

Number 4 - May 27, 2014

### **Flatheaded Appletree Borer**

Flatheaded appletree borer attacks trees in the rose family, being common in older hawthorn, serviceberry, cotoneaster, rose, and crabapple branches and trunks where it primarily attacks declining trees and shrubs near the end of their lifespan. It also attacks dead and dying branches of many other tree species, including maple, oak, ash, hickory, sycamore, tuliptree, and willow. In these situations, it is normally not considered to be a pest.

Flatheaded appletree borer is a serious pest of young maples, attacking nursery and recently planted stock. It typically attacks young maples just above the soil line, tunneling upward in the cambium just under the bark in a helical fashion around the trunk. Attacked trees are commonly killed or have severe dieback.

There is one generation per year. Adult beetles are about one-half inch long and oval, being metallic brown to black. They lay eggs singly in bark crevices. These eggs hatch into larvae that tunnel into the trunk. The legless larvae are whitish with dark mouthparts and grow to slightly more than one inch long.

Flatheaded appletree borer is susceptible to control at this time throughout the state. Spraying the lower few feet of the trunk with imidacloprid (Merit) should be effective to prevent girdling and oth-

er weakening of the trunk near the soil surface.

Encouraging growth and heavy sap flow with proper fertilization and other cultural practices helps reduce successful attack by flatheaded appletree borer. Hatching larvae are drowned in heavy sap flow. There is some evidence that wrapped trees are less susceptible to attack, but wrapping left on during the growing season may increase susceptibility to fungal diseases. It also appears that this insect is more of a problem where tall grass is allowed to grow around the young trees. Mowing or other vegetation control is recommended. (Phil Nixon)

### **Twolined Chestnut Borer**

Two-lined chestnut borer, *Agrilus bilineatus*, attack primarily oak and chestnut, but occasionally attack beech. They prefer white, black, red, scarlet, bur, and chestnut oaks. Although they primarily attack oaks that have been damaged or are under stress, they can attack healthy trees. It is common for twolined chestnut borer to become numerous in areas with gypsy moth infestations, causing the trees to die from the top down over two to three years. Be watchful for this borer in gypsy moth infested areas of NE Illinois. Similarly, nursery trees are commonly infested, which is associated

with the stress of transport and adaptation to site after transplanting.

The first signs of infestation are wilted foliage on scattered branches in late summer. Frequently, these appear initially as the terminal foot or so of leaves dying. Remove some branches and check for larval tunneling in the cambium. *Botryosphaeria* fungal cankers can cause similar oak tip dieback. The leaves will die but stay attached to the tree for weeks or months before dropping. The affected branches will die and not leaf out the following year.

Damage is caused by larvae tunneling in the cambium, making winding tunnels. The larvae are slender, flattened, whitish, and grow to about one inch long. There will also be distinctive D-shaped adult exit holes about 1/8 inch wide in the bark. Adult beetles are slender, black, about 1/2 inch long, with two golden stripes on their back that are commonly indistinct. Twolined chestnut borer, bronze birch borer, and emerald ash borer are all in the same genus, so identifying characteristics are similar.

Adult beetles are most active from late April in southern Illinois to early June in northern Illinois. They are attracted to the sunny sides of the trunk. Insecticidal control is timed for adult emergence, achieved by spraying the lower four-and-one-half feet of trunk with imidacloprid. Control can also be achieved by trunk or soil injection or soil drenches as with emerald ash borer. Although this insect is very damaging in some states, it is rarely a problem in properly maintained trees in Illinois landscapes. (Phil Nixon)

## When It Comes to Yew, You Had Better Know This!

Yews (*Taxus sp.*) are a common woody ornamental staple in the yards of homeowners across America. Yews are used as hedges, windbreaks, topiaries, barriers, and more as their moderate growth rate and easy maintenance make for a relatively maintenance free implement in landscaping designs. This very prominent figure in homes across America has a finicky nature, though.

Yews must be planted in well-drained soils, as they do not tolerate overwhelming amounts of water present in poorly-drained or over-saturated soils. Yews planted in areas of water-logged soils are often said to have "wet feet." One of the main symptoms of a yew with wet feet is edema. Edema comes in the form of bumps or blisters on the epidermis of the undersides of needles that turn tan and corky. These bumps are the result of ruptured cells.

In poorly-drained soils, yews can also be victims of "drowning." Without enough air, the roots begin to die off and rot, which in turn affects the above ground growth. Symptoms of drowning include needle discoloration and death. When these symptoms are observed with edema, it is understandable to suspect a pathogen-caused disease. However, these symptoms are all due to environmental problems.

Remedying over-saturated soils may be as simple as reducing watering or diverting a rain spout run-off, but fixing poorly-drained soils is not as easy. If you are planning to place yews in an area

that accumulates water, improving drainage before planting is critical. Other suggestions include planting the bottom of the root ball no deeper than 8 to 10 inches below the soil surface.

