Welcome to the BYGL Newsletter

July 3, 2008

This is the 14th 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/].

BYGL is a service of OSU Extension and is aided by major support from the ONLA (Ohio Nursery and Landscape Association) [http://onla.org/] and [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 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 July 1st conference call: Pam Bennett (Clark); 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); Libby Dayton (School of Environment and Natural Resources); Erik Draper (Geauga); Dave Dyke (Hamilton); Tim Malinich (Lorain); Joe Rimelspach (Plant Pathology); Dave Shetlar (Entomology); Amy Stone (Lucas); Curtis Young (Allen); and Randy Zondag (Lake).

In This Issue:

1. WEATHERWATCH
2. HORT SHORTS: GDD (Growing Degree Days); Plants of the Week [Woody, Silver Linden (Tilia tomentosa); Perennial, Coneflower (Echinacea purpurea); and Weed, Ground Ivy (Glechoma hederacea)].
3. BUGBYTES: Summer Cats Meow [Hickory Tussock Moth and Yellownecked Caterpillars]; Holy Thistle - Hope Springs Eternal [Thistle Tortoise Beetle]; Boxelder Bug-Mania; Chigger Challenge; Some Blueberry Blues [Cranberry Fruitworm and Blueberry Maggot]; and Windshield Wipes [Golden Tortoise Beetle, Cereal Leaf Beetle, and Common Army Worm].
4. DISEASE DIGEST: Rose Black Spot; Cedar Quince Rust; and A Rotten Deal for Strawberries [Leather Rot].
5. TURF TIPS: Euthoria Over Turf; and Good Year for Grubs! [Masked Chafer and Japanese Beetle].
6. INDUSTRY INSIGHTS: Entomophaga Impacting Gypsy Moth Caterpillars.
7. COMING ATTRACTIONS: BYGL Live! in Cincinnati; Northwest Ohio Green Industry Summer Session; and Foundry Sand in Soil Applications Forum, July 23rd and July 24th.
8. BYGLOSOPHY.
WEATHERWATCH - July 3, 2008

As the weatherwatch article was being written, tremendous amounts of rain fell from the sky in the Toledo area. Rainfall totals on Wednesday evening through Thursday morning ranged from 3" - 6", with less rain falling the further south and east you went. The rain garden at the Extension office had a special visitor this morning - a duck. Precipitation totals for the month of June were above normal in each of the five weather stations listed below, with the Columbus area nearly doubling the normal amount of rainfall for the month. Several BYGLers mentioned emptying inches of "wet stuff" from their own gauges at home in recent weeks.

The following weather information summarizes data collected at various OARDC Weather Stations spanning the dates: June 1, 2008 - June 30, 2008 with the exception of the soil temperatures which are readings from Wednesday, July 2 at 12:30 p.m.

<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>
</tr>
</thead>
<tbody>
<tr>
<td>Ashtabula</td>
<td>NE</td>
<td>78.1</td>
<td>60.0</td>
<td>5.45&quot;</td>
<td>4.2&quot;</td>
<td>69.63 / 66.43</td>
</tr>
<tr>
<td>Wooster</td>
<td>NE</td>
<td>80.2</td>
<td>58.9</td>
<td>5.79&quot;</td>
<td>3.9&quot;</td>
<td>71.08 / 68.69</td>
</tr>
<tr>
<td>Hoytville</td>
<td>NW</td>
<td>82.7</td>
<td>61.9</td>
<td>4.71&quot;</td>
<td>3.6&quot;</td>
<td>71.96 / 68.33</td>
</tr>
<tr>
<td>Columbus</td>
<td>Central</td>
<td>82.8</td>
<td>61.3</td>
<td>8.70&quot;</td>
<td>4.5&quot;</td>
<td>68.83 /68.03</td>
</tr>
<tr>
<td>Piketon</td>
<td>South</td>
<td>83.5</td>
<td>60.0</td>
<td>4.15&quot;</td>
<td>3.9&quot;</td>
<td>83.25 / 75.10</td>
</tr>
</tbody>
</table>

For more information, see:

- OARDC Weather Station

GROWING DEGREE DAYS - July 3, 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 1,022 to 1,367. Following is a report of GDD for several locations around Ohio as of the end of the day of July 1, 2008: Painesville, 1,022; Cleveland, 1,054; Toledo, 1,132; Cantfield, 1,047; Lima, 1,095; Wooster, 1,073; Coshocton, 1,148; Columbus, 1,267; Springfield, 1,223; Dayton, 1,231; Cincinnati, 1,305; Ironton, 1,302; Portsmouth, 1,324; and Piketon, 1,367.

