BYGL Newsletter

May 3, 2012
This is the 5th 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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Plants of The Week »

*Annual - Sweet Alyssum (Lobularia maritima)

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

Sweet alyssum grows around 6-8" tall, in a mound that gets around 1’ wide. Several cultivars are available and flower colors are white, purples, and pinks. A Proven Winner variety, ‘Snow Princess’ is a breakthrough in Lobularia breeding for heat tolerance and season-long performance. In Ohio State University Extension field trials in Clark County, ‘Snow Princess’ bloomed and was outstanding during the entire HOT and dry growing seasons of 2010 and 2011, garnering it high ratings in the trials. It is heat tolerant but it isn't fragrant like the older cultivars of sweet alyssum.

For More Information:
Missouri Botanical Garden Kemper Center for Home Gardening information on growing sweet alyssum
http://www.mobot.org/gardeninghelp/plantfinder/Plant.asp
USDA Plants Profile for sweet alyssum
http://plants.usda.gov/java/profile

*Perennial - Common Thrift (Armeria maritima)

Common thrift is an outstanding plant for the rock garden or in front of the perennial border. The flowers are in full bloom now in central Ohio, a week or so earlier than normal and are white, pink, mauve-red or lilac. The 1-1/2" rounded flower cluster actually consists of many tiny flowers attached at the center; the single-appearing rounded flowers are on top of a 4-6" stem and last for 2-3 weeks. The foliage forms a dense, cushy mound that looks great after the blooms fade.

Grow common thrift in full sun or partial shade in well-drained soil. It gets around 6-8" tall and spreads into a rounded mound
about 10" wide. It doesn't like to be divided so plant it and leave it! The plant is found growing near coastlines and is salt tolerant. The specific epithet *maritima* means coastal or near/by the sea, thus the plant is aptly named. The cultivar 'Alba' has white flowers and Duesseldorf Pride has rosy-pink flowers.

For More Information:
Missouri Botanical Garden Kemper Center for Home Gardening information on common thrift
Cornell Home Gardening Growing Guide on Armeria maritima
http://www.gardening.cornell.edu/homegardening/scene6f0c.html

*Woody - White Fringetree (Chionanthus virginica)*

Fringetree is a wonderful small, deciduous tree or shrub that reaches heights of 25-30'. This tree is native to southeastern Ohio and is most commonly found in Scioto County, along ravines and larger streams. Fringetree's feathery, panicled flowers are showy and dioecious (male and female flowers are on separate plants). The male flowers are said to be more attractive and some folks say more fragrant than the female flowers. This plant prefers moist, fertile, acid soils but is adaptable to many sites. It is also very tolerant of air pollution, making it a good choice for city sites. This tree does not have any serious pest or diseases that affect the overall health of the tree. Cultivars to check out include 'Floyd' and 'Spring Fleecing'.

For More Information:
Ohio State University Extension - Ohio Trees Bulletin
http://ohioline.osu.edu/b700/b700_64.html
Duke University - Trees, Shrubs, and Woody Vines of North Carolina
http://www.duke.edu/~cwcook/trees/chvi.html
Clemson Cooperative Extension - FactSheet on Fringetree
http://www.clemson.edu/extension/hgic/plants/landscape/trees/hgic1027.html

*Vegetable - Spinach (Spinacia oleracea)*

Spinach is a great source of vitamins and iron and can be planted in the early spring as it prefers cool weather for best growth. If soil and weather permit, this leafy vegetable may be planted in the ground as early as the beginning of March. Spinach quickly reaches an edible stage, within 37-45 days and thrives best during the cool, moist seasons of the year. It may also be planted in late summer or early fall to harvest a fall crop. Spinach adapts and grows very well in container and patio planters, and is highly prized in the edible landscape garden as well.

Spinach leaves are tender and tastier at an early stage and should be harvested when they are relatively young. Begin to harvest the leaves when they are large enough to be used in a salad. By simply harvesting the outermost leaves, the plant will continue to grow, allowing the inner leaves to develop. As temperatures warm up, spinach bolts or goes to seed and new leaf production ends. There are several varieties available with different maturity rates, as well as various growth habits. Some are recommended for their ability to tolerate heat slightly more than the cool-season varieties.

For More Information:
University of Illinois- Watch Your Garden Grow- Spinach
http://urbanext.illinois.edu/veggies/spinach.cfm
Cornell University- Home Gardening- Growing Guide- Spinach
Hort Shorts

**Weed - Poison Hemlock (Conium maculatum)**

Joe Boggs reported that poison hemlock plants are now becoming very evident in southern Ohio and are ripe for control. This non-native invasive weed is among the most toxic plants in North America. The plant contains highly toxic piperidine alkaloid compounds, including conine and gamma-coniceine, which cause respiratory failure and death when ingested by mammals. The roots are more toxic than the leaves and stems; however, all parts of the plant including the seeds, should be considered dangerous.

Poison hemlock is a biennial weed and spends the first year as a basal rosette, and the second year as an erect, towering flowering plant that can measure 6-10' tall. It is a member of the carrot family, so it shares many characteristics with other weeds found in Ohio including native plants such as QUEEN ANNE'S LACE (*Daucus carota*) and other notorious non-natives such as WILD PARSNIP (*Pastinaca sativa*). All stages of the plant have bluish-green leaves that are 3-4 times pinnately compound, and the deeply cut parsley-like leaflets have sharp points. Flowering plants have hairless, light-green to bluish-green stems that are covered with obvious purplish blotches. Clusters of tiny white flowers are borne on structures called umbels that look like upside-down umbrellas.

