Welcome to the BYGL Newsletter

July 24, 2008

This is the 17th 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 22nd conference call: Pam Bennett (Clark); Barb Bloetscher (Entomology/C. Wayne Ellett Plant and Pest Diagnostic Clinic (CWEPPDC)); Joe Boggs (Hamilton/Piketon); Erik Draper (Geauga); Dave Dyke (Hamilton); Gary Gao (Delaware); David Goerig (Mahoning); Michael Loos (Cuyahoga); Tim Malinich (Lorain); Dave Shetlar (Entomology); Amy Stone (Lucas); Nancy Taylor (CWEPPDC); Curtis Young (Allen); and Randy Zondag (Lake)

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WEATHERWATCH - July 24, 2008

It's been feast or famine regarding rainfall. Some BYGLers reported heavy rainfall in their region, often coupled with intense lightning, while others bemoaned seeing showers pass by with not a drop dropped. With temperatures in the 90s last week, those who missed getting drenched reported that soils are becoming dry. While temperatures cooled throughout the state this week, predictions of rainfall continue to be associated with isolated storms.

The following weather information summarizes data collected at various OARDC Weather Stations spanning the dates: July 1- July 22, with the exception of the soil temperatures which are readings from Thursday, July 22, at 12:00 p.m.

<table>
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<th>Weather Station</th>
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<th>Ave. High Temp F</th>
<th>Ave. Low Temp F</th>
<th>Total Precip.</th>
<th>Normal Precip.</th>
<th>Soil Temp F 2&quot;/3&quot;</th>
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<td>3.92*</td>
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<td>61.7</td>
<td>2.73*</td>
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For more information, see:
- OARDC Weather Station

PLANTS OF THE WEEK - July 24, 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] 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].

* WOODY ORNAMENTAL OF THE WEEK. PAPERBARK MAPLE - *Acer griseum*. This outstanding small specimen tree is not always easy to find in the garden stores but is worth the challenge of the hunt! Growing in a rounded to oval form, it can get to around 25' tall and is perfect for a smaller landscape or a front entrance. As the bark ages, the cinnamon-brown to red flakes are more apparent and provides a wonderful winter feature. The foliage is relatively clean and this is one of the maples that have a 3-part leaf. The fall color is also outstanding as it runs reddish to orange. It is a slow growing tree but definitely one to enjoy many years in the landscape.

* PERENNIAL OF THE WEEK. HYSSOP - *Agastache spp.*. This seemingly out-of-control wild-looking perennial is excellent in the cottage or herb garden, or it can be used as a filler plant in the perennial garden. It is a wonderful plant that adds movement to the garden and attracts pollinators including butterflies, hummingbirds, and bees. *Agastache* loves hot dry conditions and continues to bloom all summer, usually starting in late June and continuing up to frost. The 12-18" tall pink, purple, whitish, and orange flower spikes are held above the plant. The blend of colors depends upon the cultivar. The flowers are good for cut bouquets; some species also have a nice fragrance similar to anise or black licorice.

* ANNUAL OF THE WEEK. DOUBLE IMPATIENS - *Impatiens spp.*. Impatiens are favorite plants for use in shady gardens. There has been great improvement in the double blooming Impatiens varieties in the last few years with flowers becoming more colorful, larger, and more numerous. Plants grow around 1' tall and are about as wide as they are tall. Colors vary and include white, pink, red, purple, orange, scarlet, and blends. Impatiens are great for containers as well as flower beds. Place double flowered varieties near the house or patio so that the double rose-like flowers can be enjoyed all summer. Keep plants watered as the blooms will drop if the plant is allowed to dry out too often. Improved cultivars include 'Fiesta', 'Carousel', 'Rockapulco', and 'Victorian Rose'.

SOME DON'T LIKE IT HOT

Plants can respond to excessive heat by wilting. Unfortunately, one of the most common responses by home gardeners is to provide the plant with water without first checking the moisture content of the soil. Plants in landscapes surrounding new homes may have a limited root system due to highly compacted soils. These compacted soils do not let water or roots penetrate and can remain dry even after significant rainfall. Under these conditions, landscape plants will develop shallow root systems incapable of providing the plant with sufficient water during hot, sunny weather. Plants will wilt during the day and recover as the plant catches up at night. This is called "night recovery."