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.

Japanese beetle, adult emergence, 970; rosebay rhododendron, first bloom, 1,010; June bride littleleaf linden, full bloom, 1,115; bottlebrush buckeye, first bloom, 1,158; Ural falsoespirea, first bloom, 1,170; panicled goldenraintree, full bloom, 1,251; rose-of-sharon, first bloom, 1,347; pine needle scale, egg hatch - 2nd generation, 1,349; mimosa webworm, egg hatch - 2nd generation, 1,920; euonymus scale, egg hatch - 2nd generation, 1,923; magnolia scale, egg hatch, 1,938; and banded ash clearing bor, adult emergence, 2,195.

For more information, see:

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

PLANTS OF THE WEEK - July 3, 2008

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).

"WOODY PLANT OF THE WEEK. SILVER LINDEN (Tilia tomentosa)." Lindens are a mainstay in commercial, community, and home landscapes in Ohio. One that is spectacular right now is the silver linden with its shimmering foliage. An ONLA Plant Selection Committee winner, silver linden is a medium to large shade tree that does quite well in street tree sites that can accommodate its size. Dark green upper leaves and silvery lower leaf surfaces shimmer attractively in the wind. The 'Sterling' cultivar has magnificent overall structure with broad pyramidal crown. It
was a true standout in the OSU Shade Tree Evaluation Plot (1960s-1990s) at Secrest Arboretum in Wooster, and specimens of silver linden were kept for display once the research plot was decommissioned. This and other *Tilia* spp. will be one of the featured genera in the new TREE (Tree Research Evaluation and Extension) Plots at Secrest.

**PERENNIAL OF THE WEEK. CONEFLOWER (*Echinacea purpurea*).** The world of coneflowers has exploded exponentially in recent years, making it difficult for the gardener to select the best plant for the garden! Recent introductions have a variety of features including double-flowered, fragrance, and various heights. Coneflowers begin to bloom now in central Ohio and last throughout July and into August. Frequent deadheading prolongs blooms. These plants adapt to varying environmental conditions and tolerate heat and dry soils. Gardeners can leave the seed heads on the plant toward the end of the season for the goldfinches. However, beware that the species coneflower and other varieties may spread aggressively. Some of the new varieties include: ‘Big Sky’ series (maroon and yellow flowers); ‘After Midnight’ (purplish); ‘Hope’ (large center); ‘Meadowbrite’ series (orange and yellow); and many more. Don’t forget those that have been around awhile as well, such as the 1998 Perennial Plant of the Year ‘Magnus’ (purple, 36-40” tall) and ‘Kim’s Knee High’ (shorter with pink flowers).

**WEED OF THE WEEK. GROUND IVY (*Glechoma hederacea*).** Ground ivy, or creeping Charlie, is a perennial broadleaf weed in lawns and landscapes. Ground ivy has creeping stems that root at the nodes. The leaves emit a mint-like odor when mowed. They are opposite, nearly round in outline or sometimes kidney-shaped with long petioles or leaf stems. Leaf margins have large rounded teeth and leaf veins arise from the same point. The leaves look like miniature geranium leaves. Its stems are square and trailing, mostly without hair.

Ground ivy has rhizomes and fibrous roots that are also produced at the base at each node of the trailing stem. Its flowers occur in clusters of 3 in the area between the stem and petiole (leaf axils). Flowers are blue-violet, 3/8” - 5/16”. Ground ivy is very difficult to control. A “three-way” herbicide (e.g. Trimec), which includes 2,4-D, MCPP, and Dicamba, will provide some control of ground ivy in lawns, but may require multiple applications. Exercise caution when applying this herbicide during hot days to avoid injury to turfgrass or other desirable plants. Follow the pesticide label for directions.

For more information, see:

- University of Illinois Information on Ground Ivy in Violets
- University of Illinois Information on Ground Ivy

**SUMMER CATS MEOW**

Joe Boggs reported that HICKORY TUSSOCK MOTH (*Lophocampa caryae*) and YELLOWNECKED CATERPILLARS (*Datana ministra*) are on the prowl in southwest Ohio. Early instar hickory tussock moth caterpillars feed in groups as skeletonizers on the underside of leaves. They have now reached the stage where the caterpillars disperse and feed singly as general defoliators. The caterpillars are covered with tufts of white hairs with long tufts of black hairs on each side behind the head and two more on opposite sides toward the tip of the abdomen. A series of short black tufts may be seen in the center of each abdominal segment. The caterpillars may be found on a wide variety of deciduous trees; however, they prefer hickory and oak.