Poison hemlock can be controlled by mowing, tilling, or by using selective or non-selective post-emergent herbicides including glyphosate (e.g. Roundup) or herbicide mixtures containing 2,4-D, 2,4-DP and MCPP or 2,4-D, dicamba and MCPP (e.g. Trimec). Applications of herbicides made now control both the first season rosette stage and the second season flowering stage, before seeds are produced.

For More Information:

- Virginia Tech Weed Identification Guide - Poison Hemlock
- USDA Natural Resources Conservation Service Plant Profile - Poison Hemlock
  [http://plants.usda.gov/java/profile](http://plants.usda.gov/java/profile)

**Gardening for Birds: Attracting Birds with Plants**

This is the first of a series of short articles on ways to attract songbirds to a backyard. This first article will address attracting songbirds by providing a diversity of plants. When attracting any species of wildlife, it's important to consider the necessary habitat, in other words, the food, shelter, water, and space that a species needs to survive. When it comes to songbirds, a diversity of grasses, flowers, shrubs, and trees can provide an excellent variety of food; seeds, nectar, berries, and nuts.

Chickadees and goldfinches will appreciate plantings of seed producing plants such as asters (*Aster* spp.), goldenrods (*Solidago* spp.), sunflowers (*Heliannthus* spp.), and sedums (*Sedum* spp.). Sedums and goldenrods serve double food duty by also attracting insects. Some of the best nectar producing plants, causing ruby-throated hummingbirds to hover with joy, include bee balms (*Monarda* spp.), blazing stars (*Liatris* spp.), and cardinal flower (*Lobelia cardinalis*).

When it comes to selecting shrubs to plant, choose the berry producing shrubs. Berries are designed with birds in mind. They are often bright in color, making them easy for birds to see, and are located on the tips of branches, making them easily accessible and ripe (pun intended) for plucking. Provide berries year-round so there is always a food source available. Early summer berry producers include serviceberry (*Amelanchier* spp.) and choke cherry (*Prunus* spp.). Blackberries, raspberries (*Rubus* spp.), and blueberries (*Vaccinium* spp.) are ready mid-summer, and dogwood (*Cornus* spp.) and viburnums (*Viburnum* spp.) produce in the fall. Don't forget to provide for songbirds that brave the winter months. Holly (*Ilex* spp.) and sumacs (*Rhus* spp.) are excellent choices.

Trees also supply a great diversity of food for birds, not only with the fruits, nuts, and seeds they produce, but also with the insects they attract. Oaks (*Quercus* spp.) support over 500 different insect species, which make birds such as warblers, vireos, and flycatchers very happy. The best fruit trees are cherries (*Prunus* spp.), junipers (*Juniperus* spp.), and hackberries (*Celtis* spp.). While robins and cedar waxwings are feasting on the cherries and junipers, tufted titmice and blue jays turn to seed and nut producing trees, such as pines (*Pinus* spp.), beech (*Fagus* spp.), and oaks.
When making decisions, remember diversity is the best of goals and try to select a plant or two from each of the seed, insect, nut, and berry producing categories. Stay tuned for next week's article on attracting birds to backyards using feeders! Happy bird gardening!

For More Information:
- OSU Extension Fact Sheet - Native Landscaping for Birds, Bees, Butterflies, and Other Wildlife
  http://ohioline.osu.edu/w-fact/pdf/0013.pdf
- OSU Extension Fact Sheet - Backyard Enhancement for Wildlife

Growing Degree Days (GDD)

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

The range of GDD accumulations in Ohio from north to south is 299 to 554. Following is a report of GDD for several locations around Ohio as of May 2, 2012: Painesville, 299; Cleveland, 336; Toledo, 386; Canfield, 343; Findlay, 396; Van Wert, 402; Wooster, 363; Coshocton, 421; Columbus, 483; Springfield, 460; Dayton, 466; Cincinnati, 524; Ironton, 553; Portsmouth, 554; and Piketon, 521.

To put these GDD accumulations into perspective, the following is an abbreviated listing of plant and insect species with their respective phenological event and average GDD accumulations at which these events occur. Due to variations in weather, temperature, humidity, etc., these events may occur a few days earlier or later than predicted by the average GDD. By looking at a city, town, or village nearby on the above list, or visiting the above website, one can see what is taking place in the landscape.

- **Imported willow leaf beetle, adult emergence**, 274; Sargent crabapple, full bloom, 298; red horsechestnut, first bloom, 304; **pine needle scale, egg hatch - 1st generation**, 305; conley spruce gall adelgid, egg hatch, 308; **eastern spruce gall adelgid, egg hatch**, 308; common lilac, full bloom, 315; 'Pink Princess' weigela, first bloom, 316; blackhaw viburnum, full bloom, 322; redosier dogwood, first bloom, 323; dwarf fothergilla, full bloom, 325; 'Winter King' hawthorn, first bloom, 328; **lilac borer, adult emergence**, 330; slender deutzia, first bloom, 338; Japanese kerria, full bloom, 342; common horsechestnut, full bloom, 344; red chokeberry, full bloom, 351; doublefile viburnum, first bloom, 353; Pagoda dogwood, first bloom, 363; red Java weigela, first bloom, 365; black cherry, first bloom, 368; common sweetsrub, first bloom, 371; **lesser peach tree borer, adult emergence**, 372; Ohio buckeye, full bloom, 374; holly leafminer, adult emergence, 375; Vanhoutte spirea, full bloom, 406; **euonymus scale (first generation)**, egg hatch, 406; black cherry, full bloom, 419; Miss Kā Manchurian lilac, first bloom, 422; **locust leafminer, adult emergence**, 437; doublefile viburnum, full bloom, 444; black locust, first bloom, 467; common ninebark, first bloom, 478; **oystershell scale, egg hatch**, 497; smokebush, first bloom, 501; arrowwood viburnum, first bloom, 534; American yellowwood, first bloom, 546; **bronze birch borer, adult emergence**, 547; black locust, full bloom, 548; American holly, first bloom, 556; mountain laurel, first bloom, 565; **potato leafhopper, adult arrival**, 568; and **juniper scale, egg hatch**, 571.

