

Number 7 - June 6, 2015

Modified Growing Degree Days (Base 50°F, March 1 through June 2)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	611	498	716	852
St. Charles	583	471	681	809
DeKalb	638	545	749	890
Monmouth	721	601	836	980
Peoria	733	639	851	999
Champaign	761	657	886	1040
Springfield	856	730	986	1146
Perry	830	683	951	1098
Brownstown	796	794	932	1095
Belleville	1040	828	1174	1325
Rend Lake	1037	893	1183	1353
Carbondale	978	846	1117	1276
Dixon Springs	1003	907	1145	1308

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)

Giant Hogweed? Maybe It's Cow Parsnip, Poison Hemlock, or Purple Angelica...

This week, we have received a couple of calls regarding the possibility of giant

hogweed. Now is the time of year when giant hogweed starts to bloom. As one of our most unwanted invasive species in Illinois, we definitely want to know if there are any populations. But, please remember, giant hogweed can easily be confused with several other plants. These look-a-likes are also being observed across the state at this time.

Giant Hogweed. This plant can grow to heights of 10 to 15 ft and a width of 5 ft. It is a biennial or short lived perennial that has a mostly green hollow stem with reddish purple raised spots along with coarse short hairs on the stalk. The stem can grow to 2 to 4 inches in diameter. The plant has small white flowers in flat umbels that bloom in mid-May through July. The seeds are elliptical shaped and one plant can produce up to 20,000 seeds. After seeding, the plant dies back to the taproot which can live throughout the winter.

In addition to being an invasive weed that can quickly overtake an area by crowding out other plants, giant Hogweed is also harmful to humans by creating a clear watery sap that can cause burning and blistering on the skin when combined with sunlight and can also cause blindness. This sap can get onto someone just by brushing by the leaves or breaking the stem or leaves. It is highly recommended that when dealing with this plant one should wear gloves and protective clothing to allow no contact with skin.

Cow Parsnip, Poison Hemlock, and Angelica all have similar leaves and flowers and may be found in similar habitats. However, all of these plants are dwarfed in size by giant hogweed. The only 'look-alike' that comes close in size is the Cow Parsnip at 4-9 feet tall. Other important differences between these two plants include the leaves which are 5 feet wide on the Giant Hogweed and only 1 foot wide on the Cow Parsnip. In addition, the Hogweed flowers are 2.5 feet wide whereas Cow Parsnip flowers are only 6 to 12 inches wide.

Due to the noxious nature of the plant, *ALWAYS* wear skin protection when coming into contact with Giant Hogweed. Giant hogweed is still rare in Illinois. While visitors in natural areas are unlikely to encounter this plant, it never hurts to keep a watchful eye for this and other invasive plants. If you think you've found a population of giant hogweed, please **DO NOT TOUCH** it! Instead, take some photos, in particular close up of the leaves, flower heads and stem if you can and report the infestation. You can report it to me at kcook8@illinois.edu or to Chris - chris.evans@illinois.edu, or call your local Department of Agriculture or University of Illinois Extension Service office. (*Kelly Estes*)

Mower and Weed-eater Damage

Most tree professionals will tell you the worst plant to be grown around trees is turfgrass. It's not that turfgrass is all that bad for trees, though in nature you seldom find manicured lawns growing around native stands. While the turfgrass may compete for nutrients and waters, it's the mower and weed-eaters that cause the most injury.

While trunks are protected by layers of bark, the bark can be injured easily. Repeated rubbings by the sharp edges of a mower deck, or the line from most weed-eaters, cuts into the bark, eventually reaching the cambium layer underneath. If damage to the cambium is severe; recovery, while possible, has its own issue.

The most outward symptom of the damage is peeling and sloughing of the bark at ground level to five or six inches above the ground. This damage isn't immediate to the mower injury, but may be several weeks, months or even years after the injury occurred. Repeated injury from the mower or weed-eater hastens the symptoms, preventing the tree from trying to heal itself. The bark at the tree's base may swell slightly before it dislodges. Over time, large strips may peel off progressively up the tree, which can be attributed to cambial death at ground level and subsequent inability of the tree to manufacture new bark.

With cambium death, water flow is disrupted and you may notice smaller leaves, small branches, slower growth or even death on the damaged side of the tree. This damage is especially noticeable in the spring as the sap starts rising, the trunk is expanding and the bark is looser.

Often, callus tissue forms, giving the wound a rounded appearance but exposed wood beneath may start to rot. This rotting affects the lower structural integrity of the tree and can be as problematic in the long run as the lost bark.

