Welcome to the BYGL Newsletter

April 24, 2008

From: Pam Bennett, Barb Bloetscher, Joe Boggs, Cindy Burskey, Jim Chatfield, Erik Draper, Dave Dyke, Gary Gao, David Goerig, Tim Malinich, Becky McCann, Amy Stone, and Curtis Young.

This is the 4th 2008 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.

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

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BYGL is available online at: [http://bygl.osu.edu], a web site 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.

Following are the participants in the April 22nd conference call: Pam Bennett (Clark); Brad Bergefurd (OSU Piketon Centers); Barb Bloetscher (Entomology/C. Wayne Ellett Plant and Pest Diagnostic Clinic (CWEPPDC)); Joe Boggs (Hamilton/Piketon); Jim Chatfield (OSU Extension Center at Wooster/ Hort and Crop Science); Erik Draper (Geauga); Gary Gao (Delaware); Tim Malinich (Lorain); Joe Rimelspach (Plant Pathology); Dave Shetlar (Entomology); Nancy Taylor (CWEPPDC); Shawn Wright (OSU Piketon Centers); Curtis Young (Allen) and Randy Zondag (Lake).

WEATHERWATCH - April 24, 2008
Many things can change in a week. Year-to-date rainfall totals are beginning to fall behind in many areas while soil and air temperatures climb.

The following weather information summarizes data collected at various OARDC Weather Stations spanning the dates: April 1-22, 2008, with the exception of the soil temperatures which are readings from Tuesday, April 22.

<table>
<thead>
<tr>
<th>Weather Station</th>
<th>Region of Ohio</th>
<th>Ave. High Temp F</th>
<th>Ave. Low Temp F</th>
<th>Total Precip.&quot;</th>
<th>Normal Precip. &quot;</th>
<th>Soil Temp F 2&quot;/3&quot;</th>
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<tbody>
<tr>
<td>Ashtabula</td>
<td>NE</td>
<td>60.1</td>
<td>38.4</td>
<td>1.52&quot;</td>
<td>2.60&quot;</td>
<td>68.43 / 66.69</td>
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<tr>
<td>Wooster</td>
<td>NE</td>
<td>64.0</td>
<td>38.8</td>
<td>1.10&quot;</td>
<td>2.50&quot;</td>
<td>63.57 / 61.48</td>
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<tr>
<td>Hoytville</td>
<td>NW</td>
<td>61.8</td>
<td>38.2</td>
<td>2.04&quot;</td>
<td>2.60&quot;</td>
<td>69.54 / 66.88</td>
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<tr>
<td>Columbus</td>
<td>Central</td>
<td>64.3</td>
<td>41.9</td>
<td>0.81&quot;</td>
<td>2.80&quot;</td>
<td>70.16 / 65.66</td>
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<tr>
<td>Piketon</td>
<td>South</td>
<td>66.6</td>
<td>41.7</td>
<td>2.41&quot;</td>
<td>2.30&quot;</td>
<td>77.52 / 73.00</td>
</tr>
</tbody>
</table>

For more information, see:

OARDC Weather Station

GROWING DEGREE DAYS - April 24, 2008

GDD is a measure of the daily maximum and minimum temperature and directly relates to growth and development of plants and insects. The GDD of any zip code location in Ohio is estimated using the GDD of ten OARDC weather stations and available on the web at the site below.

The range of GDD accumulations in Ohio from north to south is 149 to 273. Following is a report of GDD for several locations around Ohio as of April 23, 2008: Painesville, 159; Cleveland, 158; Toledo, 149; Canfield, 162; Lima, 156; Wooster, 170; Coshocton, 179; Columbus, 197; Springfield, 178; Dayton, 184; Cincinnati, 240; Ironton, 257; Portsmouth, 258; and Piketon, 273.

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 near you from the above list, or visiting the above web site, you can see what could be taking place in the landscape around you.