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Additionally, under certain circumstances water may not move from the surrounding soil into the root ball of the plant. There is a physical inability for water to easily move across soils that have significantly different textures. This is called “soil incompatibility.” As a result, the surrounding soil may be well watered while the root ball remains very dry. Before making a snap judgment regarding whether or not to water, check the moisture level of the soil within the root ball as well as soil surrounding the root ball. If the root ball is dry, but the surrounding soil is wet, soil incapability is the issue. This means soil in the root ball must be monitored closely. Saturating soils with water can lead to root rot of the plant; be certain to know why the plant is wilting prior to watering.

IRON CHLOROSIS IN LANDSCAPE TREES

Nancy Taylor reported that the CWEPPDC received samples of pin oak, sweetgum, and red maple with iron chlorosis. Iron chlorosis is characterized by yellowing between the veins. It can be caused by a number of conditions, often working in tandem, including: dry soils; wet soils (drowning roots); root and stem damage; high soil pH; and deficiencies of micronutrients including iron and possibly manganese, and/or zinc.

Iron chlorosis is difficult to correct particularly when mature trees begin to react to problems with high soil pH. The required nutrients are often present in the soil, but at higher soil pH levels (6.5 and above) some trees are incapable of taking up adequate amounts. Modifying the soil pH, improving root growth, and supplying iron along with other micronutrients are all integral parts of a permanent solution. However, this can be difficult for large trees. It is a good idea to have your soil tested to reveal the cause of the problem.

In the short term, foliar applications and trunk injections can temporarily “green up” chlorotic plants. For example, encapsulated ferric ammonium citrate inserted into the base of a pin oak trunk will prevent iron chlorosis for up to three years. The small wounds caused by drilling and capsule insertion should close in one season. The capsules can be inserted any time of year. However, the most effective results are obtained when implantations are completed in early spring before bud swell.

For more information, see:

- Kansas State Fact Sheet
- OSU Fact Sheet

LOOK-A-LICHEN

Nancy Taylor reported that the CWEPPDC received samples of lichens from a homeowner concerned that the odd-looking growths were harming a tree. Lichens are found on every continent on Earth, and they can establish themselves on almost any surface. All that is needed for them to get a foothold is an undisturbed surface, time, and a partly sunny environment with clean air.

These fascinating organisms are not true bryophytes, such as a moss or a liverwort. They are actually composed of a fungus and an organism capable of producing food by photosynthesis, such as a green alga. These two organisms are referred to as symbionts because they form an association that is mutually beneficial for both organisms; a symbiotic relationship. The green alga provides carbohydrates through photosynthesis and the fungus protects the alga and provides a steady supply of water. Together, they produce the thallus, or vegetative body, that is seen growing as lichens in landscapes. The thallus growth consists of both algal and fungal components.

Do lichens damage plants? The answer is “no.” The fungal symbionts of the lichen do not parasitize living plant cells, nor does it appear that they provide pathways for other pathogens to invade the host plant. Lichens do not rob the bark of any significant amount of moisture nor do they pose a threat for girdling the branch or trunk. Some may believe that lichens damage plants because they often proliferate on dead or dying trees; however, the trees are being killed by some other problem. The link to lichens stems from the loss of leaf canopy which allows sunlight to penetrate to lower branches to enhance lichen photosynthesis. The lichens like it.

For more information, see:

- Lichens of North America

BAGWORMS STILL HAVING THEIR WAY!

Dave Shetlar and other BYGLers made note of the many plants being ravaged by the bagworm (Thyridopteryx ephemeraeformis). BYGLers are beginning to worry why homeowners aren’t noticing what is happening to these plants, especially arborvitae, spruces, and junipers. Heavily infested plants are easy to spot from a distance because the tops are thin and turning brown as the bagworms chew off the foliage. An up-close inspection will reveal hundreds of developing bagworms hanging down from the browning branches, as well as from green branches to which they migrate to continue feeding.

Surprisingly, the bags in central and northern Ohio are still an inch or less in length. Curtis Young snapped a random sample of the small bags off of an infested, brown-topped arborvitae in the Lima area to look at the caterpillars (larvae) inside. They have grown a lot since they hatched back in June. All were more than 8X bigger than what they were a month ago, but they still have a great deal of growing left to do. If not managed now, they can produce massive damage to heavily infested plants. Curtis removed the caterpillars from their bags, which are actually more like a sleeve than a bag right now because they are open at both ends, to measure their sizes. There were a few tiny ones (<1/2"), a few long skinny ones (>1"), but most were about 5/8-

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3/4” in length and none of them appreciated being stripped of their bags.

