

HYG articles

June 1, 2020

Modified Growing Degree Days (Base 50° F, March 1 through May 31)

Station Location	Actual Total	Historical Average (11 year)	One- Week Projection	Two-Week Projection
Freeport	405	472	503	631
St. Charles	444	447	534	654
DeKalb	430	517	533	666
Monmouth	535	572	643	780
Peoria	538	610	650	790
Champaign	576	626	694	841
Springfield	619	697	742	894
Perry	612	652	725	866
Brownstown	646	759	775	931
Belleville	779	793	908	1054
Rend Lake	753	855	892	1055
Carbondale	833	810	966	1119
Dixon Springs	809	870	946	1103

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 Department of Crop Sciences at the University of Illinois and the Illinois Water Survey).

[\(Kelly Estes\)](#)

Periodical Cicadas Emerge in Illinois



Left: Periodical cicada adult (*Magicicada septendecim*), Jon Yuschock, Bugwood.org

Right: Periodical cicada nymph (*Magicicada septendecim*), Tim Tigner, Virginia Department of Forestry, Bugwood.org

A periodical cicada (*Magicicada spp.*) emergence can be an exciting event to witness! Periodical cicadas are already beginning to emerge throughout Illinois and will continue to emerge until late-June. This year two large broods are emerging four years early and will encompass much of the state so many people may be able to witness this special event in their own yards. Brood XIII includes three species of 17-year cicadas emerging in northern Illinois and parts of central Illinois and Brood XIX includes four species of 13-year cicadas emerging in southern Illinois and parts of central Illinois, so keep an eye out for an abundance of cicadas.

Cicada nymphs live below ground for most of their lives, sucking fluids from tree roots and go unnoticed until they emerge. When the emergence begins, cicada nymphs leave the soil, climb a few feet up a tree or shrub and molt to their adult stage, leaving their shed skin behind. Adult cicadas usually remain near their molting site to allow their bodies time to harden, before moving farther up the tree. As adults, periodical cicadas feed very little, devoting their time to reproduction. Adult males will call to females with a shrill buzzing song. In areas with low populations of cicadas, the calls can be a nice summer chorus, but in areas with heavy populations, some may find the calling quite loud.

Injury to trees and shrubs

After mating, female cicadas use their ovipositor, an egg-laying structure, to cut small openings and deposit eggs into twigs and branches. They may repeat this several times on a given twig, resulting in scars several inches long. Leaves growing beyond the scarring site often die and twigs may break easily. Female cicadas prefer to deposit eggs in twigs and branches that are 1/4 to 1-1/2 inches in diameter but they may also deposit eggs in the trunks of small transplanted fruit or ornamental trees, so it is important to identify and protect trees that may be at risk for injury.



Left: Periodical cicada (Magicicada sp.) damage, Pennsylvania Department of Conservation and Natural Resources - Forestry , Bugwood.org

Right: Periodical cicada (Magicicada sp.) damage prevention, James B. Hanson, USDA Forest Service, Bugwood.org

Protecting trees and shrubs

In areas with heavy periodical cicada populations or areas with young or cherished fruit and ornamental trees action can be taken to prevent injury. The best way to protect small trees from damage in areas with heavy cicada populations is to surround the trunks with screening to prevent egg-laying. Waiting to plant small trees or choosing larger trees, at least 2-1/2 inches in diameter can help avoid egg-laying. For small fruit trees, some may choose to cover the trees in mesh no larger than 1/4 inch while the cicadas are active to avoid egg-laying. Orchardists, may choose to prune in the 4-6 weeks after egg-laying to remove eggs and reduce the number of cicadas in the next emergence.

Applications of insecticides may kill many emerging adult cicadas but research has found that the applications did not reduce the amount of egg-laying or injury to the plants. It is also important to remember that your local wildlife, including birds, mammals and reptiles, will be feasting on cicadas throughout the emergence. Choosing cultural controls and avoiding chemical treatments can prevent wildlife from consuming pesticides along with their meal.

Most areas do not see heavy populations of periodical cicadas and do not require significant action to protect trees. Periodical cicadas require 13-17 years continuously feeding on the same tree to complete a single generation, so areas where trees were removed or areas that were previously farmland or prairie, may see very few if any periodical cicadas.

Which counties will see periodical cicadas?

Brood XIII:

Northern and central Illinois counties that may see 17-year periodical cicadas include Bureau, Carroll, Cass, Cook, DuPage, Fulton, Grundy, Henderson, Henry, Jo Daviess, Kankakee, Lake, LaSalle, Livingston, Logan, Marshall, Mason, McHenry, McLean, Menard, Peoria, Putnam, Sangamon, Stark, Tazewell, Whiteside, Will, Winnebago, Woodford.

