



Home, Yard, and Garden Pest Newsletter

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

Station Location	Actual Total	Historical Average (11 year)	One- Week Projection
Base 50° F – March 1 through May 2			
Freeport	534	463	682
St. Charles	553	452	704
DeKalb	537	463	686
Monmouth	603	579	742
Peoria	635	615	776
Champaign	676	655	813
Springfield	708	749	850
Perry	707	698	846
Brownstown	753	694	892
Belleville	778	830	917
Rend Lake	851	902	988
Carbondale	825	857	960
Dixon Springs	847	890	981

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 [Pest Degree-Day Calculator](#) (a project by the Department of Crop Sciences at the University of Illinois and the Illinois Water Survey). -Kelly Estes

Brood X Periodical Cicadas

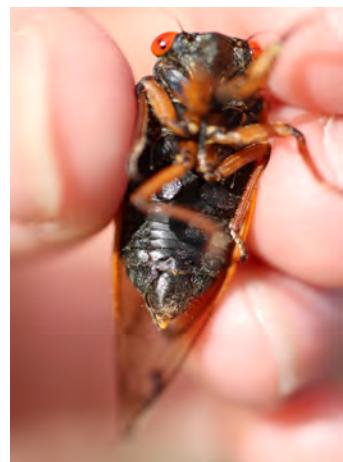
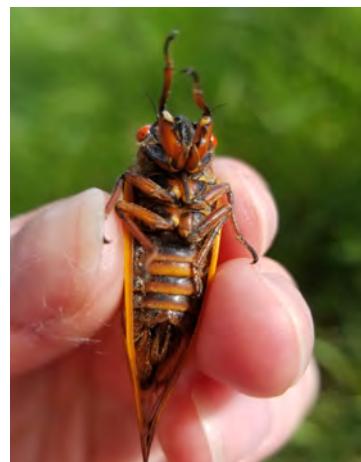


Left: *Magicicada sp.* adult on tall grass, Sarah Hughson, University of Illinois

Right: *Magicicada sp.* nymph molts on post, Sarah Hughson, University of Illinois

Brood X periodical cicadas (*Magicicada spp.*) are emerging now in Edgar, Clark, Crawford and Vermillion counties and will continue to emerge until late-June. This year we can see two species of periodical cicadas, the pharaoh cicada (*Magicicada septendecim*) and Cassini 17-year cicada (*Magicicada cassinii*). These species can be differentiated by both their size and markings. The pharaoh cicada is the larger of the two and has thick orange stripes across the underside of its abdomen. The Cassini 17-year cicada is much smaller and the underside of its abdomen is all black.

A periodical cicada emergence can be an exciting event to witness! This is a great time to visit a local state or city park and watch the adult cicadas fly, listen to their calls and look for the nymphs' shed skins. In neighborhoods with mature trees, some may even find cicadas in their back yards. You can even take part in a citizen science project by reporting cicada sighting locations on the [Cicada Safari app](#).



Left: *Magicicada septendecim* on the left and *Magicicada cassinii* on the right, Sarah Hughson, University of Illinois

Center: *Magicicada septendecim* female with striped abdomen, Sarah Hughson, University of Illinois

Right: *Magicicada cassinii* male with black abdomen, Sarah Hughson, University of Illinois

Cicada biology

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 may die and twigs may break easily. Cicada damage does not impact well-established healthy trees, and is usually only an issue in small, recently planted, trees. 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 these trees may be good candidates for protection.



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

Protecting trees and shrubs

Since a periodical cicada emergence is a rare occurrence and the cicadas are an important part of their

ecosystems, we recommend that preventative action only be taken when trees are too small to withstand injury or where injury would have an economic impact (ex. orchards). 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, but this is not recommended in other contexts.



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

There are no pesticides labelled for use on cicadas. Research has found that pesticide 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 a cultural control or making the decision to tolerate some injury can prevent local wildlife from consuming pesticides along with their meal.

Most areas do not see heavy populations of periodical cicadas and do not require tree protection. Periodical cicadas require 17 years continuously feeding on the same tree roots 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.

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Rose Slugs

In the past week, I observed numerous rose plants with rose slug injury. Phil Nixon originally published the following article on April 30, 2010. –Travis Cleveland



Rose slug injury. Travis Cleveland, University of Illinois

We've had several reports of bristly rose slug causing rose foliage to be lacelike. The green larvae are more numerous on the undersides of the leaflets. Although causing window-feeding when young, the larger larvae eat holes in the leaflets and even cause defoliation.

The bristly rose slug is green, with fine, hairlike spines, and grows to about 1/2 inch long. Rose slug looks like bird manure when young but when older looks like the bristly rose slug without the bristles. Both are present at this time of year.