Bradford callery pear, first bloom, 142; European pine sawfly, egg hatch, 144; weeping Higan cherry, first bloom, 145; P.J.M. rhododendron, first bloom, 147; chinticleer callery pear, full bloom, 149; Norway maple, full bloom, 149; inkberry leafminer, adult emergence, 150; sargent cherry, full bloom, 151; star magnolia, full bloom, 151; Allegheny serviceberry, first bloom, 153; Manchu cherry, full bloom, 155; spring snow crabapple, first bloom, 155; apple serviceberry, first bloom, 159; spruce spider mite, egg hatch, 162; Bradford callery pear, full bloom, 164; Allegheny serviceberry, full bloom, 169; saucer magnolia, full bloom, 174; P.J.M. rhododendron, full bloom, 178; boxwood psyllid, egg hatch, 179; weeping Higan cherry, full bloom, 179; Koreanspice viburnum, first bloom, 185; regent serviceberry, first bloom, 186; Japanese flowering crabapple, first bloom, 189; eastern redbud, first bloom, 191; gypsy moth, egg hatch, 192; Koreanspice viburnum, full bloom, 205; azalea lace bug, egg hatch, 206; 'Spring Snow' crabapple, full bloom, 209; common flowering quince, full bloom, 214; birch leafminer, adult emergence, 215; 'Coralburst' crabapple, first bloom, 217; elm leafminer, adult emergence, 219; common chokecherry, full bloom, 221; alder leafminer, adult emergence, 224; honeylocust plant bug, egg hatch, 230; common lilac, first bloom, 234; Ohio buckeye, first bloom, 245; common horse chestnut, first bloom, 251; hawthorn lace bug, adult emergence, 253; hawthorn leafminer, adult emergence, 260; flowering dogwood, first bloom, 263; red buckeye, first bloom, 265; blackhawk viburnum, first bloom, 269; imported willow leaf beetle, adult emergence, 274; and sargent crabapple, full bloom, 298.

For more information, see:

- Growing Degree Days and Phenology for Ohio
- Understanding and Using Degree-Days

PLANTS OF THE WEEK - April 24, 2008

http://bygl.osu.edu/
Read all about perennials and landscape trees and shrubs in the ONLA publications "Perennial Plants for Ohio" and "Landscape Plants for Ohio." The descriptions and photographs of plants were provided for these publications by the OSU ENLT Team along with other industry plant lovers. These full-color publications are available at [http://Buckeyegardening.com](http://Buckeyegardening.com) for $5.00. Click on "garden store" and then "ONLA plant guides." ONLA members can purchase these in quantities at a reduced price at [http://onla.org](http://onla.org).

**PERENNIAL OF THE WEEK. CREEPING PHLOX - *(Phlox subulata).* When this plant is in bloom, all want to know where it can be purchased; retail outlets can't keep it in stock! On the other hand, if it's not sold in bloom, it's usually leftover to go to the sale table. Creeping phlox provides an outstanding carpet of red, purple, and white flowers in the early spring and is beginning to bloom in central Ohio. The plant only gets around 3-6" tall and makes an excellent border plant or accent to a rock garden. The best thing to do to creeping phlox after it finishes blooming is to shear it about halfway back. This rejuvenates the foliage and the plant looks pretty decent in the garden the rest of the season. It's extremely hardy but does not like wet soils. It takes full sun and hot dry areas during the summer season. However, get it now because retail stores won't have it very much longer!

**WOODY PLANT OF THE WEEK. PAWPAW - *(Asimina triloba).* This native Ohio plant found in many woodland patches across the state is in full bloom in central Ohio and will likely be missed by all but those who are fans! The bloom is really quite incredible starting from the bud swelling stage through the bloom stage. However, they are so well camouflaged by the stems that most people rarely notice them. As flower buds begin to swell, before the leaves emerge, the bud is a fabulous velvety emerald green. When the flower opens, it is a burgundy-purplish colored rosette, held closely to the bottom side of the stem. Therefore, look up when walking through a pawpaw grove!

This short tree grows to around 15-20' tall and has large droopy green leaves. It grows best in a woodland area or along the edge of woods. The greenish-yellow fruits ripen to a brownish-black and are tasty to some; many liken the taste and texture to overripe bananas. There must be at least 2 trees in order for pollination to occur. Note that pawpaws grow in groups or colonies and one plant that has sent up sprouts from the roots, can appear as many trees. Therefore, if fruit is desired, make sure that there are at least 2 different genetic strains in order for pollination to occur.