Yellownecked caterpillars feed in colonies throughout their development. First instars feed as leaf skeletonizers and later instars consume entire leaves. The colonies typically focus their attention on defoliating one branch before moving to another. Small trees with multiple colonies can be rapidly defoliated. The caterpillars have black heads and a bright orange “neck” (prothorax) that gives them their common name; however, the caterpillars pass through different “color phases” during their development.

First instar caterpillars are copper-colored with no distinct lines. Second instars have distinct alternating longitudinal yellow and orangish-red lines. Caterpillars in the final instar stage have alternating longitudinal black and yellow lines. Although all instars are hairy, the hairs are most evident during the last instar stage. The various color motifs allow colonies to blend with the surrounding foliage of their hosts. The caterpillars feed on a wide variety of trees and shrubs including: crabapples and other ornamental fruit trees; oak; maple; elm; beech; linden; honey locust; azalea; and boxwood.

Yellownecked caterpillars have two and occasionally three generations per season. Early instar caterpillars are susceptible to the biological insecticide, *Bacillus thuringiensis* (Bt) (e.g., Dipel, Thuricide, or Caterpillar Attack). More traditional insecticides are needed to control later instars. A more self fulfilling control method is to knock the caterpillar colonies to the ground and perform the “caterpillar dance.” Thus far, no populations have developed resistance to this control method.

For more information, see:

- OSU Extension, “Bug Doc” Fact Sheet

*Image of Echinacea ‘Big Sky Sunrise’*
HOLEY THISTLE - HOPE SPRINGS ETERNAL

Over the past few weeks, several BYGLers have been reporting observing significant injury to CANADA THISTLE (Cirsium arvense); however, the weed-whacker responsible for the heavy leaf-feeding damage remained elusive. High numbers of FOUR-LINED PLANT BUG (Poecilocapus lineatus) adults were found, and the circular, sunken leaf-spots produced by the nymphs and adults were observed. While this bug is a well known pest of annuals and herbaceous perennials, the extent of the damage to thistle seemed beyond the bug's capabilities. Curtis Young solved the mystery this week by reporting that the main culprit (hero?) is the THISTLE TORTOISE BEETLE (Cassida rubiginosa).

The tortoise beetle is native to Europe and northern Asia and it was imported into North America specifically as a biological control for thistle. The beetle is also known as the "thistle defoliating beetle" and feeds on other non-native thistle nasties including musk (Carduus nutans) and plumeless (C. acanthoides). Both the adults and larvae feed on the leaves of thistle as skeletonizers. Feeding scars are irregularly shaped ovals with one leaf epidermis still in tact producing what looks like a window pane. Most feeding occurs on the upper leaf surface. Feeding can be heavy enough to reduce or completely prevent the host plant from blooming and producing seed. Curtis and Joe Boggs observed the beetle on thistles in northwest, north central, and southwest Ohio. It is an intriguing beetle with some bizarre behaviors.

Like other tortoise beetles, the thistle tortoise beetle adult has a body shaped like a pith helmet or WWI army helmet. The body color of the adult is pale green which allows it to blend in with the leaves upon which it is feeding. The head and legs of the adult are typically hidden under the flares of the helmet and the antennae can be hidden as well or extend out from underneath. The larvae are oval shaped and have a ring of spiny spikes sticking out the rim of the oval like a crown. The larvae carry their excreta (feces) and exuviae (shed exoskeletons) around on their backs. These items are attached to the larvae by twin slim appendages (cerci) at the posterior tip of the abdomen. They hold the accumulated waste over their backs on the upwards curving abdomen and cerci. Most likely this is a defense against predation.

Curtis observed two other insects feeding on the Canada thistle: the THISTLE CATERPILLAR (Vanessa cardui) (the adult is the PAINTED LADY BUTTERFLY) and the CANADA THISTLE BUD WEEVIL (Larinus planus), a native of Eurasia that was also imported to control non-native thistles. BYGLers were thrilled with the anti-thistle observations!

