

Number 8 - June 23, 2014

Guignardia Leaf Blotch

Guignardia leaf blotch is a fungal disease that affects many *Aesculus* species. In Illinois, this disease is commonly seen on the common horsechestnut (*Aesculus hippocastanum*). Symptoms begin as rapidly enlarging, irregularly shaped, water-soaked areas. Affected areas eventually turn red-brown with a yellow halo that merges with the surrounding healthy green tissue. Small lesions will initially be limited by veins, but can enlarge, coalesce and lead to distortion and partial shriveling of leaflets. Tiny black fruiting bodies appear within lesions, which help to distinguish from environmental scorch. These black fruiting bodies produce spores which contribute to secondary infections. In more severe cases, premature defoliation can occur. Fortunately, severe symptoms do not develop until late in the season when annual growth has nearly finished, so tree health is not greatly impacted.

Guignardia leaf blotch pathogen overwinters as fruiting bodies in fallen leaves. In the springtime, fruiting structures will release spores into the air, some of which will land on developing *Aesculus* leaves. An extended period of leaf wetness following spore landing will initiate germination and infection. About 10-20 days after infection, infected leaves can produce new fruiting structures and initiate secondary infection cycles.

Damage from this disease is mostly aesthetic. Disease management should focus on cultural practices. Damage will be most severe when canopies remain wet for an extended period of time. Properly spacing trees as well as pruning a tree to maintain an open, well aerated canopy is an easy first step to managing this disease. In addition to this, fallen leaves should be collected and disposed of at the end of the season to help reduce available inoculum for the following season. Fungicide sprays can also be applied beginning at bud-break. They will help maintain the appearance of the tree, but are unnecessary to maintain tree health. Additionally, chemical controls may be cost prohibitive, due to the size of affected trees. (*Travis Cleveland*)

Modified Growing Degree Days (Base 50°F, March 1 through May 15)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	1011	782	1168	1323
St. Charles	845	737	995	1143
DeKalb	864	841	1025	1183
Monmouth	996	904	1156	1315
Peoria	1038	952	1205	1374
Champaign	1093	984	1266	1439
Springfield	1241	1070	1418	1600
Brownstown	1206	1143	1386	1571
Belleville	1265	1162	1440	1624
Rend Lake	1344	1262	1530	1722
Carbondale	1325	1193	1499	1677
Dixon Springs	1345	1263	1522	1703

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*)

Illinois Invasive Plant Phenology Report

Several invasive plant experts from around the state have started a new series of reports focusing on the phenology of invasive plants in Illinois. The intent of these reports is to provide an update on the development of invasive plants across the state of Illinois – what plants are in bloom, leafing out, setting seed, or senescing in different areas of the state.

Readers are encouraged to share what they see in their area of the state by emailing Chris Evans, Invasive Species Campaign Coordinator of the Illinois Wildlife Action Plan (chris.evans@illinois.gov).

Phenology Report for May 16, 2014
(Contributors include Cathy McGlynn, Karla Gage, Marilyn Leger, Eric Smith, Mike Davis, Matt Baulk, Paul Bane, David Crady, and Mike Daab)

Southern Illinois

- [Garlic mustard, *Alliaria petiolata*](#) - Second-year plants are senescing, be-

coming chlorotic; siliques have matured and seeds are hardening. Seeds have not yet begun to dehisce as of June 3. Once this occurs, contact with the plant is not advised because seeds are easily spread.

- [Bush honeysuckle, *Lonicera maackii* and *L. morrowii*](#) - Amur honeysuckle has passed flowering stage and the fruits are beginning to form, still small. Morrow's honeysuckle has bloomed and now has bright red and orange fruits.
- [Japanese honeysuckle, *Lonicera japonica*](#) - Japanese honeysuckle is in full flower now.
- [Border privet, *Ligustrum obtusifolium*](#) - Flowering stage has passed peak and fruits are beginning to form.
- [Purple wintercreeper, *Euonymus fortunei*](#) - Plants that have enough available light (high in tree canopies or in open wooded edges) are producing flower buds.
- [Chinese yam, *Dioscorea oppositifolia*, syn. *D. oppositifolia*](#) - Plants are beginning to produce flower buds. The beginning of bulbil production still has not been observed. Plants are climbing rapidly into the tree canopy as new plants continue to emerge from last year's bulbils.
- [Teasel, *Dipsacus fullonum* and *D. laciniatus*](#) - Teasel is bolting and almost at the stage of flowering. In fact, you could likely find a few plants already in flower
- [Japanese stiltgrass, *Microstegium vimineum*](#) - Stiltgrass is 4-5 inches tall and getting ready to start its rapid summer growth. Look for it to rapidly increase in height over the next few weeks.
- [Poison hemlock, *Conium maculatum*](#) - Poison hemlock has been in full flower but many of the flower heads

are starting to fade and produce seeds.