For more information, see:

- Forestry Pawpaw
- PawPaw

**WEED OF THE WEEK. Ketchup with Garlic Mustard.** GARLIC MUSTARD, *Alliaria petiolata* is blooming now in Central Ohio. Although somewhat pretty with small, white, cross-shaped flowers on stalks above dark green, serrated, heart-shaped leaves, this invasive weed is on the "Most Wanted" list with the USDA APHIS. It quickly becomes established in waste areas, along roads and fields, and along trails in natural areas, out-competing native plants for space and nutrients.

The mustard flowers mature into seeds within a long, cylindrical bean-like pod called a siliqua. These seed pods can contain a thousand seeds and be spread several meters from the mother plant. Flowers can be self-pollinated or pollinated by insects. By June, the leaves have disintegrated, so that they are not noticeable. However, the seedpods remain the entire summer, gradually emptying their contents of viable seeds.

To control this truly stinky weed (foul odor when leaves are crushed), either pull the weeds before they flower or cut the plant and flower stalks off at ground level. Bagging the seed heads is another option. For large scale infestations, spray the weeds prior to flowering with an herbicide containing glyphosate, on a cool morning or evening, when no wind is present. Be careful not to let the product drift or volatilize to desirable plants nearby. Preferentially, spray in late fall or early spring when other perennials have either not emerged or have finished development in the fall.

For more information, see:

- Invasive Plants
- Garlic Mustard

**THAT SQUIRREL'S GOT GAME**

Several participants joined into the annual discussion regarding the propensity for squirrels to chew the tips off of tree branches. Is this a fact or urban legend? Yearly reports of this alleged activity involve stem cutting and bark stripping on evergreens and deciduous trees. The activity seems to occur in clusters in some, but not all, neighborhoods. No firm reason has been found, but obligate gnawing, nutrition and hydration have all been put forth possibilities.
Callers contributed individual reports and Tim Malinich shared an unusual mammalian attack from several seasons ago. Tim was holding a class under some large Norway spruce. The ground was littered with newly emerged candles and the trees were populated by squirrels. However, the arboreal mammals were frightened from the trees when the class drew near. No new stems fell until the squirrels gained confidence, re-entered the spruces and began to inadvertently pelt the speaker and students with a few well-dropped spruce candles. Having already made their opinion known, the squirrels were not asked to evaluate the class.

EFFECTIVE BAITS AND SCOLYTINE BEETLE DIVERSITY REVEALED

Bark and ambrosia beetles (family Scolytidae) have the potential to cause serious harm to trees in landscapes and nursery production. Knowing which species are present and how to monitor for them is important to mounting an effective pest management strategy. Scolytine species diversity in northeast Ohio as well as effective monitoring methods were revealed by a rigorous survey conducted in 2007 by Dan Herms (OSU-OARDC, Entomology), Dave Nielsen (Professor Emeritus, OSU-OARDC Entomology), and Kamal Gandhi (OSU-OARDC, Entomology).

The team used Lindgren funnel traps which are known to be effective with bark beetles. The traps were baited with one of three attractants to test effectiveness in luring scolytine beetles. The team surveyed five northeastern Ohio counties (Geauga, Holmes, Medina, Summit, and Wayne), and trapped beetles were sent to Anthony Cognato (Michigan State University) who did the final identifications. Following are excerpts from the report summarizing their survey results titled, “2007 Early Detection and Rapid Response Program for Scolytine Beetles in Ohio: Final Report.”

"During the summer of 2007, we caught a total of 6,066 scolytine beetles represented by 37 species. *Xylosandrus germanus* (25% of the total catch) was the most abundant beetle followed by *Tomicus piniperda* (15%) and *Xyleborus saxeseni* (3%); all three species are exotic. We captured nine scolytine species that are new state records for Ohio. These new species include the six exotic species *Ambrosiodmus rubricollis*, *Dryoxylon onoharaensis*, *Euwallacea validus*, *Xyleborus californicus*, *Xyleborus pelliculosus*, and *Xylosandrus crassiusculus*. As these exotic species are known to exist in North America, our results reflect the establishment and possibly spread of exotic scolytine species within the United States.