All this being said, yew care-takers should be aware that in extended periods of dry weather, yews will need additional water. Clearly, it is easier to maintain yews in soils that are too dry than too wet.

Along with edema and needle dieback, yews that are stressed due to water conditions are also more prone to infection by pathogens. There are a number of weak fungal pathogens that can affect yew, including Pestalotiopsis blight caused by the fungal pathogen *Pestalotiopsis* sp. This disease is favored by unfavorable growing conditions and stressed plants. Compound the cool, wet weather from last week on top of the hard winter we had and Mother Nature has brewed up a great recipe for Pestalotiopsis blight. Symptoms of this disease are similar to those of drowned yews: needles become discolored, changing from green to yellowish, to brown, normally starting at the base of the plant where the foliage is most dense. The discoloration will begin at the needle tip and progress towards the base of the needle.

Though this disease can kill small twigs, it is usually considered a relatively minor disease because infected twigs can be pruned and discarded to prevent further disease progression. Pestalotiopsis blight can also be avoided by keeping yews as stress-free as possible, including minimizing winter injury caused by dehydration, removing accumulated snow near the base of the plant, and al-

lowing individual yews plenty of sunlight and air flow by not overcrowding them.

A popular choice for use in the landscape of homeowners across America, yews are appealing to the eye. Understanding their finicky nature is essential to keeping them healthy and beautiful. (*Chelsea Harbach & Diane Plewa*)

### **Fire Blight on Callery Pear**

Fire Blight symptoms were observed on several Callery Pears this past week. The symptoms were more severe than those observed during the 2013 growing season. Fire blight is a bacterial disease that affects rosaceous plants. Apples, pears, crabapples, and ornamental pears are the most seriously affected species. Other rosaceous hosts include: cotoneaster, hawthorn, quince, firethorn, and mountain-ash.

On Callery pear, look for water-soaked or wilted new growth that quickly turns black and remains attached to the stem. Affected foliage is usually at the branch tip. Symptoms will look similar to frost injury. The affected foliage on other host species usually turns brown. Dark cankers also develop in the wood of infected stems and branches.

Fire blight is caused by a bacterium (*Erwinia amylovora*). The pathogen overwinters in living tissue at the margins of trunk and branch cankers that were formed by infections initiated in previous years. The disease can cause numerous cankers on a single tree. Not all cankers survive the winter, but the few that persist produce millions of bacteria capable of causing new infections.

Rain or insects may move the bacterium from cankers to open blossoms, vigorous shoot tips, and leaves. Fire Blight outbreaks sometimes occur following severe storms. Gusty winds and hail wound the trees creating an entry point for the pathogen. The bulk of infections occur during flowering when temperatures are warm (optimal 76°F) and conditions are wet. These conditions also encourage rapid disease development.

An important step to controlling fire blight is the selection of resistant cultivars such as Cleveland Select or Bradford. Avoid highly susceptible cultivars such as Aristocrat, Autumn Blaze, and Red Spire. There is no effective management option for infected trees. Prune out infected wood in the dormant season, if you can wait. If not, prune in an extended dry period and disinfect pruning tools after every cut. The bacterium may have extended down the stem ahead of the canker. Unfortunately this means wood should be removed 8-10 inches below the edge of the visible canker. Chemical options are limited, especially for home growers and the timing of sprays are also critical. Commercial growers apply copper products in the dormant season and streptomycin at 4-5 day intervals throughout bloom. Fertilization and watering are not recommended. Such practices will promote lush growth, which is more susceptible to infection by the fire blight bacterium. *(Travis Cleveland)*

### **Crabapple Scab**

Crabapples are showing early symptoms of scab. The lengthy cool, wet conditions have resulted in an ideal environment for the disease. These conditions and

high disease pressure will likely result in infections occurring to disease susceptible cultivars as well as resistant cultivars normally unaffected by scab. The highly scab resistant Prairifire crabapple is one example that I observed on the U of I campus.

Apple Scab is a common fungal disease caused by the pathogen *Venturia inaequalis*. The disease initially causes olive green spots on the foliage of apples and crabapples. The spots often form along or near the leaf veins, eventually developing a dark, velvety appearance. Susceptible leaves turn yellow, except for these black areas. Foliage drops in mid-summer, giving infected crabapples thin canopies. Diagnostic labs can view the causal spores with the help of a microscope.

The pathogen overwinters on previous year's leaves as well as on buds. Mild, rainy weather induces spore dispersal from fallen leaves which then cause primary infections. Control strategies target these spores. Raking and destroying fallen leaves may provide some help by reducing the amount of inoculum present. Fungicide sprays can effectively protect developing leaves on susceptible cultivars. It's too late to protect this year's foliage from infection. The first spray should be applied when leaves just begin to emerge from buds (about 1/4 inch green). Sprays must be continued according to label intervals until 2 weeks after petal fall to give maximum protection.