For more information, see:
- Successful Establishment of Exotic Agents for Classical Biological Control Alternatives
- Thistle Control Alternatives

BOXELDER BUG-MANIA

Several BYGLers reported heavy boxelder bug (Boisea trivittatus) activity. This insect is most notorious for invading homes en masse in the fall as they search for winter quarters and in the early spring as they emerge from their winter nap. However, both the adults and nymphs suck plant juices and they may be encountered in large numbers feeding on plants during the growing season.

The 3/4” long boxelder bug adults are narrow-shaped, flat-backed, and dark gray or dark brownish-black. They have three highly visible orangish-red stripes running lengthwise on the pronotum, the area behind the head. The abdomens of the oblong-shaped nymphs are bright red with a faint orange line running down the middle, and an obvious orange spot in the middle of the line. Their antennae, head, thorax, legs, and wing-pads are bluish-black. When encountered in a home, the nymph’s shape sometimes causes them to be mistaken for bed bugs.

Besides sucking juices from boxelder seeds, the bug commonly feeds on seeds of other trees in the genus Acer, as well as on ash. Boxelder bugs have even been observed feeding on alder, apple, buckeye, cactus, geranium, grape, honeysuckle, lilac, linden, oak, peach, plum, spirea, strawberry, and tulip. As seed-feeders, the bug causes no harm to the health of trees. However, their feeding activity on fruit tree and strawberries has been known to reduce fruit quality. The boxelder bugs wide-ranging feeding activity simply demonstrates that insects pay little attention to their common name.

For more information, see:
- University of Minnesota Fact Sheet
- University of Kentucky Entomology Fact Sheet

CHIGGGER CHALLENGE
Welcome to the BYGL Newsletter

WINDSHIELD WIPES - July 3, 2008

BYGLers also ran into a number of other insects and mites including:

- Curtis Young reported observing GOLDEN TORTOISE BEETLES (Charidotella sexpunctata bicolor; formerly Metridion bicolor) on ORNAMENTAL SWEET POTATO VINE (Ipomoea batatas). Both larvae and adults feed on the leaves leaving circular holes eaten through the leaves. The adult beetles are fairly easy to see when

Chiggers are mites; however, they have an unusual life cycle. The life stage of the chigger that bites humans and animals is the six-legged "larval" stage that hatches from eggs. All the other life stages (nymphs and adults) have eight legs. Both the nymphs and adults feed on insects.

Contrary to popular belief, chiggers do not burrow into the skin. Instead, they stay on the surface of the skin and crawl to the base of a hair follicle to feed. Once settled, the larva injects the skin with digestive fluids using its piercing, sucking mouthparts (capitulum), and then it ingests the resulting "cell puree". Some people are highly sensitive to the chigger's feeding activity, and their skin will swell and surround the larva. This often kills the chigger, and the dead larva found within the swollen skin gives rise to the misconception that chiggers burrow into the skin.

Chiggers are usually associated with spring and early summer; however, they can undergo three generations per year in warm climates. To avoid being the victim of chiggers, avoid walking through brushy areas or wear long white pants with the socks pulled over the pant legs. Insect repellents such as DEET can help to ward off chiggers. It takes several hours for the chiggers to settle, so bathing immediately after hiking in weedy areas can significantly reduce the number of bites. Calamine lotion and similar products will help to reduce itching and the risk for subsequent skin infections.

For more information, see:
- University of Kentucky Entomology Fact Sheet
- University of Missouri Extension Fact Sheet

SOME BLUEBERRY BLUES

Tim Malinich and Erik Draper reported a few blueberry growers are singing the blues over two blueberry insects, namely, the CRANBERRY FRUITWORM (Acrobasis vaccinii) and the BLUEBERRY MAGGOT (Rhagoletis mendax). Both of these insects cause damage to blueberry fruit, but in noticeably different ways. These differences will help identify the true culprit responsible for putting the blues into blueberry picking. Control of these pests is achieved by timing applications of insecticides to prevent the larvae from entering the fruit.