New state records for three native species include *Corthylus columbianus*, *Dryocoetes autographus*, and *Hylastes tenuis*.

Among the dominant scolytine species, adult female *X. germanus* were attracted most to semiochemical baits in May and July, indicating that there are at least two generations per year. Male and female *T. piniperda* were attracted most to semiochemical baits in May, indicating that there is at least one generation per year. Female *X. saxeseni* were attracted most to semiochemical baits in May, June, and August, indicating that there are at least three generations per year. *Thanasimus dubius*, the dominant clerid predator, was attracted most to semiochemical baits in April and June, and their activity coincided with that of the native scolytine, *Ips pini*.

*Xylosandrus germanus*, *T. piniperda*, and *X. saxeseni* were attracted primarily to the blend of ethanol and alpha-pinene. In contrast, *T. dubius* and *I. pini* were attracted primarily to the exotic *Ips* lure [ipsdienol, methybutenol, and cis-verbenol]. Thus, these semiochemical baits were effective in targeting exotic beetle adults in forested and urban landscapes."

For more information, see:
- Ambrosia Beetle
- Pest Alert

SAWFLY LEAFMINERS FLY

Based on plant phenology as well as GDD, the adults of four leafmining sawflies should be flying, or soon flying, in southern Ohio. Three of the sawflies are in the genus *Fenusa*. These include: ELM LEAFMINER (*F. ulmi*); EUROPEAN ALDER LEAFMINER (*F. dohmi*); and BIRCH LEAFMINER (*F. pusilla*). The fourth sawfly is the HAWTHORN LEAFMINER (*Profenusa canadensis*). Larvae of these sawflies mine the leaf parenchyma producing large, blister-like, reddish-brown "blotch" mines. The mines usually extend from the leaf margin toward the midvein. The hawthorn and elm leafminers have one generation per year and the alder and birch leafminers have three generations.
For most insect pests, the occurrence of multiple generations usually means upwardly spiraling populations and ever increasing damage as the season progresses. However, for birch leafminer, the opposite is true. Larvae can only mine new leaves. After they finish feeding for the season, around 80% of the first generation larvae drop to the ground and remain as pre-pupae until next spring. Control efforts should target the first generation since the second and third generations cause little damage, unless the tree is re-foliating after leaves were stripped by some other problem such as gypsy moth.

Imidacloprid (e.g. Merit) has proven effective in controlling these sawfly leafminers when applied as a soil drench over the root zone in October or November. It is too late for soil applications made this spring to prevent all damage since it takes around 30 days for the insecticide to move into the plant in concentrations sufficient to provide control. However, a soil drench application made now will kill larvae in their developing mines. Foliar applications of pyrethroid insecticides may also provide some control, although all leafmining activity will not be suppressed where adults have already started laying eggs.

More for information, see:
- Birch Leafminer
- Leaf-mining Sawflies

**MITES CLIMBING THE WALLS!**

With the warmer temperatures and sunny days, CLOVER MITES, (*Bryobia praetiosa*) have been seen swarming up sunny walls of buildings and entering via minute cracks and openings. Other than seeing tiny dark red-green dots before their eyes, people confronted with this barrage of 1/20” slowly roaming mites soon discover that crushing them leaves dark stains on the walls and curtains. Although outdoor perimeter sprays will help to keep the mites out, the best strategy is to seal any cracks or crevices so that wandering mites cannot get indoors.

Clover mites overwinter mostly as eggs in sites protected from freezing temperatures, such as tree bark or protected areas in and around buildings. In the fall, adults may huddle in masses under siding, windowsills and conduit openings on the side of light colored buildings which receive the afternoon sun. Once temperatures warm above 40F in late winter, the eggs begin to hatch. Both the maturing nymphs and remaining adults feed upon healthy turfgrass and other herbaceous plants, and will climb from those to the warm building to breed. They will resume activity as long as temperatures stay within 40F-75F. Once summer temperatures arrive, clover mites become inactive or lay dormant eggs.

To control clover mites, maintain an 18-24” bare strip along the south and western sides of the building. Do not allow turfgrass to grow against the south or west sides of a structure, as the turfgrass provides the perfect habitat for these mites. Seal and caulk cracks or openings, and treat preventively with a pyrethroid labeled for this treatment if necessary.