According to Dave, we are fast approaching the time that branch death of the most susceptible plants (e.g. arborvitaes) can result from bagworm feeding! Fortunately, a foliar application of one of several insecticides will still stop them from producing more damage. It is too late to use the biological insecticide Bacillus thuringiensis or Bt (e.g., Biobit, Dipel, Thuricide, and Caterpillar Attack). The bagworm caterpillars are getting too big and old for this product to be effective. The more traditional insecticides will be needed. However, don’t wait till late in the growing season to manage the bagworm, because even the traditional insecticides lose their effectiveness against large bagworms. Refer to OSU Extension Bulletin 504, “Insect and Mite Control on Woody Ornamentals and Herbaceous Perennials” for details on effective insecticides.

One additional note to make at this time is that conifers are not the only plants that these pests feed on. Conifers are just the plants that can be easily killed by the bagworm feeding! Bagworms can feed and thrive on a long list of deciduous trees and shrubs including sycamore, crabapple and honeylocust trees. These trees may not be killed by the bagworm; however, the caterpillars can make them look very bad. The infested trees can also act as a reservoir for bagworms to spread throughout the landscape in future seasons.

For more information, see:

- OSU Extension FactSheet on Bagworm
- University of Kentucky FactSheet on Bagworm

MASS ATTACKS BY JAPANESE BEETLES

Almost every BYGLer reported receiving complaints about massive populations of Japanese beetles (Popillia japonica) attacking plants in landscapes. However, as in many years, these massive populations are not everywhere. Some areas have moderate to slight populations of Japanese beetles. So, depending on where you are located, you are either wondering what all the hoopla is about or you are commiserating with those who are inundated by beetles.

Following are a few reports from OSU Extension offices regarding experiences with high numbers of Japanese beetles:

- Mass attacks on individual trees resulting in rapid defoliation (now you see’em . . . now you don’t).
- An attack on a plum tree, where the beetles were devouring the developing fruits down to the pits.
- Blueberry bushes dripping with balls of beetles and Kamikaze beetles pinging off the head of an Extensioneer standing in the vicinity of the blueberries.
- Homeowners not using their backyards because they are afraid of all the hovering beetles in their yards.
- Bag-a-Bug trap bags filled to capacity such that beetles simply walk back out of the bags on the backs of their comrades to escape to devour another day.

While adult Japanese beetles have a very broad host range, there are a few highly favored hosts on their menu. Some of these favored hosts are somewhat unexpected. Here are just a few of the plants that are heavily attacked: flowering and production fruit trees (e.g. cherries, plums, crabapples, apples, etc.), lindens, rose-of-Sharon, roses, hollyhocks, grapes, blackberries, blueberries, elderberries, raspberries, smartweed, sweet, corn, soybeans, and dawn redwoods.

If these plants are under heavy attack by Japanese beetles, their management may require a foliar insecticide spray. Read the insecticide label carefully to be certain the target plant to be sprayed is listed on the label. It is especially critical to read and follow label directions (e.g. harvest restrictions) when treating vegetable plants and fruit bearing trees. Refer to OSU Extension Bulletin 504, “Insect and Mite Control on Woody Ornamentals and Herbaceous Perennials” for details on effective insecticides.

While the mass-attack of Japanese beetles may be intriguing to some (entomophiles) and disgusting to others (entomophobes), it does indicate that grubs may become a serious issue in the fall. Soils in most of Ohio are still relatively moist. Thus, adult females are finding good places to lay eggs, and are obviously making multiple eating and egg laying trips.

For more information, see:

- OSU Extension FactSheet on Japanese Beetle
- University of Kentucky FactSheet on Japanese Beetle

THE BUZZ ON HONEY BEES

Many beekeepers in central Ohio reported that they have collected a large number of honey bee swarms this year. Swarms are masses of honey bees that hang from a tree limb, gutter, etc., as they surround and guard their old queen. Swarming is a natural way for colonies to multiply and form new colonies. The process is initiated when a larva is fed a special protein to cause it to develop into a queen. When the new queen emerges, she takes over the colony and forces the older workers and former queen to leave the hive. This swarm will gather on a tree limb or other convenient place until "scouts" find a suitable hole or void in which to start a new colony.

Although beekeepers are usually happy to collect these swarms, a great deal of work is required for the bees and the keeper before any honey can be harvested. The swarm is usually re-queened and placed in a new hive. The colony then requires a year before it becomes established enough to have honey removed. It is a risky endeavor since no amount of diligent care for these new colonies will guarantee they will survive their first winter.