For More Information:
- Growing Degree Days and Phenology for Ohio
  http://www.oardc.ohio-state.edu/gdd/
- Understanding and Using Degree-Days
  http://ohioline.osu.edu/sc165/sc165_14.html

The World Turned Upside Down

Does this spring's weather seem a bit odd? Well, it's official. According to the Cleveland National Weather Service, at least in terms of average high temperatures, March was actually warmer than April in northeast Ohio.

The following quote is from the WKYC-TV website. "The monthly average high temperature in March for Cleveland was 61.3 degrees Fahrenheit compared to only 58.8 degrees Fahrenheit in April. Akron/Canton recorded an average monthly high temperature in March of 61.8 degrees Fahrenheit compared to only 61.3 degrees Fahrenheit in April. Also, Mansfield
recorded an average high temperature in March of 60.8 degrees Fahrenheit compared to an average of 60.2 degrees Fahrenheit in April.

What a wild wonderful season 2012 promises to be! As Mark Twain quipped: "Climate is what we expect, weather is what we get."

**Cold Injuries to Blackberries and Other Fruit Crops**

Gary Gao reported that he observed freeze damage to blackberries in southern Ohio. Blackberry flowers are quite sensitive to cold injuries. The leaves and exterior of the flower buds may look fine, however the center of many flowers have turned black and died. The freeze/frost damaged stems exhibit browning in the vascular tissue. According to Dr. Bruce Bordelon of Purdue University in the April 25, 2012 (Volume 12, Issue 3) of the "Facts for Fancy Fruit," "Blackberry and raspberry foliage looks normal following the freeze. However, any flowers that were exposed appear to be dead. Apache, Ouachita, and Choctaw floricane fruiting blackberries all had flowers exposed and there appears to be a complete loss. Triple Crown and Doyle flowers have not developed yet and may be okay. Heritage and Nova red raspberries only have a few floricane flowers exposed so they may also have a partial summer crop. Primocane fruiting blackberries and raspberries should not have been affected by these freezes."

Peaches may appear to have set fruit; however, the center of the fruit was damage by cold and is dead. Gary Gao noted that nearly all of the peach fruits on a peach tree at OSU South Centers have fallen off due to freeze damage in March and April.

On the more uplifting side, gooseberries have set fruit and look very good in the gooseberry research plot at OSU South Centers. Some of the currants are in full bloom and should set fruit soon.

**Helping Landscape Plants Recover from Frost and Freeze Damage**

A good portion of Ohio gardeners have experienced either frost or freeze (or both) damage to their plants this season because of the unusual early warm temperatures followed by normal spring temperatures. A variety of plants are looking pretty ragged right now as a result. BYGLers recommend that one takes a close look at their plants and determine if any pruning is needed.

Perennials that were simply "nipped" by Jack Frost and have a few brown leaves here and there can be cleaned up with simple leaf removal. Others that were totally "fried" by cold temperatures should be cut back to the ground now in order for new growth to occur and blooms to form for this season. Otherwise, if left as they are, they will look pretty horrible all season.

In regards to trees and shrubs, most of these plants were nipped on the ends of the branches. However, Pam Bennett reported that some very young, newly-established and tender Japanese maples were damaged to the point of branch dieback. If this occurred, cut all dead wood out and hope for new growth to come out. Pam also noted that the new growth on boxwoods in the Gateway Learning Gardens in Springfield was nipped by frost. The new growth that wasn’t damaged is beginning to emerge while the dead tissue isn’t growing. The plants aren’t dead; they are just a little lopsided. In this case, wait until the new growth is completed and trim the plant according to the desired shape.

The bottom line is that some ornamentals in Ohio might look a little ragged this season without a little attention. Take care of this now so that new growth takes over and fills in.

**Strolling Along with Strobili**

Erik Draper reported being startled in Northeast Ohio this past week as he strolled through a local park examining plants for frost injuries.
and freeze damage. While looking at a planting of NORWAY SPRUCE (*Picea abies*), he was surprised to note that the tops of these conifers appeared to be red. Upon closer examination, the beautifully colored female strobili or cone-like structures, were lit up like candles all over the tree. Their upright orientation appeared to catch and hold the sunlight perfectly, illuminating the strobili, causing them to glow! Their location on the tree, concentrated mostly in the upper one-half of the tree, makes perfect sense as these plants are wind pollinated.

Although the male strobili are equally as important in the pollination process, sadly, they don't last long. The small, intensely purple strobili rapidly enlarge and fade color-wise, serve as merely unnoticed pollen donors. Their role is to fill the world and air with the yellow pollen, to insure reaches the female cones to complete the pollination process. Others BYGLers also mentioned receiving calls in their offices regarding why spruce trees had the red tops! So take a moment and stroll around outside to see some of the spectacular cone colors in the landscape.