For more information, see:
- Clover Mite Fact Sheet
- Clover Mites

**THE LITTLE BEASTIES ARE BACK!!**

The beasties are the ELM FLEA WEEVILS. Curtis Young first reported on these weevils in BYGL, Issue 10 on June 07, 2007. At the time, the weevils had just completed their generation and the new adults were feeding on the leaves of the host elms (Siberian, *Ulmus pumila*). Unfortunately, the late discovery meant that details of the weevil's development had been missed and would have to wait till 2008 to make additional observations on the insect. Curtis returned to the original host elms to check to see what might be happening with the weevils this spring. What was found was the weevils mating and feeding on the newly expanding leaves of the elms (about 1/4-3/8”). Closer inspections of the leaves revealed the feeding scars on the leaves produced by the small mandibles on the end of the weevil's prolonged proboscis. The feeding scars appear as irregularly shaped, window-paned ovals. In addition to the feeding scars, oviposition scars were also present on the mid
rib veins of the leaves. Careful dissection of the mid rib veins revealed the singly deposited eggs. The oviposition was apparently fairly recent since none of the eggs had hatched at the time of examination on Monday, April 21, 2008. Growing Degree Day (GDD) accumulation in Lima on April 21 was 142. Thus, oviposition in the elm flea weevil begins at and/or before this level of GDD accumulation. This is just one observation and will need to be verified with additional observations in the coming years.

Curtis also checked a few other species of elms and elm hybrids for elm flea weevil activity. Some had no leaves expanded at the time of inspection and no weevils. The weevils were found on a Chinese elm (U. parvifolia) on which the leaf buds were barely expanded and yet the weevils were already chewing on the buds. More observations will be made on this insect as the season progresses.

For more information, see:
- BYGL Issue 10, 2007 - Elm Flea Weevil Article
- Morton Arboretum Report on the Elm Flea Weevil

**WINDSHIELD WIPES**

BYGLers also ran into a few other insects and mites this week:

- Dave Shetlar noted that overwintered EUROPEAN PINE SAWFLY (Neodiprion sertifer) eggs have hatched in central Ohio. The caterpillar-like sawfly larvae have bulbous, shiny-black head capsules and their grayish-green bodies have faint grayish-white longitudinal lines. First instar larvae are too small to consume entire needles. They feed along the needle’s edge producing clusters of curled, straw-colored needles. Later instars consume entire needles. Hosts include Scotch, mugo, red, jack, Table Mountain and Swiss mountain pine. White and Austrian pines are occasional hosts. 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.”

- Joe Boggs reported that droopy leaves caused by the depredations of the BUCKEYE PETIOLE BORER (Proteoteras aesculana) are appearing on buckeye trees in southern Ohio. Larvae of this tiny moth bore into leaf petioles causing new leaves to droop, shrivel, and turn dark green to black. Symptoms may superficially resemble frost or freeze damage. Look for a slight swelling and a small hole in the petioles of affected leaves. Small quantities of sawdust-like frass may hang from the hole. Damage may appear conspicuous; however, the insect seldom causes significant leaf loss, so no chemical control recommendations are currently available. Hand-picking and destroying infested leaves now will reduce the number of moths available for producing a second generation.

- Curtis Young reported observing late instar MOSQUITO LARVAE in a temporary pool of water that had accumulated under the roots of an up-rooted tree. A hundred or more larvae were present in the pool as well as cast pupal skins from emerged adults. New, blood-thirsty adult females are expected in the near future. Treatment of pools such as these with BTI (Bacillus thuringiensis subspecies israelensis) could help reduce adult populations in the area.

- BOXWOOD PSYLLIDS are active in most areas of Ohio. It may be too late to stop the leaf cupping damage that occurs as a result of the psylid activity. However, foliar insecticide treatments with acephate or imidacloprid in the most northern parts of the state may limit the amount of cupping that occurs. It is too late for imidacloprid soil drenches to stop leaf cupping this year.