Two years ago, beekeepers also reported high numbers of swarms, yet by late summer many hives had not stored enough honey

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to survive the winter. The populations in the hives decreased, and colonies had to be combined just to provide enough bees and stored honey to sustain them until spring. The effects of Colony Collapse Disorder (CCD) and winter loss to starvation, cold, etc. usually do not appear until late winter. So at this point, even though honey bees seem to be buzzing with activity, it is unknown how the season will end. Hopefully the season will continue with warm temperatures interspersed with adequate rainfall to prolong blooming and nectar/pollen collection. Beekeepers are keeping their tarsi crossed.

For more information, see:
- Mid-Atlantic Apiculture Web Site
- USDA Web Site

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**WINDSHIELD WIPES - July 24, 2008**

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

* Curtis Young reported that HOLLYHOCKS (*Alcea rosea*) have been unusually undamaged in the Lima area, at least until now. It appears that the HOLLYHOCK SAWFLY (*Neoptilia malvacearum*) has finally arrived to begin its annual skeletonization of the lower leaves of hollyhocks. The worm-like larvae are pale green with black-colored heads and they have tiny black-colored spines on each body segment. This sawfly can have as many as three generations per year, but usually their activity is first noticed in June rather than July. It could be that the first generation was extremely small and went unnoticed.

* Dave Shetlar reported that he has observed a number of hornworms developing in the landscape. Most recently, he found numerous eggs of the TOMATO HORNWORM (*Manduca quinquemaculata*) or the TOBACCO HORNWORM (*M. sexta*) on tomatoes (*Lycopersicon lycopersicum* a.k.a. *Solanum lycopersicum*). Both hornworms attack tomatoes and several other closely related host plants. Backyard vegetable gardeners need to be alert for signs of feeding activity by these caterpillars which includes missing leaves and black barrel-shaped droppings on the ground beneath infested plants. Once found, hornworms can be controlled by hand-picking, conventional insecticides, biological insecticides (very young caterpillars only), rototilling (destroying pupae in the soil), predators, and parasitoids.

* Dave also reported that the second generation of the PINE NEEDLE SCALE (*Chionaspis pinifoliae*) has begun to hatch in central Ohio. This is the second opportunity to manage this conifer pest. The newly hatched crawlers (nymphs) are the most susceptible stage in this insect's lifecycle to be controlled with insecticides, including insecticidal soaps. Check plants known to be infested with pine needle scale for the deep red colored crawlers moving about on the needles of the host plant.

For more information, see:
- OSU Extension FactSheet on Pine Needle Scale

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**NOT WILTING FROM THE WEATHER**

Nancy Taylor reported that she identified VERTICILLIUM WILT fungi (*Verticillium albo-atrum* or *Verticillium dahliae*) in three different plant samples. The samples were taken from a Catalpa tree, a Japanese tree lilac, and the 'Sunshine' cultivar of the Big Sky series of coneflowers. Verticillium is a serious vascular disease of hundreds of woody and herbaceous plants, including many food crops. Like other vascular diseases, Verticillium is unpredictable and may kill the plant in one or two years or it may go into remission for a number of years.

Vascular streaking is often cited as a “classic” symptom of Verticillium wilt disease; however, the fungus does not always reveal itself through the appearance of discolored xylem and cambial tissue. Also, the color of the discoloration is highly variable. Other symptoms of Verticillium wilt disease includes: leaf scorch and leaf wilting; partial defoliation of branches; leaf and twig stunting; and sectional branch dieback. Often this branch dieback is restricted to one side of the tree. Unfortunately, many of these same symptoms can be caused by other problems. Of course, diagnostic confusion can be resolved by sending samples to the CWEPPDC.
The Verticillium fungus can survive in the soil for many years which impacts crop rotation schemes. Verticillium will infect plant roots through wounds and in some cases directly penetrates root tissue. Once inside root tissues, the fungus produces toxins, which damage those tissues and affects the plant's ability to move water and nutrients up into the plant. The invasion continues in the xylem, moving upward in the plant via spores. Wherever new spores lodge in the xylem flow, a new infection begins. Ultimately, vascular flow ceases to occur as the xylem becomes damaged or plugged.

Once infected plant parts die and fall to the ground, tiny resistant fungal microsclerotia can then be spread by wind or by soil stuck on equipment. Many weed hosts are also susceptible; therefore the cycle of contaminated soil is hard to break. Development of Verticillium wilt is favored by any factor that induces root stress, especially the direct wounding of roots and droughty conditions.