For More Information:

Virginia Tech- Dept. of Forest Resources and Environmental Conservation- Norway Spruce
http://dendro.cnre.vt.edu/dendrology/syllabus/factsheet.cfm

Picea abies- Norway Spruce- Ohio State University PlantFacts
http://plantfacts.osu.edu/pdf/0247-842.pdf

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**Yellow-Bellied Sapsucker**

Joe Boggs reported the occurrence of heavy stem damage to a viburnum in a landscape in southwest Ohio caused by yellow-bellied sapsucker (*Sphyrapicus varius*). Some of damaged stems measured less than 1" in diameter and the holes were very rectangular. Feeding activity by this native migratory woodpecker is most commonly associated with horizontal or vertical rows of holes in trunks and branches of trees. The sapsucker pecks a series of holes and then leaves the tree to allow sap to ooze into the holes. True to its common name, the bird will return later to imbibe the sugary libation. The sapsucker also gobbles-up insects that are attracted to the sap; thus, they have meat with their drink!

It is a common misconception that sapsuckers only feed on large stems. It has been established that the birds feed on over 250 species of woody plants and there have been numerous reports in Ohio of heavy damage to the small stems of shrubs in landscapes and nurseries, particularly on viburnum and lilac. However, the peculiar damage Joe observed illustrated that the sapsucker actually produces two types of holes depending upon the type of feeding activity.

According to The Cornell Lab of Ornithology, "All About Birds" website http://www.allaboutbirds.org/guide/Yellow-bellied_Sapsucker/id, "The Yellow-bellied Sapsucker makes two kinds of holes in trees to harvest sap. Round holes extend deep in the tree and are not enlarged. The sapsucker inserts its bill into the hole to probe for sap. Rectangular holes are shallower, and must be maintained continually for the sap to flow. The sapsucker licks the sap from these holes, and eats the cambium of the tree too. New holes usually are made in a line with old holes, or in a new line above the old."

Yellow-bellied sapsuckers are medium-sized woodpeckers with a body length of around 9" and a wingspan of about 16". While colors vary slightly and are somewhat different between males and females, markings are distinct enough from other woodpeckers found in Ohio to allow for a positive identification. However, the birds are often described as "shy" making close-up observations. The birds are protected by the "Migratory Bird Treaty Act" meaning they can't be killed. The best way to prevent further damage once a bird has started hammering a tree or shrub is to use some method to scare the bird away, such as Mylar bird deterrent balloons.

For More Information:

The Cornell Lab of Ornithology, All About Birds - Yellow-bellied Sapsucker ID Page
http://www.allaboutbirds.org/guide/Yellow-bellied_Sapsucker/id

Smithsonian Migratory Bird Center - Featured Bird - Yellow-bellied Sapsucker
http://nationalzoo.si.edu/scbi/migratorybirds/featured_birds/default.cfm
Pam Bennett reported marveling at the huge EASTERN TENT CATERPILLAR (Malacosoma americanum) nests while driving through in east-central Ohio. She also noted that a number of nests had a distinct blackish appearance. Joe Boggs noted that caterpillars in his part of the state are already starting to abandon their nests to go on their annual caterpillar crawl-abouts.

Fully mature caterpillars crawl from their host trees in search of suitable sites where they can safely pupate. This behavior can lead to mass dramatic migrations across roads and sidewalks and cause caterpillars to appear on non-hosts. Fortunately, they are crawling, not feeding. Abandoned nests quickly take on a dull, dingy, blackish appearance owing to massive accumulations of frass coupled with the lack of fresh silk being added to the nests. Blackened nests can also indicate the caterpillars have succumbed to one of the insect pathogenic fungi that can help to suppress population outbreaks by infecting these moth caterpillars.

The caterpillars are covered in short, grayish-white hairs and they have a distinct, unbroken white stripe down their backs. They are accomplished and prolific tent-makers producing highly visible silk nests in the forks of branches. The caterpillars begin producing silk nests immediately upon hatching from eggs. The caterpillars prefer to feed on trees in the family Rosaceae, particularly those in the genus Prunus, such as cherries. They also occasionally feed on ash, birch, maple, and oaks. Unfortunately, it is fast becoming too late to prevent damage caused by this season's caterpillars and controlling the caterpillars on just a few trees will have little impact on next year's populations since the caterpillars are so wide spread and the moths are good fliers.

On a sad note, both Dave Shetlar and Joe Boggs bemoaned the absence this season of FOREST TENT CATERPILLARS (M. disstria) in central and southern Ohio, respectively. Despite their common name, forest tent caterpillars produce only rudimentary silk nests involving single leaves. They feed en masse and outbreaks of this native caterpillar have occurred in recent years in the southern part of the state causing heavy spring-time defoliation of maples as well as oaks; damage to oaks is sometimes mistaken for GYPSY MOTH (Lymantria dispar) defoliation. Forest tent caterpillars have short grayish-white hairs and a row of distinct white "foot print" or "keyhole" markings running down their backs. The markings are flanked by cobalt-blue lines running the length of the caterpillars' bodies.

For More Information:
University of Kentucky Entomology Fact Sheet - Eastern Tent Caterpillar
http://www.ca.uky.edu/entomology/entfacts/ef423.asp

**European Pine Sawfly Update**

BYGLers in southern and central Ohio reported that European pine sawfly larvae are reaching mid-to-late instar stages, so their development and feeding damage is almost complete for the season. Early instars feed along the needle's edges producing clusters of dead, curled, straw-colored needles. Later instars consume entire needles and which is happening right now, so look for disappearing needles.