Brood XIX:

Southern and central Illinois counties that may see 13-year periodical cicadas include Adams, Brown, Calhoun, Cass, Champaign, Clark, Clay, Coles, Cumberland, De Witt, Effingham, Fayette, Ford, Franklin,

Gallatin, Hamilton, Hancock, Iroquois, Jefferson, Johnson, Marion, Massac, Moultrie, Pike, Pope, Saline, Shelby, Vermillion, Washington, Williamson.

County lists compiled by CicadaMania.com

[\(Sarah Hughson\)](#)

Scouting for Bagworms

When the Japanese tree lilacs are in bloom, it is time to scout for and control bagworms. Japanese tree lilac is a common urban tree that flowers in early- to mid-June, later than other lilac species. The fragrant blossoms are large, white, and hard to miss. But don't get swept away by their aroma. Bagworm caterpillars may be hatching on nearby evergreens and preparing to find their next host.



Japanese tree lilac

Bagworms hatch from their eggs in mid- to late-June, then spin silks which they use catch the wind and balloon to other plants. These paratroopers' flights coincide with the blooming of Japanese tree lilac. If room allows it, they may just keep living the same plant, especially on arborvitae or juniper. However, their host trees include hundreds of other species, including pine and spruce.

Bagworm caterpillars initially feed on the outer layer of the leaves or needles, causing browning, usually starting at the top of the tree. As they grow, their appetite increases and they begin to eat all the foliage. Damage from heavy infestations can be unsightly and can kill branches or whole plants.

As the caterpillar feeds, it produces silk and uses foliage from the host plant to create a protective bag. The caterpillars pupate for seven to 10 days in late summer. Neither adult feeds. The adult female remains in the bag and is without legs, wings, eyes or mouthparts. The male emerges from the bag as a black moth and finds a female within a bag to mate. After mating, she produces 500 to 1,000 eggs, keeping them protected inside her body. Dissecting a bag in the early spring will reveal a dead female with lots of little eggs ready to hatch.



Bagworm

Bagworms are most likely to be noticed in August after they have formed their bags. At this point, the bag protects the insect from chemical controls, making any attempts futile. However, handpicking remains a viable option.



Bagworm infestation on juniper. Photo credit: Richard Hentschel

Bagworm caterpillars are easier to control when they are small. They remain susceptible to chemical treatment into early July. The following chemical treatments are effective for bagworm: *Bacillus thuringiensis kurstaki* (also known as BTK, and found in Dipel and Thuricide), Spinosad (organically derived and found in products like Conserve) and cyfluthrin (Tempo). As always, with pesticides, read and follow the labels to ensure safe and effective application. Follow-up applications may be needed.

[\(Kelly Allsup\)](#)

Controlling Weeds in the Driveway

Summer is finally upon us. Perhaps you spent the holiday weekend getting the lawn and landscape beds in tiptop shape. Then you noticed the weeds creeping up in the driveway and sidewalk cracks. What can be done in those areas?

If covering them with more rock or asphalt are not options, then you are left with mechanical means and herbicides. Weeds can be removed by hand, which depending upon the degree of infestation can be quite time consuming. Of course, a small number of random weeds can be easily controlled by hand. For best results with hand pulling, wait until after the soil is moist from a recent rain event. Tools such as dandelion forks, winged weeders, and hoes can make larger areas easier to tackle. String trimmers and mowers can be utilized to keep weed height down. For weeds growing in cracks, an old knife can come in handy. Be sure to use extreme caution when using sharp equipment. Emergency room trips only delay the inevitable. I have personal experience with this. While walking beans as a teenager, I

accidentally cut my leg with a long handled, sharp weed hook. Four stitches later, I found myself right back in the bean field per my father's instructions. The weeds were there waiting, but I digress.



Weeds in a sidewalk crack waiting to meet an old knife. Credit: Michelle Wiesbrook

Herbicides are also an option for driveway and other gravel areas where total vegetation control is needed. Nonselective herbicides such as glyphosate or glufosinate can be used to kill weeds present at the time of application but these. Unfortunately, these two products do not provide any residual control. Herbicides such as soil sterilants can be used to provide long lasting control and some products will prevent new weed growth for many months. However, some products are soil mobile and caution must be used. Be sure to read and follow all labels carefully. Check to see that the product may be

legally applied to your specific area (driveways, sidewalks, patios, gravel areas, etc.). Keep in mind too that efficacy is typically weather and weed species dependent. Check to see that your dominant weed species are listed on the label. Warm, wet seasons may result in quicker degradation of the application than what the label promises in terms of length of control. Finally, not all products will kill existing weeds but rather prevent new weeds from emerging. Again, carefully read and follow labels!