Many crabapple cultivars have resistance to scab, and resistance is definitely the long-term solution to infection. If you are planting new crabapples this year, look for varieties

with resistance to scab, rust, fire blight, and powdery mildew. A publication that may help is this reference by U of I professors Dave Williams and Gary Kling: *Recommended Crabapples for Illinois Landscapes*. Look for it on the Web at [http://www.extension.uiuc.edu/IPLANT/plant\\_select/trees/Selecting\\_Crabapple\\_s.pdf](http://www.extension.uiuc.edu/IPLANT/plant_select/trees/Selecting_Crabapple_s.pdf). (Travis Cleveland)

### **Bush Honeysuckle – Loved and Hated**

My drive to work this morning was blessed with an abundance of flowers...and a husband repeatedly asking, “Why do people let this stuff grow?” The stuff (abundance of flowers) is bush honeysuckle. It’s beautiful when in bloom and quite fragrant. Just yesterday I watched a young man pick honeysuckle flowers from a small tree and hand them to his girlfriend. It was a sweet gesture. Honeysuckle flowers are popular and there is a certain nostalgia associated with this old flower. It’s not that surprising then that a quick internet search retrieved over 100 song lyrics that included “honeysuckle.”

Perhaps my husband is more of a naturalist than a romantic, but his question this morning was still a good one nonetheless. There are about 200 species of honeysuckle and many of which are well behaved ornamentals. Some however are very invasive. The plants along our path were exotic bush honeysuckles. Why were there so many of them being allowed to grow on both public and private property? Perhaps some managers simply can’t keep up. Perhaps some homeowners simply do not know the real ecological threat that bush honeysuckles present. Because once you

know how easily it can spread and take-over, removing it as soon as possible is best. In fact, the University of Minnesota calls it a “Beautiful Species to Hate.”

There are quite a few species of exotic bush honeysuckles. Some of the more common ones in Illinois are *Lonicera maackii* (Amur honeysuckle), *L. morrowii* (Morrow’s honeysuckle) and *L. tartarica* (Tartarian honeysuckle). They are native to Eurasia and grow as upright, deciduous shrubs (generally 6 to 15 ft.) that flower in the spring. Of course there are native species too which can be easily confused. This is likely part of the problem. Originally grown as ornamentals in the 1800s in the Eastern U.S., they have spread far beyond their original plantings. They can be found in forests edges, thickets, floodplains, roadsides, pastures and the like – even in urban backyards. They tolerate wetness, dryness, sun and shade.

Bush honeysuckle plants commonly choke out native plants in forests. Some studies suggest they are allelopathic even. They have a competitive advantage in that they leaf out very early in the spring and then hold their leaves late into the fall. They can form a dense layer totally shading out native plants below it, ultimately reducing food and cover for wildlife. An abundance of berries are produced that serve as a source of seed for birds. However as a result, the seeds are distributed widely. With bush honeysuckle, vegetative sprouting can also occur.

The leaves are egg-shaped and 1 to 2.5 inches long. Both the leaves and flowers are in pairs along the stem. The flowers

vary from white, to yellow, to pink, to red depending upon the species. These develop into yellow, orange or red berries that contain several seeds.

If you are unsure if you have a native or exotic honeysuckle in your landscape, check the stem. For exotics, the older stems are often hollow while most of our native bush honeysuckles have solid stems. In addition, berries and flower characteristics can also be used to differentiate among species. Another telling sign is the quickness of its spread. Exotic bush honeysuckle can overtake your landscape in only a year. Because exotic bush honeysuckles have leaves early and late in the season, they are particularly easy to spot during these times.

Seedlings may be hand removed but it's advised that precautions are taken so as to not disturb the soil any more than necessary. This can lead to further seed germination. Plants can be cut back to the ground level. However, plan to cut them repeatedly as plants that are only cut once can form even denser stands.

Systemic herbicides such as glyphosate or triclopyr can be used as well. Depending on the product, applications can be made to the leaves, the bark or the cut stump. Please consider potential damage to surrounding sensitive plants when making control decisions. Remember to carefully read and follow all label directions.

For more information about exotic bush honeysuckles, please visit:

<http://www.nps.gov/plants/alien/fact/loni1.htm>

<http://na.fs.fed.us/spfo/invasiveplants/factsheets/pdf/bush-honeysuckle.pdf>

(Michelle Wiesbrook)

### Modified Growing Degree Days (Base 50°F, March 1 through May 22)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	412	358	490	579
St. Charles	332	342	403	486
DeKalb	338	395	422	517
Monmouth	414	447	500	599
Peoria	452	482	540	641
Champaign	475	489	569	677
Springfield	578	547	682	797
Brownstown	585	602	694	814
Belleville	628	632	740	863
Rend Lake	668	684	788	918
Carbondale	670	647	783	908
Dixon Springs	687	700	805	934

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.

[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)