COOPERATIVE EXTENSION SERVICE
HOME, YARD & GARDEN PEST NEWSLETTER
College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana - Champaign
Illinois Natural History Survey, Champaign

Number 5 - May 28, 2013

Tree and Shrub Borers

Most borers attack trees that are under stress. Roundheaded beetle borers typically chew niches through the bark to lay their eggs, although flat-headed beetle borers lay their eggs in bark crevices and under loose bark flakes. Moth borers typically lay their eggs in pruning and other wounds. Healthy trees have enough sap flow that borer eggs are flushed out of niches and young borer larvae drown. It is thought that the internal sap pressure in healthy trees squashes soft-bodied borer larvae.

Trees that are under stress produce aromatic chemicals that borer adults find attractive, so one reason that healthy trees are not attacked is that they do not attract borers to them. Trees are under stress and produce borer-attractive chemicals when they are reaching the end of their life span and when they have been recently replanted. Borers attacking dying trees shorten their lives, but not significantly. Insecticide application against borers attacking dying trees essentially only prolongs the death of the tree a couple of years or so and is usually not recommended. However, insecticide applications to young, recently transplanted trees can get them through this susceptible time, resulting in long lives. Once the trees become established, borer treatments are usually no longer needed. This can be determined by looking for normal yearly twig growth, as a stressed tree adapting to site will exhibit greatly reduced growth.

The above pertains primarily to native insect borers of native trees and shrubs. This is a relationship that allows both to survive. If an insect borer were to attack healthy trees, it would soon kill all of the trees of that species and die itself due to lack of food. It is to the borer's advantage to only attack trees that have already reproduced and are at the end of their natural lives.

Exotic insects or trees upset this balance. Exotic trees, such as European white-barked birches, commonly do not have host plant resistance to a native borer, such as the bronze birch borer, when they are introduced into the borer's geographic range. More commonly, an exotic borer finds its way to another part of the world where the native plants in that area are not resistant. This is the case with emerald ash borer and Asian longhorned beetle.

Generally, imidacloprid, sold as Merit, Xytect, Optrol, and others, is effective against beetle borers. Imidacloprid is systemic and will last inside of the tree for about one year, making the time of application less critical. Because most borer adults are laying eggs in the spring and tree leaves are most active in transpiration in the spring, application of imidacloprid or other systemic

insecticide is most effective at that time. Transpiration carries systemic insecticide up into the tree.

Because imidacloprid is not very effective against caterpillars, permethrin, sold as Astro, is recommended for moth borer control. Permethrin is not systemic and only lasts two to four weeks on the outside bark so timing is more critical to kill hatching larvae of moth borers before they get into the tree. (*Phil Nixon*)

Scouting Watch

Several borers are susceptible to control at this time throughout the state. **Roundheaded appletree borer, flatheaded appletree borer, peachtree borer,** and **viburnum borers** are all susceptible to control. The appletree borers are beetles that attack most rose family plants, including crabapple, hawthorn, serviceberry, and cotoneaster. The flatheaded appletree borer attacks other unrelated trees, including young maples. Peachtree and viburnum borers are moth borers.

Euonymus scale crawlers have hatched in central and southern Illinois and are susceptible to control. The lemon-yellow tiny crawlers should be visible on the leaves next week in northern Illinois where they will be susceptible to insecticidal soap, summer spray oil, and pyrethroids such as permethrin (Astro), bifenthrin (Onyx, Talstar), lambda-cyhalothrin (Scimitar), and cyfluthrin (Tempo).

Aphids do well under the cool, wet weather that we have been having. Infestations are likely on birch, alder, crabapple, spirea, yellow poplar, linden, and hydrangea. As temperatures warm and the weather becomes drier, natural enemies such as parasitic wasps, lady beetles, lacewings, and syrphid flies are likely to get them under control. If insecticide control is necessary, those recommended for euonymus scale crawlers above should be effective. (*Phil Nixon*)

Maple Blight Mania

This has been an interesting week at the Plant Clinic, with many samples and calls coming in regarding leaf blights on maple. The symptoms appear as brown to black spots and blotches on leaves, bordered by veins, as well as dark black blister spots and blotches that eventually take over the entire leaf. Eventually, the leaves will drop from the tree, which can cause the tree's appearance to be very, unsightly, and can be alarming to homeowners. In the lab, we have found that one leaf, such as that in the picture below, appears to be infected with one, two, and even three different fungal pathogens. The extended cool, wet weather this spring has been ideal for an epidemic of these leaf blighting pathogens. The fungal pathogens discovered on maple leaf samples at the Plant Clinic are discussed below.

Anthracnose (*Discula spp.*, *Kabatiella apocrypta*) can occur each year on sycamore, maple, oak, ash, and other trees. Severity depends on the cultivar, susceptibility, and weather conditions. If conditions during the two weeks following bud break are cool and wet, anthracnose will be more severe. When young leaves are infected, leaves are often blackened. When older leaves are

infected, the spots may be brown or tan, irregular shaped, and can be defined by veins.