The cranberry fruitworm is a serious pest of blueberries in the Eastern United States. More often than not, the early ripening blueberry varieties are typically most affected. This insect overwinters in the soil as a full grown larva. The larvae pupate in the spring and the adult moths begin to emerge after blueberries bloom and set fruit. The adults are small moths with dark grayish-brown wings, and they fly at night. The female deposits eggs on the berries, almost always on or inside the calyx cup (blossom end) of unripe fruit. The eggs hatch in about five days and the young larvae travel to the stem end of the fruit where they enter, and feed on the berry flesh. The larva moves within a fruit cluster, traveling from one berry to another. One larva may feed on up to eight berries before it completes its development. The fruitworm larva feeds entirely on the inner flesh of developing and ripening berries. These damaged berries are usually webbed together, covered with brown sawdust-like excrement (frass), and the tunnels in the berries are also filled with frass where the cranberry fruitworm ate its way through. There is one generation per year.

The blueberry maggot, which is an immature fly, overwinters as a pupa in the soil. Adults emerge over a period of time from about mid-June through mid-August. Female flies begin laying eggs about 10 days after their emergence. The female will lay only one egg per berry, under the skin, just as the fruit begins to turn blue and ripen. The egg hatches in about one week and the maggot feeds for about three weeks inside the ripening fruit. As the maggot tunnels throughout the berry, the fruit flesh liquefies as it matures. Infested fruits are soft, sometimes shriveled and may have a depression or hole where the egg was inserted. Small larvae are colorless making their detection almost impossible. Full-grown larvae are about 1/4" - 5/16" long, glossy white or yellowish in color, legless, with bodies tapering towards the head end. There is one generation per year.

Fruitworms and maggots provide a cautionary message: If the pie moves ... Don't eat it!

For more information, see:
- Michigan State Fruit IPM Fact Sheet
- Univ. of Maine Fact Sheet

Curtis Young reported making the ultimate sacrifice in personal comfort in the pursuit of a BYGL-scoop. While photo-documenting a discovery of the thistle tortoise beetle (see item 3B above), Curtis became table fare for a horde of hungry chiggers! He bemoaned it was the worst chigger coup de main he has ever suffered his entire life. Sales of Calamine lotion spiked in the Lima area.

Univ. of Maine Fact Sheet
University of Missouri Extension Fact Sheet
University of Kentucky Entomology Fact Sheet
searching the undersides of the leaves because of their brilliant brassy or greenish-gold coloration. When disturbed, the color becomes orange with black spots. The metallic coloration is lost completely when the beetle dies, becoming a dull reddish yellow color.

* Curtis Young also reported receiving a sample of sweet corn foliage from a backyard garden that had been heavily fed upon by CEREAL LEAF BEETLE (Oulema melanopus). The cereal leaf beetle is an accidentally introduced pest of small grains (e.g. wheat and oats). However, the successful importation and establishment of a parasite complex had reduced cereal leaf beetle to a pest of minor importance. For unknown reasons, leaf beetle populations have recently been increasing again to damaging levels. Additionally, after the wheat matures, adult cereal leaf beetles have been found moving to and feeding on corn leaves. When corn plants are small, the damage can be significant.

* Curtis Young reported observing numerous large moths flying up and out of turfgrass. These moths are the adults of the COMMON ARMYWORM (Pseudaletia unipuncta). Early this spring, armyworm caterpillars had built-up to large populations in agricultural fields (e.g. wheat and grass hay). Now the adults are emerging in large numbers from the agricultural fields and migrating to new locations with lush grass to lay new eggs. With so many adults flying around there could be some problems developing in turfgrass, grass water ways, grassy ditch banks, and ornamental grasses. Keep an eye out for heavy caterpillar feeding in these areas. Also, the adult moths visit flowering plants at night to feed on nectar. In some years the adult flight and linden tree bloom coincide and huge numbers of moths may be observed in these trees. No damage is done to the trees, but it is a spectacular and eerie sight to see.

ROSE BLACK SPOT

Rose black spot disease, caused by the fungus Diplocarpon rosae, is quite common this year, predictably so given the many days of rainy weather this growing season. Infections by the pathogen generally occur when leaves are wet for seven hours or longer, and of course these conditions have been common this spring, and now into early summer. Many different types of roses are affected, even those, such as Knockout roses, that sail through in many cases. Why do roses sometime seem to be resistant and sometimes not? It is because disease pressure may vary from one location to another in addition to the possibility that new types of the pathogen may evolve and overcome resistance in time. Rose types with generally adequate resistance may still develop symptoms under high disease pressure, but they may survive black spot without much damage to the plant. This is one of those high disease pressure years, with multiple infection periods due to numerous periods of leaf wetness exceeding seven consecutive hours. Clean up black-spot infested leaf, cane, and flower debris; improve foliar drying conditions; use protective fungicide spray programs - and do a reverse rain dance (though beware what you wish for!).