For more information, see:
- OSU Fact Sheet
- Virginia Tech Fact Sheet

SCABBY CRABBY LEAVES

Erik Draper reported that as he meandered through the crabapples at the OSU OARDC Crabapple Evaluation Plots in Secrest Arboretum, it was easy to determine which taxa were susceptible to the apple scab fungus, *Venturia inaequalis*. This fungus depends upon hours of leaf wetness in order to infect susceptible leaves and fruit on apples and crabapples.

Symptoms first appear as spots (lesions) on the lower leaf surface, because the lower side is first exposed to fungal spores when leaf buds open. At first, the lesions are usually small, velvety, olive-green in color, and they have unclear margins. As lesions mature, the fungal infection becomes darker and more distinct. Heavily infected leaves become distorted, begin to yellow, and they may begin to drop early in the summer. Trees of highly susceptible varieties may be severely defoliated by mid- to late summer.

The use of genetically resistant or scab immune varieties is the ideal method for controlling scab. Most commercially grown apple varieties are susceptible to scab; however, they differ in their degree of susceptibility. Crabapples vary widely in their susceptibility to the apple scab fungus, but there are many crabapples with both excellent scab resistance and superior horticultural characteristics for Ohio. Fungicides are another option but should have been already applied to prevent the apple scab spores from infecting the leaves or fruit. Fungicides applied now will slow the secondary infection rate but they will not alter what has already been infected.

For more information, see:
- OSU Fact Sheet on Scab of Apple and Crabapple
- Ornamental Plants Annual Report

BLACK ROT OF GRAPE

Gary Gao reported that he received a sample of a grape cluster with black rot in Delaware County. Grape black rot is one of the most damaging grape diseases in Ohio. Unfortunately, many cultivated varieties of grapes are susceptible to infection by the disease causing fungus. If not controlled, some or all of the grapes within a cluster will rot and turn into mummified “raisins.”

The wet weather experienced this season has been ideal for the development of this disease. Symptoms of black rot first appear as small yellowish spots on leaves. As the spots (lesions) enlarge, a dark border forms around the margins. Fruit symptoms often do not appear until the berries are about half grown. Small, round, light-brownish spots form on the fruit. The rotten tissue in the spot softens, and becomes sunken. The spots enlarge quickly, rotting the entire berry in a few days. The diseased fruit shrivels, becoming small, hard, black, and wrinkled (mummies).

A good fungicide spray program is extremely important for control of this disease. Early season control (bud break through bloom) must be emphasized. If controlled early, the need for late season (post bloom) applications of fungicides is greatly reduced. It is very important to plant grapes in sunny open areas that allow good air movement. Proper row orientation to prevailing winds and good weed control beneath the vines also enable plants to dry more quickly during wet weather. Sanitation is also important. Destroy mummies, remove diseased tendrils from the wires, and select varieties that are more tolerant of grape black rot. For further information on this disease, including chemical controls, please refer to OSU Extension Bulletin #780, “Controlling Diseases and Insects in Home Fruit Plantings” for a detailed spray schedule.

For more information, see:
- OSU Fact Sheet on Grape Black Rot
- Controlling Diseases and Insects in Home Fruit Plantings

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**THE MOIST CHAMBER - July 24, 2008**

It was a busy couple of weeks for the crew of the CWEPPDC. Here are some of their pathological findings:

* **Physiological leaf roll** on tomato. A very common occurrence of the lower leaves of tomatoes but it is of little consequence to the tomato or its production of fruit. Certain varieties are more prone to rolling their leaves than others, but it really is no big deal.

* **Southern Blight** (*Sclerotinia rolfsii*) on tomato. This fungal disease can be very intriguing with its characteristic white skirt of mycelium and white sclerotia the size of mustard seeds at the base of the stem of affected plants. These symptoms are very helpful characteristics for identifying southern blight.

* **Pseudomonas** on Brussels sprouts. Pseudomonas is the genus of a group of bacterial pathogens that affect Brassica crops like cauliflower, broccoli, cabbage, etc. Many are probably cheering and hoping this pathogen will do a better job of wiping out these healthy foods that mom made us eat.

* **Diplodia tip blight** on pines. Nancy noted that often the new tip or shoot growth (candles) infected by this fungal disease will begin to shrivel and wilt. These symptoms are becoming noticeable right now.

* **Dothistroma needle blight** on Austrian pine. This fungal disease infects and kills needles of all ages on Austrian pine. It usually starts with yellow to tan needle spots that enlarge to form reddish-brown bands across the needles. The part of needle beyond the bands turns brown while the needle base remains green. Severe infections can kill trees, or make them more susceptible to other diseases.