Bristly rose slug

Remove small infestations by hand. Although these insects look superficially like slugs or caterpillars they are sawfly larvae. They will not be controlled with slug baits or *Bacillus thuringiensis kurstaki*. Acephate (Orthene), bifenthrin (Talstar), carbaryl (Sevin), and cyfluthrin (Tempo) are effective. Insecticidal soap will also be effective with very good coverage. Avoid getting the insecticide on flowers, although most rose varieties have had the nectar and pollen bred out of them and are not attractive to pollinating insects. Species roses and particularly some single-flowered varieties will attract pollinators, which could be killed by insecticide sprays on the blooms. Because carbaryl is more likely to cause bee kills, avoid spraying Sevin on blooming rose bushes being visited by pollinators

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Use of Herbicide in Natural Settings

To some, the idea of using herbicides in "natural" settings may seem a little ironic, but in fact herbicides are a useful and valuable tool for land owners and managers. Natural areas including woodlands, prairies, and even hedgerows in urban landscapes can be overtaken by invasive weeds – which are also "natural". Weeds can alter ecosystems and rob sunlight, water, and nutrients from desirable plants which affects their growth and yield. In this article, we will discuss the pros and cons of herbicide use in these areas, alternative methods of weed control, and common application methods. Of course we typically recommend that non-chemical methods be implemented first before resorting to using herbicides.

Hand or physical removal can result in instant gratification but there may be limitations. Perhaps you have many more weeds than workers. Perhaps the weeds can't be reached due to their location or perhaps they must be handled carefully due to possible dermal reactions, which is the case with wild parsnip and poison ivy. Others may have thorns or prickles such as multiflora rose or bull thistle, or an abundance of pollen such as ragweed. Hand digging or grubbing doesn't always result in effective control or it may not be possible to remove all the roots. This is certainly the case with larger woody species but

even with rhizomatous, perennial spreaders such as Canada thistle or quackgrass. Many of us have experienced the joy of digging up these weeds only to feel the snap of the rhizomes break off and know then that growth will soon return. We may be limited in our physical abilities and physical removal can result in sore muscles. We can use large equipment such as cutters and mowers, but certain woody species will send up shoots after cutting. Often cutting must be repeated and that's time consuming. Large areas or infestations can require many, many man-hours.

Herbicides also have pros and cons. These can be used after cutting to prevent new sprouts and provide a more complete kill. They can also provide long lasting, selective, quick control in an efficient manner. Of course this is product dependent. Some herbicides are slower acting than others and some do not provide residual control but instead affect just the weeds present at application. Residual can be good and bad and there are uses for both types. Herbicides are often less labor intensive, less time consuming, and more economical. However, they are not suitable for every situation and off-target movement can occur. This is where the herbicide moves out of the area intended for application and can cause injury.



Untreated stump with sprouts. Rebekah D. Wallace, University of Georgia, Bugwood.org.

Off-target movement can result in much damage to desirable vegetation, humans, and wildlife if we are careless or if weather conditions are not appropriate. It could happen on your property or worse yet on the neighbor's. Drift can be extremely expensive with fines and legal counsel. Pesticides become environmental hazards when they move off-target. Ideally, a pesticide should affect only the target pests and persist no longer than necessary to control them. Problems occur when pesticides are used in a man-

ner that differs from what's directed on the label or when spills occur. Unfortunately, this isn't a new problem. As long as we've had herbicides, we've had off-target movement. Pesticides can help or harm the environment so it's important for users to be aware of the environmental risks and use practices that minimize adverse effects.

An integrated approach is recommended and referred to as Integrated Pest Management or IPM. The most efficient and successful weed-control programs will include the use of nonchemical controls. These can include cultural controls such as controlling weeds early before they set seed which prevents future weeds, covering bare soil with mulch or ground-covers, using weed free materials to avoid introducing weeds, and cleaning equipment to prevent weed spread. Other methods include controlled burning, biological controls, and mechanical controls including mowing, cutting, girdling, and grubbing. For more effective control, a herbicide may be used immediately following some of these methods.

Herbicides are registered and labeled for legal use in specific areas. The application method or methods will be specified in the label directions. Herbicides can be applied a variety of ways and at different times of year. One very common way would be to the leaves called a foliar application. Also, the bark or cut stumps can be treated and herbicide can be injected into stems or applied to the soil. The method you choose depends on many factors including your target weed, the site, the time of year, available equipment, and the herbicide. Consult with the label for guidance while planning any control effort.