- Bees are making the scene and making some scream. CARPENTER BEES are foraging at spring flowers and establishing territories for nesting sites. Close observations reveal new holes being chewed into boards on houses, out-buildings, railings and other wooden structures. These large bees cause a lot of excitement around their nesting sites, but rarely sting. The other bees causing concern are GROUND DWELLING BEES (Andrenids and Anthophorids). New "colonies" of these bees are being established in preferred soils. Sometimes these colonies are located in high human traffic areas (playgrounds, backyards, etc.). Some people have been stung as a result, but most of the time, these bees are relatively docile and will simply fly around people who wander into their nesting area.

**BLACK KNOT OR CEDAR QUINCE RUST?**

Jim Chatfield received several calls this past week about whether or not hawthorn (Crataegus) is susceptible to black knot disease. The answer is no - unless this is something totally new under the sun. Black knot, caused by the fungus Apiosporina morbosa, occurs only on plants in the genus Prunus. This includes fruiting and ornamental types of plum, peach, apricot, almond and cherry. The fungus infects Prunus in spring and a
genus *Prunus*. This includes fruiting and ornamental types of plum, peach, apricot, almond and cherry. The fungus infects *Prunus* in spring and a knot-like swelling of twigs develops over the summer, hardening and blackening by fall. In some cases, this stem tissue is killed in the first season, but often the twig survives and a longer perennial knot-like canker develops. Prune out cankered areas as soon as they are evident to avoid serial infections over the years and serious health problems for the plant due to black knot.

Jim suspects that what callers are seeing on the hawthorn twigs are swellings and cankered areas due to past infections from the cedar-quince rust fungus (*Gymnosporangium clavipes*). This fungus alternates between certain junipers and rosaceous hosts such as hawthorn, crabapple and quince. The most notable infections on hawthorn are on the "haw" fruits, and in some cases this becomes quite a nuisance with orangish spores produced in such quantities as to become a problem when tracked into the house onto rugs. Twigs also can become infected from this fungus and do develop spindly gall-like swollen areas, with tissue beyond the girdled twig typically dying back. It is generally not a big problem on the twigs and swollen areas can be pruned out.

**CRABAPPLE PHENOLOGY**

The apple scab fungus (*Venturia inaequalis*) overwinters on scabby crabapple leaf debris on the ground and scabby crabapple fruits still on the tree. Over the winter the sexual stage of the fungus develops on this plant tissue and is the source of fungal inoculum that first infects crabapple foliage and fruits in the spring. In fact this is happening right now as leaves and flowers emerge. Some infections occur on foliage before flowers are out. Many plant health care managers, that use fungicides to keep scab down to a dull roar on susceptible crabapple taxa, find that 2-3 sprays (two weeks apart) starting with petal fall does an adequate job. There are a number of different fungicides used, but propiconazole, thiophanate-methyl or combinations of the two are common.

One of the horticultural challenges with this approach is that there is about a 3 week spread from when the earliest crabapple types flower and proceed to petal fall and when the latest flowering crabapples first flower and proceed to petal fall. In other words, the early-flowering 'Spring Snow' flowers about three weeks earlier than the late-flowering 'Golden Raindrops.' Obviously this phenological reality means that if you time your crabapple scab sprays for petal fall, you have to make a judgment of when most of the crabapples on your customer's properties are at petal fall. Otherwise, one would have to make a number of almost daily individual sprays for different crabapples as they reach that phenological point. As with most horticultural practices, usually some compromises are necessary. Horticulture, like politics, is the art and science of the possible!

**MOIST CHAMBER - April 24, 2008**

BYGL participants also reported:

* Botrytis on Angelonia from a greenhouse.
* Dothistroma needle blight on Austrian pine.
* Two types of Rhizosphaera needle cast; one affecting spruce and the other fir.

**THE INVASION OF DANDELIONS HAS BEGUN!**

Spring has sprung!

Numerous plants are going through their springtime bloom, including some of the less desirable plants. BYGLers commented on the massive carpets of dandelions that cover home lawns, agriculture fields and turfgrass areas around businesses. Soon these dazzling fields of golden yellow blossoms will be turning into fields of puffball seed heads to spread the dandelions to new locations. Dandelions are most effectively controlled when they are in "puffball" stage.