Leaf blister of maple (*Taphrina spp.*) has been found to infect silver and red maples as well as their hybrids. *Taphrina* overwinters on twigs and leaf buds, also favors the cool, wet weather of spring, and infect leaves that are young and developing. As the leaves get older they become resistant to the fungus, so there is little chance of repeat infection in the same season. This pathogen will cause black, necrotic spots and blotches that are often raised, appearing as "blisters". Normally, these "blisters" develop on the leaf due to the secretion of fungal growth regulating chemicals that result in abnormal cell division and enlargement, which can give the leaves a curled and crinkled appearance. One way to distinguish a *Taphrina* infection from an anthracnose infection is that *Taphrina* usually does not cross leaf veins or infect the leaf petiole. Minnesota has observed "fast and furious" infections of *Taphrina* and these leaves did not show the characteristic blister symptoms. Purdue has also been reporting infection of leaf blister on maple in Indiana. For more information, you can refer to this link: http://www.ppdl.purdue.edu/PPDL/hot13/5-21.html

Venturia leaf spot (*Venturia acerina*) is another fungal disease similar to that of anthracnose and maple leaf blister that overwinters on leaves and infects maple leaves in the spring. Symptoms begin as dull, gray spots on leaves that grow and become velvety, brown and eventually black. The affected leaves wither and commonly drop prematurely.

The good news is that these diseases are mostly cosmetic and will not kill the tree. They may cause leaf drop now, but the tree will refoliate in June, as the new flush of leaves emerges in warmer and drier weather. Fungicides might have prevented these diseases, but they are only preventive. Once you see the disease, they are not helpful; therefore, fungicides are not recommended. Our recommendation is to help the tree put out new leaves by watering in periods of drought, removing dead wood, and fertilizing in the fall with a general tree fertilizer to help tree vitality. For more information on general leaf spot disease of shade and ornamental trees visit: http://ipm.illinois.edu/diseases/rpds/648.pdf (*Stephanie Porter and Nick Prudhomme*)

Modified Growing Degree Days (Base 50°F, March 1 through May 23)

Station Location	Actual Temp.	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	382	369	461	552
St. Charles	399	352	472	556
DeKalb	405	406	491	588
Monmouth	442	459	529	631
Peoria	472	494	561	665
Champaign	506	501	601	712
Springfield	539	561	644	761
Brownstown	547	617	657	780
Belleville	573	647	687	811
Rend Lake	636	700	756	889
Carbondale	622	662	737	864
Dixon Springs	637	717	756	888

Insect development is temperature dependent. We can use degree days to help predict insect emergence and activity. Home, Yard, and Garden readers can use the links below with the degree day accumulations above to

determine what insect pests could be active in their area. Of particular interest this week, degree day accumulations are nearing or have reached levels where we could see the beginning of emerald ash borer adult emergence (450-500 DD). Peak adult emergence usually coincides with the accumulation of 1000 DD, which is still several weeks off.

GDD of Landscape Pests

GDD of Conifer Pests

Degree day accumulations calculated using the Illinois IPM Degree-Day Calculator (a project by the University of Illinois Department of Crop Sciences and the Illinois Water Survey). (*Kelly Estes*)

Is It Giant Hogweed?

Giant Hogweed (http://www.invasivespeciesinfo.gov/plants/hogweed.shtml) is an invasive, exotic plant that has been found in a couple of locations in Illinois. As the summer season quickly approaches, the inquiries I receive about possible giant hogweed sightings begin to increase. Often, this invasive is confused with a very similar looking cow parsnip.

As indicated by its name, this biennial or short-lived perennial can grow between 10 and 15 feet tall. It has enormous compound leaves, up to 5 ft wide on the bottom sets, with 3 deeply incised leaflets. Thick stems are from 2 to 4 in thick, hollow and covered in purple blotches and course white hairs. The easiest stage of identification of giant hogweed is in its flowering stage. Numerous small white flowers are born in June or July in large flat-topped umbels up to 2½ ft across. After the flowers produce their seeds by late-summer, the plant dies back to the thick taproot. Its stem may persist throughout the winter.

Giant Hogweed belongs in the carrot or parsley family (*Apiaceae*). It has several look-a-likes (http://www.hort.uconn.edu/cipwg/hogweedLookalikes/HogweedLookAlike_WEB/index.htm) including cow parsnip *(Heracleum lanatum)*, angelica *(Angelica atropurpurea)*, and poison hemlock *(Conium maculatum -)* all common plants in Illinois. Although many of these plants may look like giant hogweed at first glance, none of them get to be as large or have its exaggerated characteristics.

In addition to being an invasive weed that can quickly overtake an area, giant hogweed can be harmful to humans. It produces a clear, watery sap that is capable of causing photodermatitis – a sensitivity of the skin to sunlight. The sap produces painful, burning blisters or even painless red blotches that may turn purple over time. It is very important to wear gloves when handling this plant and to avoid the smoke if this plant is being burned nearby.

It is believed that giant hogweed made its way into the United States as an ornamental or was brought into the country for its fruit which is used as a spice in Iranian cooking. Undoubtedly, its unique stature and appearance has enticed gardeners to cultivate this plant. However, due to its size and rapid growth, giant hogweed readily out-competes many native plants. This perennial can survive in a variety of areas, but is common along roadsides,

right-of-ways, railroads, vacant lots, streams, and rivers. Once established in an area, it can create a significant decline in biodiversity, increase soil erosion along riverbanks, and is difficult to eradicate. In addition, it often grows in wet areas, and can be considered an invasive freshwater weed.

Giant hogweed is still rare in Illinois. While visitors in natural areas are unlikely to encounter this plant, it never hurts to keep a watchful eye for this and other invasive plants.

For more information, stop by the Illinois CAPS blog (www.illinoiscapsprogram.blogspot.com) for all the latest news on invasive pests in Illinois. (*Kelly Estes)*