The caterpillar-like sawfly larvae have bulbous, shiny-black head capsules and grayish-green bodies with faint grayish-white longitudinal lines. Their coloration makes them difficult to spot among the conifer needles. All instars feed in colonies making them easy to control by knocking them off into a bucket of soapy water or onto the ground to be dispatched using the "sawfly two-step dance."

The conifer hosts that are typically listed for this sawfly include Scotch, mugo, red, jack, Table Mountain and Swiss mountain pine. However, BYGL readers should note that white and Austrian pines may serve as occasional hosts. Indeed, Curtis Young reported running across a localized population causing noticeable defoliation on Austrian pine planted near a road in northwestern Ohio. Curtis' attention was first drawn to the pines by a distinct absence of last year's needles; only needles on this year's new "candles" (new growth) remained. This is the classic damaged produced by this sawfly since there is only one generation per season and larval development is usually completed before this season's needles fully expand.
Joe Boggs reported that localized high populations of white-marked tussock moth (*Orgyia (=Hemerocampa) leucostigma*) caterpillars are causing noticeable defoliation to host trees in southeast Ohio, mostly in the Ohio River valley. The caterpillars may be found on a wide range of host trees including apple, basswood, elm, maple, oak, pear, plums, poplars, redbud, rose, sycamore, walnut, and willow. Early instar caterpillars feed as leaf skeletonizers and older caterpillars consume the entire leaf leaving behind the larger veins.

These striking caterpillars grow to a length of around 1 1/4" long. The caterpillars have red to reddish-orange head capsules and their bodies have a black stripe running the length of the back bounded by two cream-colored longitudinal stripes and then two grayish-green stripes. Their most conspicuous features include a row of four brush-like tufts of white to tannish-white hairs arising from the top of the back near the front, two long tufts of black hairs called "pencil hairs" extending forward flanking each side of the head, and one long tuft of lighter hairs extending from the back of the body. Like other members of the tussock moth family (Lymantriidae), which includes gypsy moth (*Lymantria dispar*), white-marked tussock moth caterpillars have numerous clumps of short, bristly hairs which arise pincushion-like from small bumps (tubercles). These are urticating hairs (stinging hairs) that can cause a skin rash on individuals who are highly sensitive to the irritation.

There are at least two generations per year in Ohio with the first generation caterpillars now reaching mid-to-late instar stages. While the caterpillars can cause significant localized defoliation, heavy leaf-loss seldom causes long-term harm to the health of established trees. Populations typically cycle dramatically from year-to-year meaning that years with high populations are followed by years with no caterpillars; therefore, affected trees will recover over time.

However, the defoliation of newly planted trees (first 1-3 years) can cause concern since the trees lack thesame resources to re-foliate compared to established trees. Early instar caterpillars can be controlled with products based on the naturally occurring bacterium *Bacillus thuringiensis* (Bt) (e.g. Dipel or Thuricide); however, Bt product only kill small caterpillars. Larger caterpillars require the use of other insecticides such as pyrethroids (synthetic), pyrethrums (naturally occurring), or spinosad products (e.g. Conserve, Captain Jack's Dead Bug Brew, etc.).

Pam Bennett noted that she has gotten reports that the distinctive "windowpane effect" caused by the feeding activity of various members of the "roseslug sawfly complex" is very evident on rose leaves in southwest Ohio. The possible culprits include the BRISTLY ROSESLUG SAWFLY (*Cladius difformis*), the ROSESLUG (*Endelomyia aethiops*), and the CURLED ROSE SAWFLY (*Allantus cinctus*).

Early instar larvae of these sawflies feed as leaf skeletonizers on the lower or upper leaf surfaces, depending upon the species. The corresponding epidermis on the opposite side of leaf remains intact and eventually turns white producing the "windowpane" symptom. Later instars feed between the main veins producing "see-through" leaves. The bristly roseslug is a "season-long" pest with as many as six generations occurring in Ohio. The curled rose sawfly has two generations per season, and the roseslug only one generation. Control and prevention of damage depends on a proper identification of which roseslug culprit is responsible for causing...
the damage. Only the bristly roseslug continues to produce damage throughout the season. As their common name implies, the semi-transparent pale green larvae are covered with short bristles; however, the bristles are difficult to detect without magnification. Damage by this sawfly can be prevented by making a soil drench application of imidacloprid (e.g. Merit) or dinotefuran (e.g. Safari) at the time leaf buds start to break. However, it is not too late to reduce the season-long impact of this multiple generation pest. An application made now will help stem the tide of damage caused by successive generations of this rose pest.

For More Information:
University of Illinois, Home Yard and Garden Pest Fact Sheet - Bristly Rose Slug
http://hyg.ipm.illinois.edu/article.php
University of Guelph Fact Sheet - Insect Pests of Roses
http://www.uoguelph.ca/pdc/Factsheets/Insect/Rose_Pests.htm

Oystershell Scale on Knockouts

BYGLers discussed the wide host range of OYSTERSHELL SCALE (Lepidosaphes ulmi) including the recent appearance of this highly destructive scale on Knockout roses. Oystershell scale is tiny with females measuring no more than 1/16” in length. Their elongate and slightly convex shape causes the scale to resemble miniature clam shells or oyster shells; thus their common name. Their size, dark gray to brown color, and slight banding cause the mature females to blend-in with the bark, making small populations difficult to detect.