Although the dandelions may be growing actively, many of the other broadleaf weeds in lawns have yet to begin their growth and development for this year. Because of this difference in growth and development of broadleaf weeds, proper timing of broadleaf weed herbicide applications can be a challenge. There is a temptation to apply these herbicides as soon as the dandelions appear. However, if only one application of broadleaf herbicides is going to be applied in the spring/early summer, many of the slower growing broadleaf weeds, such as plantain and ground ivy, will be missed. Thus, it is recommended that spring applications of broadleaf herbicides be delayed until mid to late May to allow these other weeds to be growing more actively.

On the other hand, areas with massive populations of dandelions need to be tackled now to reduce the amount of seeds produced, and to reduce the competition of the dandelions with the turfgrass. This action will require a second spring application of broadleaf herbicides later in the
spring/early summer, if other weeds are present.

Most of the broadleaf herbicides are formulations of 2,4-D, MCPP, dicamba, MCPA, 2,4-DP or some combination of these products. Read the labels on these products carefully, paying close attention to limits to the number of applications permitted per year, timing of mowing in relation to the timing of application, environmental conditions, and avoidance of runoff into bodies of water.

**SCALPING THE LAWN WEAKENS THE LAWN AND INVITES WEEDS**

BYGL readers are reminded that it is very important to observe the correct mowing height. Many homeowners tend to cut their lawn way too short or "scalp" the lawn. The proper mowing heights are from 1 1/2-2 1/2" for Kentucky bluegrass, 2-2 1/2" for perennial ryegrass, and 2 1/2-3" for tall fescue. Scalloping reduces the grass plant's capacity to manufacture carbohydrates or food, thus reducing its ability to compete with weeds. Turfgrass grows very fast in spring. It is also important to remember the "1/3 Rule." Never remove more than 1/3 of grass blades with one mowing. When turfgrass grows too fast, homeowners may have to mow twice a week. Cutting corners will not only hurt turfgrass but also invite weed invasion.

For more information, see:
- Mowers and Mowing

**MUD CHIMNEYS ARE RISING**

Several BYGLers reported receiving phone calls concerning the nuisance handiwork of TERRESTRIAL or BURROWING CRAYFISH. There are several species of burrowing crayfish. Most belong to two genera: *Cambarus* and *Fallicambarus*. Like their aquatic cousins, these crayfish use gills to extract oxygen from water. Unlike their water-soaked cousins, burrowing crayfish spend most of their lives on land; however, their bluish color does not come from them holding their breath! They dig their burrows down to water so they have a ready source of oxygen. This connection to a high water table explains why most burrowing activity occurs in poorly drained soils near streams or shallow ditches.

The crayfish throw soft mud up around their exit holes as they excavate the soil. These chimney-like structures may tower 3-5" above the soil surface presenting a real hazard to mowing. Indeed, hitting a brick-hard dried crayfish chimney with a mower dulls the blade and sends up a huge cloud of dust, often accompanied by a stream of expletives. Unfortunately, there is little that can be done to directly control these crayfish. Pouring materials down the holes to kill the crayfish is strongly discouraged since the burrows extend down to ground water which could become contaminated.

Management generally focuses on stomping or raking, patience, and habitat modification. The chimneys can be stomped or raked smooth prior to mowing. Patience focuses on recognizing that most of the crayfish's excavation activity occurs early in the season, and will subside as the season progresses. Habitat modification focuses on improving water drainage to lower the water table. This may involve lowering nearby drainage ditches. Patience and stomping may be combined by hunting the crayfish as they forage for food. The omnivorous crayfish leave their burrows at night to crawl across the ground in search of plant and animal food, living or dead. They are highly susceptible to a well-aimed foot as they range several feet from their burrows.

BYGLers noted that burrowing crayfish are not the only subterranean creatures currently producing mud chimneys. As reported last week, parts of southern Ohio will soon experience the emergence of Brood XIV of the PERIODICAL CICADA (*Magicicada* spp.), and the nymphs are currently cleaning-out their burrows. The nymphs throw mud up around their exit holes producing miniature versions of the crayfish chimneys. Of course, cicada chimneys are much smaller, usually no more than 1" tall, and the holes are only around 1/4" in diameter. The diameters of the crayfish holes are greater than 1".

