Extension's Pesticide Safety Education Program has scheduled four training dates for those preparing to take the commercial applicator's exams including Core, 8 (Turf), 5 (Industrial Vegetation); 6c (Ornamental Weed) and 2c (Agricultural Weed). The morning session also qualifies as Trained Serviceperson training. The dates are August 29, 2012; and September 26, 2012. Registration begins at 8:30 a.m. Additional information, including pre-registration is available on the web at [http://pested.osu.edu/commnewapp.html].

9. BYGLOSOPHY: "The one thing of which the world will never have enough is exaggeration." - Salvador Dali.

APPENDIX - ADDITIONAL INTERNET RESOURCES:

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
Following were the participants in the July 17th conference call: Pam Bennett (Clark); Joe Boggs (Hamilton); Jim Chatfield (Horticulture and Crop Science); Julie Crook (Hamilton); Erik Draper (Geauga); Tim Malinich (Erie); Cindy Meyer (Butler); Dave Shetlar (Entomology); Amy Stone (Lucas); Nancy Taylor (C. Wayne Ellett Plant and Pest Diagnostic Clinic); Marne Titchenell (School of Environment and Natural Resources); Curtis Young (Van Wert); and Randy Zondag (Lake).

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/].

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

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

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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