Southeast Illinois

- [**Yellow sweet clover, *Melilotus officinalis***](#) – Yellow sweet clover is in full bloom
- [**Crown vetch, *Securigera varia***](#) – Crown vetch is in full bloom, along with hairy vetch, *Vicia villosa*
- [**Cypress spurge, *Euphorbia cyparissias***](#) – Cypress spurge is in full bloom

Central Illinois

- [**Garlic mustard, *Alliaria petiolata***](#) – Plants are starting to have darkened seed pods.
- [**Wild parsnip, *Pastinaca sativa***](#) – Wild parsnip is in full flower right now and we have pulled a few that were passed flowering and had immature seeds.
- [**Poison hemlock, *Conium maculatum***](#) – Poison hemlock is in full bloom but seeds have not been observed yet.
- [**Reed canarygrass, *Phalaris arundinacea***](#) – Some heads starting to produce seed but all are still light and immature, most are flowering, and some are just sending out their flower stalk.
- [**Canada thistle, *Cirsium arvense***](#) – Canada thistle is starting to flower fully now. Bull thistle, *Cirsium vulgare*, is still low to the ground without much of it shooting up the center stalk yet
- [**Japanese honeysuckle, *Lonicera japonica***](#) – Vines are just starting to flower in a few areas.
- [**Crown vetch, *Securigera varia***](#) – Crown vetch has been flowering for a few weeks now, though there is still time yet before it develops seed.
- [**Yellow sweet clover, *Melilotus officinalis***](#) – Yellow sweet clover is in full

flower and some are ending their flowering. Alfalfa and white sweet clover are also beginning to flower out.

- [**Cutleaf teasel, *Dipsacus laciniatus***](#) – Teasel is starting to bolt. Some that were low to the ground just last week, are now 3 to 4 ft. tall.

Northeast Illinois

- [**Bush honeysuckle, *Lonicera spp.***](#) – Bush honeysuckle has just finished blooming last week.
- [**Dame's Rocket, *Hesperis matronalis***](#) – Plants have been in bloom for about three weeks.
- [**Yellow flag, *Iris pseudacorus***](#) – Plants have been in bloom for at least a week.

Northwest Illinois

- [**Yellow sweet clover, *Melilotus officinalis***](#) – Plants are beginning to flower but seed pods not completely formed yet. White Sweet Clover is not in flower yet but stands at mature height.
- [**Multiflora rose, *Rosa multiflora***](#) – Established plants are beginning to flower. Leaves are fully expanded on newer recruitment.
- [**Garlic mustard, *Alliaria petiolata***](#) – Plants have finished flowering and seed pods have fully developed. In drier spots leaves are beginning to senesce.
- [**Amur honeysuckle, *Lonicera maackii***](#) – Plants are beginning to flower in dry uplands and are leaves have fully expanded in wetter areas.

Follow the Illinois Invasive Species Awareness [blog](#) for more phenology reports as well as other invasive species news! -*Kelly Estes*

Thousand Cankers Disease Confirmed in Indiana, Fungus Found on Insect Other than Walnut Twig Beetle

The Indiana Department of Natural Resources issued a press release on Friday, June 20 announcing the detection of Thousand Cankers Disease in Indiana. Indiana joins Maryland, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and eight western states with the disease.

If you remember, thousand cankers disease is the result of a disease complex in which black walnut trees are attacked by the walnut twig beetle, *Pityophthorus juglandis*. These beetles vector a fungus, *Geosmithia morbida*, which infects the tree, causing cankers. As cankers increase, branches begin to die, the canopy begins to thin, ultimately causing the death of the tree.

This discovery was the result of a survey for insect pests and fungi in the state. What is different about this find is that the fungus was not found on the walnut twig beetle, but on small weevils, *Stenomimus pallidus*, that emerged from two stressed trees. This is the first time that fungus has been detected on an insect other than the walnut twig beetle. For the complete press release, please visit the Indiana Department of Natural Resources [website](#).