Some herbicides can be applied to the leaves. This type of application should be limited to herbaceous plants, SMALL trees, and shrubs as there is increased drift potential with tall trees. Foliar treatments are most effective when applied just after full-leaf expansion when food reserves are low in late spring or early summer. Good spray coverage on the leaves is needed. For large infestations, broadcast applications to the entire area would be practical. For clumps of weeds, spray guns can be used for spot treatments using directed spray. For increased application control and to eliminate the risk of non-target injury, a foliar wick or wiping applicator can be used to paint on the herbicide. Certainly off-target movement can occur with any type of application.

However, most often injury occurs from a broadcast application. In situations where off-target drift is a concern, cut stump or basal bark applications would be a better option.



Foliar application. Steve Manning, Invasive Plant Control, Bugwood.org

With basal-bark applications, herbicide is applied to the lower 12 to 18 inches of the trunk. This kills the tree and any basal buds that might sprout. Oil-soluble (usually ester) formulations of herbicides are applied in diesel oil or kerosene to penetrate the bark. Non-petroleum based penetrating oils are also available which are less injurious to groundcovers. This technique is for selective control of trees smaller than 4-6 inches in diameter and is less effective on rougher, thicker bark. Treatments can be made throughout the year except when the bark is very wet or covered with ice or snow. Be sure to minimize the amount that runs into the soil as excess amounts can injure or kill adjacent desirable trees and groundcovers and their roots may extend into the treatment area. To reduce possible off-target injury, dormant-season applications may be desirable. Another method of application is the “broad band” or “thin line” which uses a small band (often a pencil thin stream) of a highly concentrated herbicide. This type of application is targeted and precise with low risk to neighboring plants. Be sure to follow label directions as this method will NOT be found on every label.

Certain herbicides may be applied to cut surfaces. With girdling, a herbicide can be applied to the cut for more effective control. Also, herbicide can

be sprayed into spaced, horizontal cuts that penetrate the sapwood; this is called hack n' squirt. Alternatively, an injector such as a hypohatchet can be used to dispense herbicide when it is struck into a tree. Also, the E-Z-Ject Lance is a stem injection system that can be used to inject capsules of glyphosate or imazapyr every 4 inches around the base of the stem.

Often cut stumps will resprout but this can be prevented by treating the stump with a herbicide. The label will provide specific directions but typically the sapwood and bark are treated soon after cutting to ensure downward movement. Some labels (especially products containing 2,4-D) instruct users to apply the herbicide to the entire surface of the cut. This is often the case for smaller stems too with various products. Some product labels may call for the use of a penetrating oil. For applications in spring during sap flow and when timeliness of application is a concern, the oil-carried herbicides are recommended. Labels vary on application specifics so read and follow them carefully.

One final concern you should be aware of when controlling trees is herbicide “flashback”. This is the passive movement of herbicide from a treated tree to another nearby, non-treated tree through grafted roots, extrusion through the roots, or perhaps from movement through the soil. Unintended injury can result and imazapyr is a known offender.

Lastly, certain herbicides can be applied to the soil to provide residual control and prevent new weeds from germinating. These can be applied at planting and may be tilled or watered into the soil down to where the germinating seeds are. Some of these herbicides are used in non-crop situations such as along a fence line or driveway to prevent ALL plant growth. These must be used with extreme caution. Some are quite mobile in the soil and some can persist for several months. Label directions must be followed carefully. Off-target roots can take these up and desirable plants can be injured.

No matter the control method, each has its list of potential problems and benefits. Herbicides can be used in a variety of ways to help restore or maintain the quality of our natural areas. They are best used as part of an IPM program and should always be used safely according to label directions.

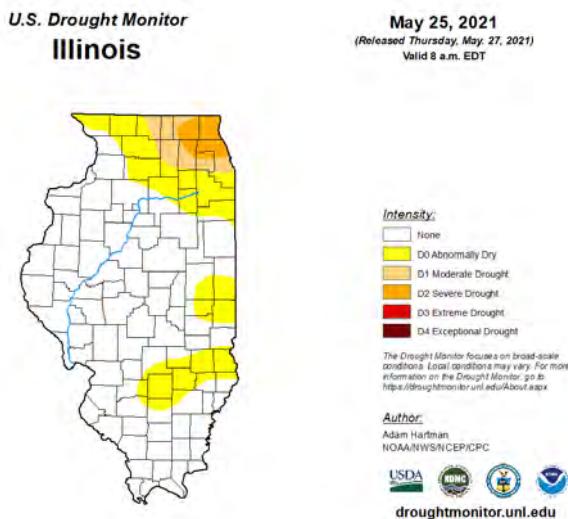
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Powdery Mildew on Common Ninebark



Common ninebark leaves entirely covered with powdery mildew

Many view dry conditions as being unfavorable for fungal pathogens. While this is often true, some fungal diseases, such as powdery mildew, thrive under dry, humid weather. The most recent U.S. Drought Monitor has roughly a quarter of Illinois categorized as abnormally dry to severe drought. The northeast counties are under the latter.