*Prostrate knotweed, speedwell, and pineapple weed have made themselves at home in this driveway.
Credit: Michelle Wiesbrook*

Many products are available but selection may be limited by what your garden supply center or other supplier has on the shelf. One possible option is dichlobenil, which kills certain existing weeds and prevents new weeds from emerging for several months in “recreational areas” and “industrial areas”

according to one label I found. Typically you would apply it in late fall to early spring, before most summer annual weeds emerge.

Alternatively, there are combination products available that offer control for 4 months up to a year. Many contain glyphosate, which will control a broad spectrum of weeds, and another herbicide that will provide residual control or even quicker kill. Such herbicides include imazapyr, imazapic, diquat, fluazifop, oxyflurofen, and indaziflam. Additionally, 2,4-D and dicamba based products are available too. Commercial applicators licensed in Rights-of-Way, may have access to additional products.



A driveway full of weeds. Credit: Michelle Wiesbrook

You will find that many of these product trade names have words like “Extended” & “Year-long.” The intent of these products should be clearly labeled on the front panel of the label. These products are

NOT for garden use and misapplication into those areas can cause damage to desirable plants. All too often, I hear about the well-meaning gardener or even professional who accidentally grabbed the wrong jug of herbicide. Soil sterilants misapplied to landscape beds or vegetable gardens can lead to long lasting damage and can prohibit planting into these areas for months. If storing these products separately from other herbicides is impractical, consider writing an obvious note to yourself on the jug handle with a permanent marker. This can help perhaps prevent mishaps.

[\(Michelle Wiesbrook\)](#)

Summary of ornamental, fruit, and vegetable samples received by the University of Illinois Plant Clinic: April and May 2020

It's no surprise that our sample numbers are lower than usual this year. While the Plant Clinic remains open, we are currently operating with staff in the lab only as needed for diagnostics. We are often not able to answer or return phone calls in a timely manner. If you need to contact us, we suggest emailing plantclinic@illinois.edu for the fastest response.

Packages shipped via USPS are being picked up 3-4 times a week. FedEx packages are picked up as packages arrive, and UPS is delivering packages daily. No matter how you send a sample, we highly recommend keeping your tracking number and checking to see if the sample was delivered. If you notice that the package wasn't able to be delivered (a delivery attempt or delivery failure), please contact us with the tracking number and the method used to ship the sample – we may be able to track it down locally.

Boxwood samples were by far the most common over the last two months, accounting for almost 29% of samples received. While we have not diagnosed boxwood blight yet this year, it's still a concern, especially in the northern part of the state. For more information about boxwood blight, please see: <http://hyg.ipm.illinois.edu/article.php?id=869> and <http://hyg.ipm.illinois.edu/article.php?id=1137>.

We're seeing a lot of needle blights and needle casts on fir, spruce, and arborvitae; this is not uncommon in spring. Many of these diseases attack stressed plants, so reducing stress by selecting the correct plant for the location, planting to the proper depth, pruning during dry weather, fertilizing appropriately, watering during periods of dryness, and mulching will all help reduce the severity of these diseases.

Host	Pathogens and/or Pests Confirmed (C) or Suspected (S)
Arborvitae	Phyllosticta needle blight (C)
Fir	Phyllosticta needle blight (C), Rhizosphaera needle cast (C), environmental stress (S)
Spruce, Colorado Blue	Rhizosphaera needle cast (C), Stigmina needle blight (C), environmental stress (S), Sudden Needle Drop (C), Spruce Spidermite (S)

Spruce	Rhizosphaera needle cast (C), Spruce spidermite (S), environmental or chemical damage (S)
Eastern White Pine	Environmental stress (S), White Pine Decline (S)
Ash	Thrips (C)
Japanese Maple	Environmental stress (S)
Pin Oak	Gnarled Oak Leaf Midge Gall (C)
River Birch	Environmental stress (S)
Serviceberry	Entomosporium leaf spot (C), Leafhopper (S)
Rose	Fungal canker (C)
Boxwood	Volutella blight (C), Fusarium canker (C), Macrophoma leaf spot (C), Boxwood leafminer (C), Boxwood psyllid (C), Boxwood spidermite (S), environmental stress (S)
Pachysandra	Volutella blight (C), Edema (C)
Sedum	Edema (C)
Penstemon	Impatiens Necrotic Leaf Spot Virus (C)
Basil	Bacterial stem necrosis (C), Fusarium wilt (C)
Lettuce	Pythium root rot (C)
Strawberry	Aphids (C)

(Diane Plewa)

Maple Leaf Blister

Outbreaks of maple leaf blister were previously considered to be uncommon, occurring only during springs with extended cool, wet weather. However, those conditions have become more prevalent in recent years. As a result, we see outbreaks of maple leaf blister on a more frequent basis.