At this point in time, there are many more questions than there are answers. Here in Illinois, we also have a statewide survey that is currently being conducted for Thousand Cankers Disease. We urge residents to keep an eye on their walnuts and if you suspect TCD or have questions about the health of your black walnuts to please contact Kelly Estes at

kcook8@illinois.edu or 217-333-1005. A great resource discussing the diagnosis of TCD and its symptoms can be found [here](#). (Kelly Estes)

Palmer Amaranth – A New Weed to Watch For

Ask any cotton farmer what has been their biggest weed problem of recent years and they will all likely tell you the same: Palmer amaranth (*Amaranthus palmeri*). This plant has put some southern farmers out of business. Midwest farmers are now or will soon be well acquainted with this fast growing and yield robbing species as it is moving northward across the Midwest. I have not had reports of this weed being found in landscapes but it is only a matter of time as related Amaranth species such as redroot pigweed and smooth pigweed commonly make landscape beds their home.

Palmer amaranth is a summer annual, growing erect and branching to heights of 6 to 8 feet or more. Although Palmer amaranth resembles other more common pigweeds, there are a few characteristics that make it stand out. The plant has a poinsettia-like appearance with symmetrical leaf arrangement. The leaves will often have a v-shaped variegation. The petioles are quite long and can be longer than the leaf blade. The stems and leaves are smooth and without hairs. The flowering structure is 1 to 2 feet long and measured in *feet* not inches as the others are!

Recently, University of Illinois Weed Specialist Aaron Hager wrote about the growth rate of Palmer amaranth in the Bulletin at <http://bulletin.ipm.illinois.edu/?p=2024>.

The article features pictures taken by Cody Evans, a U of I weed science graduate student and they are impressive! Over the course of 16 days, the growth rate is compared and visualized between Palmer amaranth and waterhemp.

To help document the rate of growth of this weed, this year researchers at Purdue University are using a trail camera to take pictures of the weed every 5 minutes. According to an article on www.agprofessional.com, in only a week's time, they witnessed Palmer amaranth go from a very manageable weed to a weed that may only be marginally controlled with our available post-emergence herbicides. Just a few days more and producers may not be able to control it at all. In only one week, the plants grew from 1 to 1.5-inches in height to 5 to 6-inches in height. It is understandable then why producers should be concerned and monitoring their fields often.

There is concern that unidentified Palmer amaranth plants could be allowed to grow in landscape beds where its growth can quickly get out of hand. Once seed are produced, the problem will return for years to come. This plant also is highly tolerant of heat and drought. So it will grow well in July and August when some of our garden plants (and gardeners) have had enough of the weather extremes and are looking ragged and tired. Many landscape beds are given up on about this time of year.

Corn and soybean producers are encouraged to use preemergent herbicides specifically for prevention of this weed in certain locations. At this time, we are not recommending the same for landscape professionals. However, be on the look-

out for this new weed. Proper identification is essential. A good reference to use is Kansas State University's pigweed identification pictorial guide found at <http://www.ksre.ksu.edu/bookstore/pubs/s80.pdf>. Additionally, Purdue University has a nice video, "Identifying Palmer Amaranth in The Field" at <https://www.youtube.com/watch?v=aVbgPGg0G00>. The U of I has set up a service to help farmers identify the plant in their fields and test whether it is resistant to common herbicides. For more information about that, go to <http://bulletin.ipm.illinois.edu/wp-content/uploads/2013/09/Palmer-Amaranth-ID-Form2.pdf>. Plants may be physically removed – the earlier the better. Certainly, do not allow plants to flower and produce seed as one plant can produce over 100,000 seeds in a season. Unfortunately, Palmer amaranth is reported to sometimes be resistant to glyphosate which is a commonly used non-selective postemergent herbicide in landscapes. (Michelle Wiesbrook)

Resources:

<http://www.agprofessional.com/news/Purdue-weed-scientists-explain-rapid-growth-of-Palmer-amaranth-263692821.html>
http://news.illinois.edu/news/14/0603/palmer_amaranth_AaronHager.html

Japanese Beetle

Japanese beetle adults are present throughout Illinois. Robert Bellm, Extension Educator, reported their presence in Madison County, and Ed Nangle, Chicago District Golf Association, reported their presence in Cook County. Last week in this newsletter, we predicted

low numbers in the northern half of the state due to the extended deep soil freezing last winter. The drought in the second half of last summer should cause reductions in their numbers throughout the state in areas where there was little turf irrigation. If Japanese beetle adult numbers appear to be low in your area, less preferred ornamental plant species may not need to be sprayed or sprayed as many times.