For more information, see:
- Univ. of Maine Fact Sheet

CEDAR QUINCE RUST

Joe Boggs reported that cedar quince rust is beginning to show up on hawthorn fruits in southern Ohio. Fruits are becoming covered with orangish-pink spore horns, though these tendrils are not at full size yet. Over time, there will be a stunting and death of fruits and swelling and distortion of twigs, with unsightly spherical cankers developing on stems that can last more than one year. The spores produced on the haw fruits will not re-infect hawthorns or other rosaceous plants. They will only re-infect junipers, starting now or soon further north, and for the rest of the growing season.

For more information, see:
- Ohio State University Fact Sheet

A ROTten DEAL FOR STRAWBERRIES

With the excessive rains falling in northeast Ohio, Erik Draper reported strawberry growers are battling to hold off the disease called LEATHER ROT, which is caused by the fungal pathogen Phytophthora cactorum. This fungus primarily infects the fruit and can infect berries at any stage of development, with the infection of green fruit being most common. Diseased areas on green fruit may be dark brown or remain green, but outlined by a brown margin. As the rot continues to spread, the entire berry becomes brown, appears leather-like, and retains a rough texture.
On fully ripened berries, the infection may be difficult to detect. The infection often results in a slight color change, ranging from brown to dark purple and the infected ripe fruit are usually softer to the touch than healthy fruit. However, ripened fruit that are infected by the fungus have a very distinct unpleasant aroma and bitter taste and aroma. In the later stages of decay, mature fruits also become tough, leathery, and sometimes a white mold forms on the fruit surface. As infected fruits dry up, they become stiff, shriveled, mummified berries.

Leather rot is most often found on berries with direct soil contact and is associated with poorly drained areas, like puddles, where there is always standing water. Control of this fungal disease begins with good cultural practices, such as avoiding areas that drain poorly or become flooded periodically with heavy downpours. These poorly drained sites are ideal for development of leather rot. Maintain rows or separation of matted-row plantings to promote faster drying of foliage and fruit. Using a mulch of straw or other materials, to reduce the chance for fruit to touch the bare soil, is very beneficial in controlling leather rot.

Finally, fungicides can be beneficial for controlling leather rot in commercial plantings; however, they are not generally recommended for use in backyard fruit plantings. Instead, homeowners are encouraged to use good cultural practices to control leather rot on strawberries.

For more information, see:
- Ohio State University Fact Sheet
- Cornell Cooperative Extension Fact Sheet

EUPHORIA OVER TURF

Barb Bloetscher and Dave Shetlar reported observing beetles that look like smaller versions of green June beetles cruising low over the turfgrass near Kottman Hall on the OSU campus on sunny afternoons. The unusual beetles were not pigmy June beetles, but EUPHORIA spp., a scarab related to the bumbling flower beetle.

The beetles are 5/8” long, bronze to green in color, and fairly shiny with a double row of punctures between each striae (ridge) on its back. Although inconspicuous to the casual passer-by, they become apparent if one stands and watches the turfgrass. The beetles fly fairly quickly at 5-6” above the turfgrass canopy. Perhaps more noticeable is the frenzy of birds trying to eat them as the beetles dive into the turfgrass to lay eggs.

Although impressive to see, the beetles do little damage to trees as they feed on flowers and sap leaking from wounds. The rather large grubs feed on thatch high in organic debris and manure. Treatment is not typically recommended.

For more information, see:
- Olive Euphoria Bug
- University of Florida Information
- Euphoria Bug Picture

GOOD YEAR FOR GRUBS!

Dave Shetlar noted that if the season progresses without a serious drought, WHITE GRUBS should enjoy a good year with high populations. Dave reported that high numbers of adult MASKED CHAFERS have been caught in his light trap and that JAPANESE BEETLES have been reported in several locations. Landscapers and gardeners should be on the look-out for evidence of skeletonized leaves on some of the favorite foods of Japanese beetles, including roses, wild grape vines, linden trees, and flowering cherry. However, Japanese beetles tend to hide before and during rainfall, and may not be seen unless someone looks for them intently. Stay tuned for updates!

