

Number 11 – July 12, 2013

White Grubs

With the light adult Japanese beetle emergence this year in much of the state, and the continuing periodic rains in most of the state, white grub numbers are likely to be low this year in most areas. Because masked chafer grubs are better able to survive the dry soils and high soil temperatures that we had last summer, they are likely to be more numerous this year. However, in most areas where Japanese beetles, northern masked chafers, and southern masked chafers occur together, the Japanese beetles tend to crowd them out of the prime, irrigated, turf areas.

This means that masked chafer populations in Illinois have been low for many years and do not have the numbers to take full advantage of a dry year. In other words, grub numbers should be low this year, but there is likely to be a higher percentage of masked chafer grubs over Japanese beetle grubs.

With the high, periodic rains, essentially all turf and soil is green enough and moist enough, respectively, to be attractive for egg-laying. So although the few adults present will lay many eggs and their larvae will have a high rate of survival, most areas will have small numbers of grubs per square foot. There will be areas of the state where Japanese beetle adults are numerous this year with grub populations high enough to warrant treatment.

There will also be spotty damage in the rest of the state. In years like this, it is common to have spots of a couple hundred square feet with high grub numbers and damage,

while the rest of the lawn will have low numbers that do not cause obvious damage. Under these conditions, it is prudent to preventatively treat turf areas that usually have high numbers of grubs and to wait on many turf areas.

These non-treated areas can be scouted in August and curative spot treatments applied. The grubs do not hatch until late July in southern Illinois to early August in northern Illinois, so there will be no grubs to scout until then.

It is likely that fairways, greens and tees will warrant preventative treatment but roughs will not. Lawn clients that are very particular about even minor turf damage, and those that seem to always have high grub numbers should be treated preventatively, but take a wait and see approach for other clients.

Areas with a historical high incidence of damage from white grub feeding by raccoons, skunks, armadillos, and birds should be treated preventatively. In a wet year, white grub numbers of one to three per square foot are common. This is well below the ten to twelve per square foot to usually cause turf damage, but high enough to attack the above predators.

Insecticides recommended for preventative application in July are chlorantraniliprole (Acelepryn), clothianidin (Arena), imidacloprid (Merit), or thiamethoxam (Meridian).
(Phil Nixon)

Japanese Beetles

Adult Japanese beetles continue to be spotty throughout the state with many areas having low numbers and correspondingly minor feeding damage on trees and shrubs. We have received reports of high numbers and damage in northwestern Illinois from New Bedford, Macomb, and Wyoming, IL. There are also reports of high numbers in north-central Illinois near Rockford.

These beetles will continue to be present in high numbers in these areas until early to mid-August. They are effectively controlled with a spray every two weeks of carbaryl (Sevin) or a pyrethroid, such as cyfluthrin (Tempo) or permethrin (Astro).

(Phil Nixon)

Bagworms

Bagworms continue to be numerous in some areas of the state. Although they continue to grow and get bigger, a high level of control can still be achieved. Pupation will occur in the second half of August in southern Illinois to early September in northern Illinois. The insects are large enough to make hand removal very effective with small populations on shorter trees and shrubs. Do not just drop them on the ground; they will climb back up the tree. Squash them or collect them and dispose of them in the trash.

Insects in general tend to get harder to control with insecticides as they get older and larger, but it happens in bagworms more than many other insects. *Bacillus thuringiensis* kurstaki, sold as Dipel, Thuricide, and many other brands, will still be effective, but its efficacy starts to fall off with these larger caterpillars. Expect control around 80-90% with good coverage instead of the 97-100% achieved with younger, smaller caterpillars. Pyrethroids, such as cyfluthrin (Tempo), lambda-cyhalothrin (Scimitar), and permethrin (Astro), should

still provide 99-100% control. Spinosad (Conserve) should also provide a very high level of control.

(Phil Nixon)

Don't blame it on the dog: Dog Vomit Slime Mold

A type of slime mold that resembles dog vomit has been noted in numerous landscapes. However, your dog (or neighbor's dog) had nothing to do with it. Slime molds are rather interesting organisms. They first appear as slimy masses ranging from a few inches to over a foot across. They can be colorful; with shades of orange, yellow green, and even some blues and purples. They also have the ability to move, however movement is too slow to watch. Over a span of several days, the slime mold masses may move short distances. The organisms eventually develop colorful, crusty fruiting bodies filled with masses of dusty spores. The spores are then dispersed to create new slime mold patches.

Slime molds can be found on a variety of surfaces, especially those with decomposing organic matter. Dog Vomit Slime Mold is most often observed on recently applied mulches and wood chips, especially following warm, wet weather. They can be an alarming sight. However, the slime molds will not harm your plants, pets, or family. No chemical controls are known, or recommended, to control slime molds. They usually dry up and disappear in dry weather. You can speed the process by removing unsightly patches in the landscape. Spore masses can be moved to a spot in the yard that is out of sight, or disposed of in a compost pile or in landscape waste.

(Travis Cleveland)

Why BLS is nothing to LOL about! – FYI on testing for BLS at the U of I Plant Clinic

How can I diagnose Bacterial Leaf Scorch (BLS)?

The problem is that BLS can be easily mistaken for other environmental, disease, or cultural problems, so diagnosis cannot be based on symptoms alone. Some examples that might limit the water uptake of trees and cause similar symptoms to BLS are as follows: drought stress, unfavorable site, construction damage, improper planting, girdling roots, root and butt rot, and canker fungi. Late summer or early fall is the best time to test for BLS, because this is when *Xylella fastidiosa* is most active and bacterial populations are high in the tree's water conducting tissues. It has been found that testing for this disease too early in the growing season can result in false negative results. We suggest that you obtain an accurate BLS diagnosis, because this disease is affecting many high value trees across the US and infected trees can be unsightly and unsafe.