**TRIVIALIS IS NOT TRIVIAL**

Barb Bloetscher reported that the annual summer browning of **ROUGHSTALK BLUEGRASS** (*Poa trivialis*) is underway in Ohio lawns prompting concerned homeowners to send samples to the CWEPPDC for an identification of the problem. This perennial grass blends-in with Kentucky bluegrass or turf-type tall fescue until summer temperatures consistently remain above the high 80s. The high temperatures cause roughstalk bluegrass plants to become dormant and turn brown, despite heavy irrigation. The quick and dramatic color change is often mistaken for a disease problem.

Roughstalk bluegrass can be identified by teasing the stems of the browning grass away from the soil surface and giving them a close examination. Roughstalk bluegrass has long, slender stems that root at the nodes. Although the leaf blades resemble Kentucky bluegrass, they are much more slender, and the plant grows horizontally across the ground. Unlike the short, truncate ligule of Kentucky bluegrass, the upper leaves of roughstalk bluegrass have a long (1/4"), pointed ligule.

Summer dormant roughstalk bluegrass plants will quickly recover in the fall, and this non-preferred grass is a prolific spreader, both by seed and stoloniferous stem growth. Small patches in a lawn can quickly become large patches in just a few years.

Research is being done to selectively remove roughstalk bluegrass from a lawn, but in many cases glyphosate (e.g. Roundup) or glufosinate (e.g. Finale) is still used to eradicate it. A new product, Certainty (sulfosulfuron), sold by Monsanto is available in some situations. For best results, treat the weedy grass when it is actively growing.

For more information, see:
- Virginia Tech Weed Identification Guide
- Monsanto Web Site

**PROPER MOWING OF LAWNS IN SUMMER**

The most stressful time of the year for cool-season grasses in Ohio lawns is typically encountered during mid-to-late summer (i.e., July through August). This period is often characterized by hot, sunny days with daytime temperatures routinely in the mid to upper 80's. In addition to high temperatures, moderate to severe moisture stress is often imposed on the turfgrasses during this summer period.

It is always important to mow the lawn at the right height and frequency, especially during the summer months. The mowing height should be a minimum of 2.53/0 inches prior to, and during, drought periods. Tall-cut grass will have deeper, more extensive root systems than short-cut grass, which will help the plants to withstand summer stresses. Tall-cut turfgrass also provides more shading of the soil, thereby keeping soil temperatures cooler and reducing soil moisture evaporation. Mow the lawn only as needed and preferably during the morning or evening hours when less stress is being imposed on the lawn. Make certain the mower blades are properly sharpened to avoid "tearing" the ends of the grass blades which enhances moisture loss from the plants.

For more information, see:
- OSU Fact Sheet on Lawn Mowing
- OSU Fact Sheet on Managing Turfgrass under Drought Conditions
EVEN WELL-WATERED PLANTS CAN WILT

Plants growing in containers will suffer heat stress during hot and sunny weather more than those growing in the field. Surface temperatures of leaves and nursery containers will easily exceed the surrounding air temperatures. Similarly, temperatures of the container media and roots may also be higher than expected. These conditions, along with a relatively limited root mass, can lead to wilting of the leaves even though there is sufficient water available in the media. Knowing this, one’s primary response to wilted container stock should be to check moisture levels of the soil.

If water is available and the plant is healthy, it should recover overnight. Failure to recover requires further diagnostic work to check for root rots or other problems that would interrupt movement of water from the roots to the leaves. Unfortunately, the tendency to provide additional water to already saturated containers can lead to root problems and total failure of the plant; check soil moisture before making a watering decision.

WHITE PINE WEEVIL A TOP COMPLAINT

Joe Boggs reported that participants at the Ohio Christmas Tree Association (OCTA) Summer Meeting held this past Saturday in Shreve, OH, found white pine weevil (Pissodes strobi) larvae in various stages of development. Some larvae were still feeding while others had ceased feeding and were constructing “chip cocoons” in preparation for pupation. This means the weevil damage is reaching a pinnacle for the season.

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. Noticeable damage can occur on these conifers in nurseries and landscapes as well as in Christmas tree plantations. Weevil activity this season began in very early spring when overwintered females fed briefly on the terminals of conifer hosts. They then laid eggs into this feeding material.

The resulting white, legless, grub-like larvae consume phloem tissue as they tunnel downward just beneath the bark until pupation. Larval feeding damage causes the tops of infested trees to become wilted, turn brown, and die. Main leaders are often curved into a shepherd's crook. The larvae pupate in tub-shaped depressions excavated in the whitewood parallel to the wood grain. They surround themselves with small bits of wood fiber to produce the “chip cocoons.”