Oystershell scale has been reported on over 130 host plants including a wide range of trees and shrubs. Although this scale has only one generation per year in Ohio, infestations can rapidly build within 1-2 years to levels that cause significant plant injury including branch dieback and even plant death. As with all armored scales, the oystershell scale feeds by inserting their piercing-sucking mouthparts into plant stems to withdraw nutrients from non-vascular stem cells. Since they do not extract juices from vascular tissue, oystershell scales do not exude the sugary, sticky "honeydew" that is associated with "soft" scales.

This is one of the most difficult to control scale insects. The scale spends the winter as eggs beneath the bodies of dead females. Unfortunately, dormant oil applications have almost no impact on insect eggs. Eggs hatch in mid-to-late spring and the resulting mobile first instar nymphs are susceptible to standard contact insecticides including soaps and oils; however, if the infestation is heavy, the bodies of dead females may protect some crawlers from contact with the insecticide. Systemic neonicotinoid insecticides have been effective against soft scales, but most, including the imidacloprid (e.g. Merit) used to treat the ash tree against emerald ash borer will not kill oystershell scale. Dinotefuran (e.g. Safari) is a neonicotinoid insecticide that is highly soluble and moves rapidly into plants and has been particularly effective against armored scales as well as soft scales.

For More Information:
Penn State University Entomology Fact Sheet - Oystershell Scale
http://ento.psu.edu/extension/factsheets/oystershell-scale
University of Illinois Extension Hortanswers - Insect Damage, Oystershell Scale, Lepidosaphes ulmi
http://urbanext.illinois.edu/hortanswers/detailproblem.cfm

Windshield Wipes

BYGLers also ran into a number of other plant pests last week including:

* Dave Shetlar reported observing EUROPEAN FRUIT LECANIUM (Farthing/Acanthium corni) in various stages of adult development on maple. He found females that appeared to be fully swollen to adult size, but without eggs, and swollen females with their compliment of 500-1000 eggs. This means egg hatch has not yet occurred, but should be happening soon. The helmet-shaped females are smooth and shiny brown to reddish brown. This soft scale has a very wide host range including many ornamental trees and shrubs and has also been found to be a serious grape pest.
* Dave also reported that BOXWOOD LEAFMINER (Monarthropalpus flavus) midge fly adults were swarming in central Ohio last week and he is already seeing adult BOXWOOD PSYLLIDS (Cacopsylla (=Psylla) buxi). No doubt the early adult development for both of these boxwood pests is due to the record-setting warm temperatures experienced in March.

Disease Digest »

Powdery Mildew Diseases

This disease seems to have arrived early this year, as with many events in the spring of 2012. BYGLers are getting reports of powdery mildew diseases on a number of plants including ninebark (pathogen: Podosphaera aphanis var. physocarpi) and crabapple (pathogen: Podosphaera leucotricha), with the powdery spores and mycelium of these fungi evident signs of the pathogen. It is well-known that the early development of powdery mildew on crabapple and apple is due to the fact that the fungus overwinters in the buds, and possibly this is also true for the powdery mildew pathogen on ninebark, and would explain why this disease is seen so early in the season.

Powdery mildews are some of the most familiar and ubiquitous diseases in the landscape, though none occur on gymnosperms, including conifers. Familiar examples abound and are found on the following plants: oak (especially English oak); lilac; rose; magnolia; ninebark; dogwood; Callery pear; sycamore; horsechestnut; and even turfgrass.

There are over 7000 host plants for powdery mildew diseases worldwide. One of the first things to understand is that these diseases are caused by different powdery mildew fungi. The powdery mildew of rose fungus will not infect horsechestnut and vice versa. One can cause quite a sensation by going to a meeting of rosarians and rubbing horsechestnut leaves with powdery mildew on someone's champion mildew-less rose. Though one may still be banned from the meeting, the fungi will not cross-inflect. The fungus causing powdery mildew of zinnia will not infect phlox. The fungus of powdery mildew of apple will not infect dogwood. However, there are exceptions. For example, the fungus that causes powdery mildew of the American planetree or sycamore (Platanus occidentalis) will also infect London planetree. When one realizes that London planetrees (F. xacerifolii) are hybrids of the American planetree and the Oriental planetree (F. orientalis), and thus closely related, this cross-infection makes sense.

Plant diagnosticians discriminate between signs and symptoms. When some part of the pathogen is observed it is a "sign" of the pathogen. With powdery mildews the familiar sign is the whitish to grayish masses of threads of the powdery mildew fungus (the mycelia) and spore-bearing structures (sporophores) on leaves and stems. Another sign, less often noticed is tiny dark round sexual fruiting bodies of these powdery mildew fungi (cleistothecia) which are one of the ways the fungus survives overwinter. This sign of the fungus is about the size of a tiny pepper grain when seen by the naked eye, but ornamentations on the cleistothecia help with identification when using a dissecting microscope. The key diagnostic sign to look for, though, is the familiar powdery growth.

"Symptoms" are the results of the interaction with the plant and the pathogen. With powdery mildews symptoms include: curling and twisting of young shoot growth, flowers and leaves; yellowing and reddening of leaves; and even drying and browning (desiccation) of leaf tissue in serious infestations. Also, the results of the fungal growth on leaf tissue result in impaired photosynthesis (food production) by the plant leaves. It is often said that powdery mildews are not a serious disease, since the these signs and symptoms do not result in plant death, but down-playing the importance of powdery mildew diseases for ornamental plants may be a mistake in many cases.