For more information, see:
- Crayfish in Home Lawns

**FEE SCHEDULE UPDATED**

http://bygl.osu.edu/
The fee schedule for turf samples has been updated by The C. Wayne Ellett Plant and Pest Diagnostic Clinic (CWEPPDC). Turf samples submitted by homeowners will be charged $20.00 per sample while turf samples submitted by commercial companies in Ohio will be charged $80.00 per sample. Out-of-state samples are charged $100.00 per sample. Members of ONLA, OTF and OLCA will receive a discount.

Please refer to the Clinic's website for information regarding sampling procedures and prices for other samples. Notice that the Clinic has a NEW TURF FORM. Please use the NEW FORM and discard earlier versions. For more information please see http://ppdc.osu.edu.

The CWEPPDC is a leading diagnostic service with state-of-the-art diagnostic facilities and testing procedures. An experienced staff integrates resources from entomology and plant pathology to provide accurate and complete diagnoses of plant related questions. This team is supplemented by specialists on campus plus Ohio Agricultural Research and Development Center in Wooster, as well as other educational institutions. Other fees might apply. For more information about the current services and fee schedule, log on to the web at: http://ppdc.osu.edu/

For more information, see:

- The C. Wayne Ellett Plant and Pest Diagnostic Clinic

### WHITE PINE WEEVIL

Barb Bloetscher reported observing glistening droplets of resin oozing from tiny holes in white pine terminals in central Ohio. This means white pine weevil (*Pissodes strobi*) females are actively feeding and probably laying eggs. It also means that control is rapidly becoming problematic.

Despite its common name, the weevil will infest a wide range of conifers including: Scotch, jack, red, and pitch pines; Norway, white, and Colorado blue spruces; and Douglas-fir. In early spring, overwintered females feed briefly on the terminals of conifer hosts, and then they lay eggs into this feeding material. The resulting white, legless, slightly curved, grub-like larvae tunnel downward just beneath the bark until pupation. Larval development is typically completed by mid- to late summer. The weevil has one generation per year.

The tops of infested trees become wilted, turn brown, and die. Main leaders are often curved into a shepherd's crook. The removal and destruction of infested terminals remains a highly effective method to reduce localized populations of this insect, as long as care is taken to cut below the downward progress of the larvae. A good sanitation program in combination with properly timed insecticide applications provides good control of this weevil.

Dave Shetlar noted that although the window for control is rapidly closing, Christmas tree growers may still achieve some suppression of this weevil by using dimethoate. Two applications are generally recommend with the first made 7-10 days after forsythia reaches full bloom and the second application made 3 weeks later. There may still be time to follow this recommendation in northern Ohio; however, it may be too late for the first application in the central and southern parts of the state. While a single application made now will help to reduce the total level of infestation, some damage may still be experienced.

Dimethoate is not labeled for landscape applications, and it is too late for topical applications of labeled pyrethroids to be effective. Infested terminals should be removed as the season progresses and plans made to make a fall soil drench/injection application of imidacloprid (e.g. Merit) at the highest labeled rate.

For more information, see:

- White Pine Weevil Factsheet
- White Pine Weevil

### THE CINCINNATI FLOWER SHOW

Staged on the banks of Lake Como at historic Coney Island, the Cincinnati Flower Show celebrates its 19th anniversary April 19-27, 2008. You will discover displays of unparalleled beauty, extraordinary markets, and gardening advice from the experts. For further information, check-out the Flower Show website at: [http://www.cincyflowershow.com/].

### BYGLive! DIAGNOSTIC WALK-ABOUT AT TOLEDO BOTANICAL

http://bygl.osu.edu/
GARDEN

Mark your calendars for the season's first diagnostic walk-about at Toledo Botanical Garden on Monday, May 5th. The walk will begin at 1:00 pm and participants are asked to meet at the flag pole near the conference center. To RSVP or to find out additional information, please contact the OSU Extension office at Toledo Botanical Garden at 419-578-6783.

BYGLOSOPHY - April 24, 2008

"In all things of nature there is something of the marvelous." -- Aristotle