Testing for BLS at the U of I Plant Clinic:

We will be testing for this bacterium at the U of I Plant Clinic. The fee will be \$25 per sample. It is suggested that you call ahead to be certain you have prepared the correct sample and avoid resampling at your expense. **Petiole tissue from symptomatic leaves is preferred for this test, so leaves showing symptoms with green petioles are the usual request.** Please send your samples in the next several weeks. We will collect samples, store them, and then run ONE serological test on all the submitted samples in August, 2013.

What is Bacterial leaf scorch (BLS)?

Bacterial leaf scorch (BLS) is an infectious disease caused by bacterium *Xylella fastidiosa* that spreads systemically and causes a slow decline and death of the tree. The bacterial pathogen is found only in xylem tissue. Xylem-feeding leafhoppers, treehoppers, and spittlebugs are thought to spread the bacterium in landscape trees. It can also be transmitted between trees

through root grafts. The transmission methods must not be very effective, though, because we do not see rapid spread of the disease from tree to tree. This disease is not new, but is beginning to appear more frequently in the Midwest. Possibly this is a function of more people recognizing the symptoms. It has been noted that drought conditions can cause greater disease severity and may make symptoms more noticeable.

What trees are affected by BLS?

The most frequent hosts of this disease include oak, elm, sycamore, mulberry, sweet gum, London plane, hackberry, ginkgo, sugar maple, and red maple. Be aware, the many other landscape trees can be susceptible to this disease. Most of the samples submitted to the U of I Plant Clinic are oaks. Last year, we tested 23 trees from around the Midwest (not all were from Illinois) and found that 11 were positive for BLS. Thus far, in Illinois, BLS commonly infects pin and red oaks. In 2013, we tested a ginkgo leaf and it was suspected to be positive for BLS; however, the tissue that was tested was old and I would like to confirm results with a resample. Trees are not the only plant hosts that have been found to be infected with *Xylella fastidiosa*. The bacterium has been found to have a wide host range including grasses and broad-leaved plants in some 30 families. It has also been found that some plant hosts may be "asymptomatic" and not exhibit symptoms. Some of the plants that have been found to harbor the bacterial pathogen that causes BLS are listed in <http://extension.psu.edu/pests/plant-diseases/all-fact-sheets/bacterial-leaf-scorch>.

What are the symptoms of BLS?

Look for scorch symptoms that occur in early summer to midsummer and then intensify in late summer. The scorched leaf edges or tissue between veins may be bordered by a yellow or reddish-brown color. Symptoms will often show on the

oldest leaves first, distinguishing this disease from environmental scorch that first appears on the newest leaves. The symptoms occur first on one branch or section of branches and slowly spread in the tree from year to year over the crown of the tree. It is one of those situations that you hope will be better next year but the decline of the tree only gets worse. The gradual decline or dead limbs may not occur until 5 to 10 years after infection.

What are the symptoms of BLS on oaks?

Most references say that oaks show symptoms on an entire branch at once. Bacterial scorch often allows infected leaves to remain on the tree until the fall. Oaks are again the exception. They will drop leaves early. If you have seen a slow decline in your oak, leaf scorch symptoms showing each July to August, and fall leaf drop about a month ahead of healthy oaks, BLS may be present.

What is the management of BLS?

There is no effective cure for the tree, once it is infected with BLS.

- Insecticide treatment of the insect vector is considered impractical and is not recommended.
- Trunk injections with antibiotics have been found to suppress symptoms and prolong the life of the tree, but will not eradicate the disease. Treatments can be done each year into the root flare at the base of the tree in late May or early June. Research has shown that injections are not an effective long-term solution for this disease. In addition, research has also shown that injection holes can be an entry way for wood rotting organisms and frequent retreatment can cause considerable damage over the life of the tree.
- Pruning can be done to help the aesthetics of the tree for a few years but has not been shown to slow the disease development.

- Mulching and watering during times of drought may help to prolong the life of the tree.

- The effects of fertilization are still not clear with this disease.

- Tree replacement with a non-susceptible host to BLS before the tree infected with BLS is removed is recommended. Some trees that have not been found to be affected by BLS can be found at the following http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-OR-W-12.pdf. Removing the tree infected with BLS may be necessary for safety.

Other BLS Fact sheets:

<http://www.usna.usda.gov/Research/BacterialLeafScorch.html>

<http://pubs.ext.vt.edu/3001/3001-1433/3001-1433.html>

http://www.hgic.umd.edu/media/documents/publications/bacterial_leaf_scorch.pdf

<http://ohiodnr.com/Default.aspx?tabid=22670>

(Stephanie Porter)

Modified Growing Degree Days (Base 50° F, March 1 through July 11)

Station Location	Actual Temp.	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	1278	1271	1439	1600
St. Charles	1273	1204	1426	1579
DeKalb	1297	1335	1453	1609
Monmouth	1442	1405	1606	1771
Peoria	1471	1483	1646	1823
Champaign	1538	1530	1717	1898
Springfield	1655	1643	1843	2031
Brownstown	1615	1725	1804	1997
Belleville	1699	1736	1888	2080
Rend Lake	1820	1862	2016	2216
Carbondale	1753	1757	1940	2133
Dixon Springs	1768	1836	1958	2153

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)