First, with ornamental plants these signs and symptoms may make the plant unattractive, an important consideration. Lilac powdery mildew will not kill a lilac in someone's landscape, but it might kill sales in a garden center. Second, overall effects may be significant down the road. For instance poorer flowering of roses or an extra year to produce a sellable flowering dogwood for nursery growers may occur.

Powdery mildew fungi infect plants superficially, not penetrating deep into the cell layers of a leaf, and fungicides can be quite effective if applied according to label directions and in a timely manner. A wide range of fungicides are available for various powdery mildew diseases, from old stand-by multisite products to newer highly specific products, as well as a number of organic and biological control alternatives. A good listing of labeled fungicides (though labeling regularly changes) is available in the "Powdery Mildew" fact sheet in the "Diseases of Landscape Plants" series from Purdue University https://mdc.itap.purdue.edu/item.asp?item_number=BP-5-W.
Cedar Quince Rust on Juniper

This disease is now being noted on juniper stems throughout Ohio. Infected areas from cedar quince rust on juniper are much less spectacular than with cedar apple rust. With cedar quince rust (pathogen: *Gymnosporangium clavipes*) there is a cushion-like mat of orangish to rust-red jelly-like fungal growth developing on spherical galls in spring, as opposed to the spectacular golf-ball to tennis-ball sized galls and spore horns from cedar apple rust (pathogen: *Gymnosporangium juniper-virginianae*).

The cedar quince rust cycles between juniper and certain host plants in the Rosaceae family. It is especially obvious on hawthorns, which exhibit extensive, unsightly fruit infestations; stunting and death of fruits; and swelling and distortion of twigs. Infected leaves associated with twig galls on hawthorn turn brown and die. Hawthorn fruits become covered with orangish-pink spore horns. Unsightly spherical cankers developing on stems can last more than one year.

Control of this disease on hawthorn involves the use of fungicides during the short period when spores on the juniper are disseminated to the hawthorn and other rosaceous hosts such as crab apple, apple, and the occasional quince. This spore shedding is occurring now. Fungicides labeled for rust management include strobilurin fungicides (e.g. Heritage), propiconazole (e.g. Banner), triadimefon (e.g. Bayleton), myclobutanil (e.g. Eagle), and products containing chlorothalonil and mancozeb. Other approaches include avoiding planting susceptible junipers in close proximity to susceptible hawthorns to the extent possible.

For More Information:
Cedar Quince Rust on Juniper
Joe Boggs reported that seed heads are rising above TURF-TYPE TALL FESCUE (*Festuca arundinacea*) lawns in southern Ohio. This is a natural event at this time of the year and it can also occur with other turfgrasses used in home lawns including KENTUCKY BLUEGRASS (*Poa pratensis*). Unfortunately, an abundance of seed heads can make a lawn look very unattractive and the physiological effects on turf plants may temporarily reduce overall turf quality.

Seed production saps energy from the plant and may cause turf blades to become sparse and off-colored. The seed stalks have fewer leaf blades and their woody structure resists mowing which adds to the eyesore. Seed production is seldom consistent throughout a home lawn and it sometimes occurs in patches. Thus, the problem is often made more obvious by patches of seed heads occurring in an otherwise smooth, dark green lawn.

Turfgrass seed heads usually begin to form below the recommended mowing height of 2 1/2 - 3" for home lawns, thus the seed heads will still develop despite frequent mowing. However, turf managers should not lower the mowing height in an attempt to remove all of them as they are a short-live aesthetic problem; they do not cause long-term damage to turf plants. However, the stress produced by low-mowing can cause long-term injury to turf plants.

Frequent mowing will not prevent seed development; however, infrequent mowing will allow seed heads to fully develop, rising to their full glory to tower above the turf plants. Thankfully, the unsightly seed heads and stalks will eventually disappear on their own allowing Ohio lawns to return to an aesthetically appealing uniformly green carpet.

OSU Extension Youtube Channel Includes Turf Videos and More
Joe Rimelspach, Program Specialist with the OSU Department of Plant Pathology was featured in three YouTube videos on the OSU Extension YouTube Channel at [http://www.youtube.com/user/OSUExtension](http://www.youtube.com/user/OSUExtension). The videos include spring mowing, crabgrass control, and broadleaf weed control.
Industry Insight  

Protecting Honey Bees from Pesticides  

Extension educators are already getting calls from beekeepers and growers about protecting honey bees from pesticide applications. Technically, the best place to start is to read the Ohio Administrative Code 901:5-11-02 at http://codes.ohio.gov/oac/901%3A5-11-02.

The following is the code: (B) No person shall:

(15) Apply or cause to be applied any pesticide that is required to carry a special warning on its label indicating that it is toxic to honey bees, over an area of one-half acre or more in which the crop-plant is in flower unless the owner or caretaker of any apiary located within one-half mile of the treatment site has been notified by the person no less than twenty-four hours in advance of the intended treatment; provided the apiary is registered and identified as required by section 909.02 of the Revised Code, and that the apiary has been posted with the name and telephone number of the owner or responsible caretaker.

(16) Apply pesticides which are hazardous to honey bees at times when pollinating insects are actively working in the target area; however, application of calyx sprays on fruits and other similar applications may be made.