The dry conditions have led to powdery mildew infections on common ninebark (*Physocarpus opulifolius*). Powdery mildew diseases are among the easiest to diagnose in the landscape, causing distinct white, superficial powdery growths on leaves, stems, and flowers. These signs tend to stand out and are more

noticeable on ninebark cultivars with purple leaves. Powdery mildew infections will initially appear as small, white patches. These patches will continue to expand over the summer, eventually covering the entire leaf surface. Dwarfing and distortion of the leaves are not uncommon. Heavily colonized leaves may prematurely defoliate. Fortunately, this tough, adaptable species tolerates powdery mildew infections without any lasting injury, aside from some aesthetic loss.



Initial, small patches of powdery mildew on common ninebark



Common ninebark with powdery mildew and distorted leaves.

Most powdery mildew fungi are host-specific. You don't need to worry about powdery mildew on ninebark (*Podosphaera aphanis* var. *physocarpi*) spreading to other plant species in the landscape. Your first control practices should focus on cultural strategies. Grow resistant cultivars when possible. [LAYERS OF INTRIGUE: PHYSOCARPUS AND POWDERY MILDEW](#) summarizes a study that evaluated popular

ninebark selections for their relative resistance and susceptibility to powdery mildew infections. Place new ninebark plants in sunny locations with good air movement. Dense, shady, or damp areas tend to favor disease development. Prune plants to remove any severely diseased branches plants and to promote good air circulation.

Powdery mildew on ninebark does not usually warrant the use of fungicides. When justified, the following products may offer protection against this disease: Copper Sulfate Pentahydrate (Phyton 35), myclobutanil (Myclobutanil 20 EW T&O), potassium bicarbonate (Milstop SP), tebuconazole (Torque), Triadimefon (Armada), Triflozystrobin and Triadimefon (Trigo).

**Trade names have been provided for reference, but their use does not constitute an endorsement by the University of Illinois, nor does it imply discrimination against other products.*

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Slime Mold on Mulch

The recent yet brief taste of summer weather brought about the appearance of slime molds on mulch beds. Slime molds are harmless organisms. However, I will admit they can have a somewhat off-putting appearance akin to vomit. I captured the following photo during a recent trip to a playground with my kids.



Slime mold on playground mulch

Every parent seemed determined to keep their children a reasonable distance from the “unknown substance.” Looking back, I wonder what they thought of me as I took pictures and examined the slime mold patches.

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 mold (aka dog vomit slime mold) on landscape mulch

Slime molds can be found on a variety of surfaces, especially those with decomposing organic matter. Slime Molds are 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 with other landscape waste.

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Watering during drought can reduce stress in trees, potentially reducing long-term injury from frost damage and diseases

Don't fret, but some trees may be showing damage from the late frost we received in May for several months to come. Some additional watering during the hot dry months of summer, and the affected trees will be well on their way to being beautiful specimens.

Maples, redbuds, crabapples, flowering cherries, ginkgos and magnolias may be a few examples of trees that may have experienced some damage. Frost damaged leaves often shrivel, turn brown or exhibit black spots with chlorosis. Some leaves may have already dropped off the plant. Fortunately, these frost-damaged trees will produce new leaves to replace any that were lost.

Some branches may be slow to leaf out. Do bark scratch test before removing "dead" branches. A live tree will be green underneath the bark, while a dead branch will be brown.

Symptoms from other diseases may start to appear as the season progresses. Diseases like anthracnose thrive under cool, rainy spring weather. Disease

symptoms can be hard to distinguish frost damage and may need to be sent to the University of Illinois Plant Clinic to get proper identification.

It is important to know diseases cannot be cured, but they can be prevented. Diane Plewa, University of Illinois Plant Clinic Diagnostician, says, "Diseases are more prolific in stressed trees and most of the stress comes from nutritional deficiencies, drought, improperly planted trees, improperly mulched plants." If homeowners don't address issues causing tree stress, reduction of disease symptoms may be impossible. Check out these blog posts on diseases that will likely appear soon on Illinois trees. [Richard Hentschel](#) talks about diseases symptoms expressed in the late summer following a cold wet spring and [Flowers, Fruits and Frass blog](#) highlights

Tips for watering stressed trees during drought

1. Check the rain accumulation in your area, <https://stateclimatologist.web.illinois.edu/current-conditions/>. Most established trees need 1 inch of water a week and 2 inches if it is hot and dry.
2. Newly planted trees or shrubs require more frequent watering than established trees. They should be watered daily the first few weeks after planting and at least weekly for the first season of establishment. Check to see if the root ball is dry a few times a week.

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