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. However, the pruning window is rapidly closing since pupation is starting to occur. There is only one generation per season and the weevils will not re-infest dead tree tops.

Properly timed spring applications of insecticides formulated for borer control that target the main leader can provide protection against this weevil. Consult the label for site limitations. A fall soil-drench application of imidacloprid (e.g. Merit) is also effective where this control method is economically justified.

For more information, see:

- OSU Extension, “Bug Doc” Fact Sheet
- U.S. Forest Service Pest Leaflet

http://bygl.osu.edu/
ZIMMERMAN PINE MOTH ON WHITE PINE.

Joe also reported finding Zimmerman pine moth (*Diorictria Zimmermani*, Family: Pyralidae) caterpillars on white pine at the OCTA Summer Meeting. Joe indicated he was at first flummoxed by the find since white pines are not generally considered a primary host for Zimmerman pine moths. The moths normally focus their destructive attention on hard pines such as Scotch, Austrian, and red pine. They will attack susceptible conifers in landscapes and nurseries as well as in Christmas tree plantations. Feeding damage can weaken trees and cause significant dieback of main stems and lateral branches. Severely damaged trees are unsalable.

Joe noted that the caterpillars were found on several white pines in branch whorls where they were producing characteristic viscid pitch masses laden with deep reddish-brown sawdust-like frass (excrement). The phloem-feeding caterpillars are considered borers; however, their tunnels consist of feeding grooves in the phloem that are capped by matching grooves in the pitch mass. The dark grayish-red caterpillars were revealed by carefully peeling away the pitch mass from the tree.

Zimmerman pine moths lay eggs in late-summer to early fall in terminal buds, flaps of bark, and cracks and crevices of the trunks where the branches meet. Upon hatching, the caterpillars may feed a little, and then they form a silken tent-like overwintering structure called a hibernaculum. These first instar caterpillars are targeted with insecticides in some control strategies; however, achieving effective application timing is difficult because of the prolonged period for egg deposition and the resulting egg hatch.

The overwintered larvae leave their hibernaculum in the spring to resume feeding and complete their development. These larvae may be controlled by making two applications 14-21 days apart of insecticides formulated as long-residual borer sprays, such as Onyx (bifenthrin) or Astro (permethrin). The first application should occur as serviceberry (*Amelanchier* spp.) blooms are beginning to fade, or as forsythia is just beginning to bloom.

A Zimmerman pine moth control program should also include sanitation. Heavily infested trees should be rogued and destroyed. Where trees only have a few pitch masses, the pitch should be excavated in mid-summer and the caterpillars killed. Removing the pitch masses will also speed wound closure and reduce re-infestation since the moths target the masses.

For more information, see:

- OSU Extension, "Bug Doc" Fact Sheet
- Iowa State University Insect Notes

CINCINNATI FLOWER GROWERS TO EXPLORE THE NEW WORLD OF SUSTAINABLE LANDSCAPING

Much has been written and said lately about “sustainability”. What does this term mean to the Green Industry? Members of the Cincinnati Flower Growers Association will soon find out during their August meeting at the Cincinnati Zoo and Botanical Garden on Wednesday, August 6.

The meeting will be hosted by Steve Foltz, Horticultural Director, who will offer the presentation: "It's Not Easy Being Green!". This presentation will highlight what the Zoo has done this year "going green". With the first large visible green roof (extensive 30' x 80') in Cincinnati, a series of Rain Gardens, as well as trial beds of Annuals, Perennials and Ornamental Grasses, the Zoo is becoming an educational hotbed of "Green"

The agenda:
* 5:00 - 5:30 Welcome
* 5:30 - 6:00 Business meeting
* 6:00 - 6:30 Dinner
* 6:30 - 7:15 Presentation
* 7:15 - ? Tour of Green Roof, Rain Gardens, Annual Trials. Those interested in attending must RSVP for no later than August 4 by calling (513) 475-6106.

Dinner cost is $20.00.

NORTHWEST OHIO GREEN INDUSTRY SUMMER SESSION

Remember to save the date for the 11th annual Northwest Ohio Green Industry Summer Session on Wednesday, August 6th. 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.
BYGLIVE! IN CINCINNATI

The 5th 2008 BYGLive! Diagnostic Walk-About in Cincinnati will be held on Monday, August 11, at the Cincinnati Zoo and Botanical Garden, 3400 Vine St., Cincinnati, 45220 [entrance off Dury Ave]. Participants will walk-about from 12:00 - 3:00 pm. with our hosts Steve Foltz (Director of Horticulture), Brian Jorg (Horticulture Manager), and others looking at plants, plant pests, plant diseases, animals (e.g. Joe Boggs), and other points of considerable interest.