In other words, anyone planning to make an application of a product that is labeled to be toxic to honey bees to a flowering crop which covers an area over a half acre in size must notify the beekeeper within 24 hours of the application. However that beekeeper must have the apiary posted with contact information so that the applicator can notify him/her. Ideally a sign should be posted by a road closest to the apiary stating that an apiary is in the area and contain contact information. If the beekeeper has registered the location, the Ohio Department of Agriculture (ODA) will have the location on file. Any grower/applicator can call ODA at 614-728-6373 and obtain a list of apiaries by location. This file is sent electronically usually within 24 hours of the request.

Beekeepers can help themselves by registering new locations early in the season so that the locations are in ODA's data system. They should also know who owns the properties near the apiary and remind them that the apiaries are nearby.

Ohio law requires that all apiaries are registered by June 1st. This information is given to the pesticide applicators when they call ODA to obtain apiary locations. Without the information on this form, the applicator does not know who to contact. If the contact information is not known or if the location is not registered, the beekeeper has no recourse if the bees are affected by a pesticide application.

If a beekeeper suspects that their bees were affected by a pesticide, they should make the following steps:

1) Contact their County Apiary Inspector.
2) Take pictures of the hives and collect as much information as possible including when the colonies last appeared to be healthy; personality of the colonies (actively flying, signs of nosema, etc.); direction of the wind; crops growing (or to be planted) in fields nearby; and present activity of hives (dead drones, dead pupae being kicked out, etc.).
3) Collect 50-100 bees in or on the bottom board and freeze as soon as possible. Do not collect bees that have been lying on the ground as they deteriorate quickly. Leave approximately 100 bees for ODA to collect. They will not take bees that have already been collected.
4) Contact the Ohio Department of Agriculture at Reynoldsburg Ohio. - 614-728-6373. An official will collect samples for testing. Call them as soon as possible as it may take 24 hours before they can arrive. They will try to determine the cause of the bees' death.

Keep in mind that planting a treated seed is NOT considered to be a pesticide application. The planter is planting a treated article. The company which treated the seed made the pesticide application, not the grower. The rules discussed do not apply to this situation.

For More Information:
ODA Apiary Website
How to Reduce Bee Poisoning from Pesticides

"Get Your Green Industry Fix" Webinars
The first Ohio Nursery Landscape Association (ONLA) - Ohio State University Extension (OSUE) "Get Your Green
Industry Fix" Webinar is next Wednesday, May 9 from 7:30-8:30 a.m. The 2012 schedule of these Wednesday Webinar is: May 9; June 13; July 11; August 8; September 12; and October 10.

These webinars are sponsored by ONLA are a quick, affordable, convenient way to learn. They will help with WHAT one needs to know, WHEN one needs to know it. These 'hot topic' seminars are delivered directly to one's computer and taught by members of the OSU Extension Nursery, Landscape & Turf Team. Timely and useful information on current and emerging issues critical to your green industry businesses will be presented. Topics range from plant selection to pest management, weed control to product knowledge, invasive species to infectious diseases, and more.

These seminars are short sessions delivered directly to one's computer and will include images of pest problems and plants. Attendees will have the opportunity to ask questions before and during the class.

The price for the six-webinar series is $50.00 per computer for ONLA members and $125.00 per computer for non-ONLA members. To register, go to this link: https://student.gototraining.com/r/8173949003090968320 .

Topics planned for Wednesday May 9 (subject to potential changes) include: The sudden spring of 2012; Asian longhorned beetle; boxwood blight; emerald ash borer; downy mildew of impatiens; and participants questions.

Additional questions to be added to the discussion for May 9, should be e-mailed to Jim Chatfield at the following email address chatfield.1@osu.edu . These will be worked into the Webinar when possible. Questions regarding registration should be directed to ONLA at 614-899-1195 or 800-825-5062.

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WeatherWatch »

Current Conditions

The following weather information summarizes data collected at various Ohio Agricultural Research Development Center (OARDC) Weather Stations spanning the dates from January 1-May 1, 2012, with the exception of the soil temperatures which are readings from Wednesday, May 2, 2012 at 6:05 p.m.

While many parts of the state were on the receiving end of rain over the past weekend, total year-to-date amounts remain below normal. Many BYGLers reported dry soil conditions, even after weekend rains.

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For More Information:
OARDC Weather Stations
http://www.oardc.ohio-state.edu/centernet/weather.htm

Coming Attractions »

19th Annual Plant Discovery Day - Saturday, May 5, 2012

Plant Discovery Day is a premier plant and art sale featuring hard-to-find annuals and perennials, herbs, woody plants and art for the home and landscape on the OARDC campus in Wooster, Ohio. The Bug Zoo and lunch will also available.
Proceeds support arboretum programs and internships.

Schedule of Events: 9:00 a.m.-12:30 p.m., Silent Plant & Art Auction; 10:00-11:00 a.m., Guided Walk; 11:00 a.m.-12:00 p.m., Oral Plant & Art Auction; 11:00 a.m.-12:00 p.m., Guided Walk; and 1:30-2:30 p.m., Guided Walk. Additional information can be found on the Secrest Arboretum website at http://secrest.osu.edu/.

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**2012 Commercial New Applicator Training Scheduled**

The OSUE 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 April 18, 2012; May 9, 2012; 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.

For More Information:

Additional Information, including pre-registration

http://pested.osu.edu/commnewapp.html

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**Byglosophy »**

"And when your back stops aching and your hands begin to harden... You will find yourself a partner in the Glory of the Garden." - Rudyard Kipling

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