Adult Japanese beetles feed on the upper leaves of crabapple, linden, serviceberry, flowering cherry, birch, willow, rose, and many other trees and shrubs from late June through mid-August. They can defoliate or window-feed at least the upper third of the tree. Window-feeding consists of eating the upper surface and center of the leaf, leaving the lower surface which is whitish and somewhat transparent. The cells of this exposed lower surface soon turn brown. The adult Japanese beetles are three-eighths to one-half inch long and stocky with metallic green bodies and coppery wing covers.

Imidacloprid, sold as Merit and other brand names, moves systemically through the tree into the leaves where it effectively controls the adult beetles. Imidacloprid takes just a couple of days to move into the leaves whether trunk injected or soil applied. Avoid application of imidacloprid into mulch, thatch, or other dead organic matter as the insecticide adsorbs onto it, making it unavailable for root uptake. Soil inject below the sod or mulch or pull back the sod or mulch to soil drench. Apply within two feet of the trunk.

Imidacloprid remains in the tree for at least a year after application, so application at any time during the growing sea-

son is effective as long as there are active leaves on the trees. The active leaves are needed to drive the transpiration which moves the imidacloprid throughout the tree.

There is concern about imidacloprid moving into the pollen and nectar of flowers and affecting honey bees and other pollinators. Imidacloprid is known to move into linden flowers, so its use on that tree should be avoided. Wind-pollinated trees, such as birches, are unlikely to be visited by pollinators. Roses with double blossoms are usually not visited by pollinators either, but watch for flower visits by bees or other pollinators before applying imidacloprid. Imidacloprid does not move into crabapple flowers. Realize that soil applications will move into flowers grown near the tree as well as nearby dandelions and other flowering weeds visited by pollinators.

Spraying the foliage with a labeled pyrethroid avoids most pollinator concerns. Although fresh residues are toxic to honey bees and other pollinators, pyrethroids will kill the visiting bee too quickly to carry anything back to the hive. Insecticides carried back to the hive to affect larvae and other colony members is the biggest concern with imidacloprid and other neonicotinoid insecticides. Carbaryl, sold as Sevin, can be applied to non-flowering trees and shrubs. Although honey bees will actively gather the dried carbaryl residue and take it back to the hive, they are unlikely to discover it on a non-flowering plant. Pyrethroid or carbaryl sprays should be repeated every couple of weeks to maintain protection. With the Japanese beetle adults present in large numbers for about six weeks, three sprays are typically needed. (*Phil Nixon*)

Fall Webworm

Fall webworm is named for infestations that occur in the northern part of the United States only in late summer to early fall. In the southern half of the United States, including the southern half of Illinois, fall webworm has an additional generation in early summer. This first generation of fall webworm is now feeding in southern Illinois.

Fall webworm overwinters in the pupal stage, emerging as white moths with a 1-1/2-inch wingspan. After mating, moths lay their eggs in large clusters on the leaves of the host. The hatching caterpillars live colonially, spinning a silk tent over leaves at the ends of a branch. Once the caterpillars have eaten the leaves within the silk tent, they increase the size of the tent to enclose more leaves.

This insect has a wide host range, being found on many deciduous trees, including maples, crabapple, black cherry, walnut, pecan, and hickories. There are two races of caterpillars. The black-headed race has a black head, black spots, and frequently a wide black stripe running down the back of a hairy, yellowish body. The red-headed race has a red head but almost no black markings. There does not appear to be any difference in host selection between the two races. When fully grown, the larvae crawl to debris below the tree, where pupation occurs.

Damage from fall webworm can be obvious, with their very noticeable white silk webs. In heavy infestations, entire trees may be defoliated by multiple colonies per tree. However, damage occurs in the second half of the growing season even where there are two generations per year. As a result, damage to tree health is minimal and stripped branches survive to refoliate later in the season or the following spring.

Because the larvae are present within the silk webbing day and night, an effective method of control on smaller trees is physical removal. The webs can be pruned or pulled off and the contained caterpillars smashed. Pulling off the webbing has the advantage of leaving the branch on the tree to releaf.

The silk tents, or webbing, are an effective deterrent to parasitic wasps, parasitic flies, and insectivorous birds that would attack the caterpillars. Tents also repel rainfall, which also means resistance to insecticide sprays. Insecticide sprays must be applied with enough pressure to penetrate the webbing. If the insecticide does not penetrate the webbing, it may break down on exposed leaves before the caterpillars incorporate them into the expanding tent. *Bacillus thuringiensis kurstaki* (Dipel, Thuricide), spinosad (Conserve), carbaryl (Sevin), and various pyrethroid insecticides are effective against these caterpillars. (Phil Nixon)