Maple leaf blister infects silver and red maples as well as their hybrids. This disease is closely related to *peach leaf curl*, *plum pockets*, and *oak leaf blister*, all of which are caused by fungal pathogens belonging to the genus *Taphrina*. This group of pathogens infects leaves early in their development, often at the time of bud-break. Mature leaves are resistant to the fungus, so there is effectively one infection cycle per year. The fungal pathogen causes abnormal cell division and enlargement, which results in a blistered, crinkled appearance to infected leaves. Maple leaf blister lesions are initially green but quickly

transition a brownish-black color. From my observations, the blisters seem to collapse as they transition in color, and quickly lose their raised appearance.

Maples leaf blister can easily be confused with anthracnose infections. Both diseases can occur on the same tree and leaf, adding complications to the diagnosis. The best way to distinguish the two diseases is with a microscope. However, the majority of us don't have access to one. I've come across a couple of suggestions to help distinguish the two diseases. 1) *Maple leaf blister* lesions have a somewhat rounded shape, compared to irregular and angular anthracnose lesions. 2) Maple leaf blister lesions usually do not cross leaf veins or infect the leaf petiole.



Maple Leaf Blister



Maple Leaf Blister (University of Illinois Plant Clinic)

The injury caused by maple leaf blister is mostly aesthetic, and not will harm the long-term health of the tree. The disease may cause some defoliation, but a new flush of leaves will emerge in warmer and drier weather. Leaf blister diseases generally do not warrant control. Several fungicides are labeled to control *Taphrina* diseases, but their use is usually limited to fruit orchards. Additionally, fungicides are preventive and won't have any effect on current infections.

[\(Travis Cleveland\)](#)

Sycamore Anthracnose

Sycamore trees have been slow to leaf out this spring, a repeat to what occurred last year. Most of the sycamore trees in central Illinois have remained bare, making them easy to spot from a distance. Infections from this fungal disease occur almost every spring. However, the severity of the infection is dependent on the weather. Aside from the recent summer-like weather, Spring 2020 has predominantly been cool and wet, favoring sycamore anthracnose.



Photo 1 *Sycamore* May 31, 2019. Urbana, IL

Sycamore anthracnose appears in three phases distinguished by the plant parts that are affected.

Bud and Twig Blight

Bud and twig blight occurs while the host tree is dormant. During this phase, small cankers kill individual buds or the tips of one-year-old shoots. Mild weather during host dormancy allows the cankers and stem lesions to continue expanding. Severe outbreaks have been reported to kill more than 95% of a tree's buds.

Shoot Blight

Shoot blight occurs after new leaves have emerged. Sunken, girdling cankers form below the twig tips, causing the death of young shoots. Symptoms associated with this phase are often mistaken for frost injury. Damage is most prevalent when the average mean daily temperature during the two weeks following leaf emergence is below 55°F. Cooler temperatures likely prolong twig susceptibility. When the average temperatures are above 60°F during the same period, little or no shoot blight takes place.



Photo 2. *Shoot Blight*

Leaf Blight

The leaf blight phase occurs as a direct infection of new leaves. Symptoms appear as small to large, irregular, brown lesions that form along the veins to the leaf edges. This phase often results in premature leaf drop. Wet conditions and temperatures between 60°F and 75°F favor leaf blight.



Photo 3. *Leaf Blight*

Sycamore trees with serious anthracnose infections commonly recover by mid-July, as the second flush of growth matures (Photo 4). Thus, fungicides are not often warranted. However, fungicide injections may be a preventative option for clientele seeking to maintain the appearance of high-value trees. If you are looking to plant a sycamore, consider one of the resistant plane trees. Sycamores are highly susceptible, while London plane trees vary in their resistance. Be sure you are buying a resistant hybrid.



Photo 4: Sycamore (same as Photo 1) fully leafed out July 12, 2019

([Travis Cleveland](#))