Meanwhile, turfgrass areas that have a history of grub damage should be targeted with preventative applications of one of the neonicotinoid insecticides such as imidacloprid (e.g. Merit), halofenozide (e.g. Mach 2), clothianidin (e.g. Arena), or thiamethoxam (e.g. Meridian). Using any of these products now will reduce the grubs, as well as many other turfgrass feeding insects.

For more information, see:
- Ohio State University Fact Sheet on Japanese Beetle
- Ohio State University Fact Sheet on Masked Chafers
- Ohio State University Fact Sheet on Mgmt. of Turfgrass Pests, Weeds, Diseases and Insects

ENTOMOPHAGA IMPACTING GYPSY MOTH CATERPILLARS
Amy Stone reported that *Entomophaga maimaiga*, also known as the gypsy moth fungus, has taken a toll on gypsy moth caterpillars in northwest Ohio. Caterpillars, both in the size and appetite, were becoming very evident in landscapes and woodlots when all of a sudden the fungus hit. The leaf feeders that once moved up and down the tree trunks, stood still and hung head-down.

These caterpillars that were killed by the fungus should be left alone for two reasons. First, these caterpillar carcasses are full of fungal spores that can eventually affect others. And second, fresh-killed caterpillars are full of a liquid goo that can leave an unforgettable odor on the hands of the handlers. Removing or harvesting the dead caterpillars too early can be a “stinky” affair.

Dr. Ann Hajek with Cornell University, is a leading researcher in the area of the fungus. Additional information on the fungus can be found at [http://www.fs.fed.us/ne/morgantown/4557/gmoth/natenem/fungus.html](http://www.fs.fed.us/ne/morgantown/4557/gmoth/natenem/fungus.html)

For more information, see:

US Forest Service Information  
Cornell University Information

**BYGLIVE! IN CINCINNATI**

The 4th monthly BYGLive! Diagnostic Walk-About for 2008 will be held Monday, July 14, from 12:00 - 3:00 pm. at Glenwood Gardens (Hamilton County Park District), 10623 Springfield Pike, Woodlawn, 45215. This monthly hands-on training for green industry professionals focuses on diagnosing plant pest, disease, and physiological problems. ISA Certified Arborist CEUs will be available. Participants will meet in the parking lot furthest from the entrance to the Gardens. For more information, contact Joe Boggs at 513-946-8993.

**NORTHWEST OHIO GREEN INDUSTRY SUMMER SESSION**

Remember to save the date for the 11th annual Northwest Ohio Green Industry Summer Session on Wednesday, August 6, 2008. The event will be held at Owens Community College. Speakers will include: Bill Hendricks; Dr. Dave Shetlar; Joe Boggs; Dr. Curtis Young; Dr. Laura Deeter; Joanne Kick-Raack; Joe Rimelspach; and Walter Williams.

Continuing education credits will be earned for ONLA certified technicians, ISA recertification, OLA, and Master Gardener recertification. Contact Becky McCann at 419-354-6916, or mccann.52@osu.edu for more information.

**FOUNDRY SAND IN SOIL APPLICATIONS FORUM**

The Environmental Protection Agency (EPA), The Ohio State University, US Department of Agriculture (USDA), American Foundry Society, and Foundry Industry Recycling Starts Today are sponsoring a workshop on sustainable soil manufacturing July 23-24 at OSU's Kottman Hall, 2021 Coffey Road, Columbus, Ohio.

This workshop will present information on the use of spent foundry sands as ingredients in manufactured soils. Foundry sands have excellent physical properties that are needed by many commercial soil blenders. Whether used to create general landscaping soils, nursery and horticultural soils, turf growth media, or bioretenction soils, foundry sands present opportunities to achieve sustainability goals by reusing materials that might otherwise be discarded. Additional information about the forum, including registration details can be found on the following website: [http://www.epa.gov/epaoswer/osw/conserve/foundry/forum.htm](http://www.epa.gov/epaoswer/osw/conserve/foundry/forum.htm)

For more information, see:

- Foundry Sand in Soils Applications

**BYGLOSOPHY - July 3, 2008**

"We on this continent should never forget that men first crossed the Atlantic not to find soil for their ploughs but to secure liberty for their souls." -- Robert J. McCracken
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.

OSU Extension embraces human diversity and is committed to ensuring that all educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, age, gender identity, or expression, disability, religion, sexual orientation, national origin, or veterans status. Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension, TDD No. 800-589-8292 (Ohio only) or 614-292-1868.

Website designed by Dr. Tim Rhodus. Direct comments or questions to Webmaster