Don't miss this hands-on training for Green Industry professionals. A point of particular interest will be viewing the annual plants trial and demonstration gardens jointly sponsored by: OSU Extension, Hamilton County; the Cincinnati Flower Growers Association; and the Zoo. For more information on the Walk-About, contact Joe Boggs at: 513-946-8993.

41ST ANNUAL NGLCO SUMMER FIELD DAY

41ST ANNUAL NGLCO SUMMER FIELD DAY will be 9 a.m. to 4 p.m., August 12, 2008 at Herman Lospely and Son Nursery, Perry OH. This year's event includes a tour of over 850 acres of unique and specimen-grade stock, a tour of the Red Mill Farm propagation facility, and a trade show with over 160 exhibitors located in a relaxed setting. Past Field Days have had over 900 attendees. Pre-registration is due by August 1. The Annual Summer Dinner and Casino night will be held the prior evening, August 11. More information and registration materials can be found at [http://nglco.com/fieldday.htm].

TURFGRASS RESEARCH FIELD DAY

This yearly event will be Wednesday, August 13th at the OSU Turfgrass Research & Education Facility, 2551 Carmack Rd., Columbus, Ohio. The information packed day is for golf course superintendents, grounds and athletic field managers, lawn care operators, sod producers, landscape professionals, and others interested in obtaining the latest research results on turfgrass related studies.

Topics include: Fungicide timing and efficacy; Dollar Spot/Fertility; Bentgrass in the Shade; Insecticide Update; and Putting Green Hydrology. Lawn and sports turf topics include: Low Input Sustainable Turfgrass; Plant Growth Regulators; Fertilizers and PGR's; Crabgrass and Broadleaf Weed Control; Urban Landscape Ecology; and Insect Updates.

In the afternoon seminars include: Ornamental Insect & Mite Management; Weed Control; and a Turfgrass Disease Diagnostics Walk. For more information and registration materials call OTF at (888) 683-3445 or visit the following website: http://www.ohioturfgrass.org/ohio-turfgrass-foundation-research-and-education-facility.php

OHIO LAWN CARE OUTDOOR SUMMER SEMINAR.

This event will be held on Thursday, August 14th at the OSU Turfgrass Research & Education Facility. This session is for landscapers, lawncare managers, and others who care for high cut turfgrass. For more information, please call 800-510-5296 or see: http://www.ohiolawncare.org/index.php?option=com_eventlist&Itemid=41&func=shcatev1&categid=1

AGI FALL GET TOGETHER

Willoway Nurseries, Inc. is the location for the Associated Green Industries Fall Get Together, September 10 in Avon OH. Tours and dinner will precede the evening keynote speaker, John Lloyd, from Rainbow Tree Care. John will cover Plant Health Care: Getting to the Root of the Problem. Information and registration materials will be available at [http://lorain.osu.edu/horticulture/]

MAHONING VALLEY PLANT DIAGNOSTIC WORKSHOP

Spend an afternoon sharpening your insect and ornamental plant disease diagnostic skills with members of the OSU's ENLT Team on August 18th from 1:00 p.m. to 4:00 p.m.. The program will be held at the MillCreek MetroPark's McMahon Hall, 7574 Columbiana-Canfield Road (St. Rt. 46), Canfield, Ohio. Samples of the latest plant pests will be studied and analyzed. Learn from the folks who bring you the Buckeye Yard and Garden Line (BYGL) newsletter. Spend a few hours now in order to save you time later. $10.00 per person registration fee includes handouts and light refreshments. RSVP before August 11, 2008 to Mahoning Extension, 490 S. Broad Street, Canfield, OH 44406 or call 330-533-5538.

BYGLOSOPHY - July 24, 2008

"Suburbia is where the developer bulldozes out the trees, and then names the streets after them." -- Bill Vaughan

DIAGNOSTIC WALKABOUTS
Diagnostic walkabouts for the green industry will be held in the Cleveland area 7:30 a.m. to 9:30 a.m., August 28 and September 18. Both classes will be at Sunset Memorial Park, Columbia Rd., N. Olmsted OH. Pre-registration is required and class size is limited to 30 per class. Pesticide credits are available for CORE, 6A and 8. Information and registration materials will be available at [http://lorain.osu.edu/horticulture/].

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.