The best way to prevent the damage is to keep all mowers and string-trimmers away from the trunk of the tree. Mulch two to four inches deep at the most. Ide-

ally, mulch should be spread to the tree's dripline. Practically, a two to three foot radius from the trunk is sufficient, making sure to keep the mulch an inch from the trunk to allow the trunk to stay dry.

The goal is to prevent grass from growing next to the trunk. Low-growing, non-mown groundcovers are an alternative if mulching isn't practical.

Non-selective herbicides can be used in some situations, but protect the trunk of the tree with a cardboard collar when spraying. Make sure to read and follow directions on the label. Avoid herbicides with a long residue as these may damage the tree.

For damage that is already occurring, first change the mowing and weeding strategies. Next, make sure the wound is clean and rounded, as rounded wounds heal faster than jagged ones. A sharp pruning knife may be the best tool. Most fungicides and wound dressings are of little value once the damage is seen. Maintaining the overall health of the tree with watering during droughts and autumn fertilizing is encouraged. (*David Robson*)

Dutch Elm Disease

Dutch elm disease (DED) is a destructive wilt disease caused two closely related fungi, *Ophiostoma ulmi* and *Ophiostoma novo-ulmi*. Since its introduction to the United States in the 1930s (Illinois 1950s) DED has killed millions of native elm trees. American elm (*Ulmus Americana*) and red elm (*Ulmus rubra*) are very susceptible. Asiatic elms, Lacebark elm (*Ulmus parvifolia*) and Siberian elm (*Ulmus pumila*), are the most resistant species.

DED is still common in Illinois and the University of Illinois Plant Clinic confirms numerous cases on an annual basis. In Illinois, most new DED infections are first observed during June. Infections often begin in the upper crown, with symptoms first appearing at the end of an individual branch (called "flagging"). Leaves on affected branches wilt, turn a dull green to yellow, and then brown before dropping prematurely. The infection progresses through the tree rapidly. Once in the tree's vascular system, the fungus produces toxins that in turn induce the tree to form gums and tyloses that plug the water-conducting cells, greatly restricting the flow of water from roots to the foliage. Elms infected during early summer usually die in one year, small trees within a few weeks, and larger elms may die slowly, sometimes over two or more years.

The pathogen can be spread by root grafts or bark beetles (native and introduced). The beetles feed, lay eggs, hatch from eggs, and create a series of tunnels or galleries in the wood. The adult beetles eventually emerge from diseased trees and carry the sticky spores of the DED fungus to healthy elm trees.

Positive identification of DED requires culturing and identification of the causal fungus. Cultures are done with live wood taken from symptomatic branches showing vascular streaking. The ideal branch size is thumb thickness and 6 to 8 inches long.

Confirmed DED-infected elms should be immediately removed and destroyed to prevent disease spread. If a new, upper-crown DED infection is detected early enough, the DED fungus can be eradicated from the tree by pruning out the dis-

eased limb or limbs. While this can be a fairly aggressive procedure, it can be quite successful. Such pruning is most likely to work when less than 5% of the crown is affected. Be sure to disinfect pruning tools before making cuts.

Large elms growing within 25 to 50 feet of each other are likely to have root grafts. Root grafts should be mechanically severed before the disease tree(s) is removed.

Injections of systemic fungicides containing propiconazole or thiabendazole have been shown to prevent new infections and stop the fungal colonization of uninfected parts of the tree. These fungicides are rather costly and provide no guarantees. Injections should be made by trained arborists and technicians.

A good selection of DED-resistant or tolerant varieties and hybrids are available to choose from. Many selections also offer insect resistance and desirable vase-shaped form upon maturity. The Morton Arboretum has a list of Elm cultivars and their descriptions at the following web address:

<http://www.mortonarb.org/trees-plants/tree-plant-descriptions/elm-cultivars>

Additional information on DED can be found within RPD No. 647

<http://ipm.illinois.edu/diseases/rpds/647.pdf> (Travis Cleveland)

Apple Scab

Apple scab is a common fungal disease that affects apple and crabapple trees. Initial infection occurs in spring during flowering, followed by repeating cycles

of secondary infections that continue through the growing season.

We've started to get apple samples with scab already this year. Symptoms on leaves and fruit are the most noticeable, though lesions can appear on almost any non-woody, aerial part of the tree. On leaves, initial symptoms appear as lighter green spots that progress to dark olive green, often along or near leaf veins. Infected leaves may also deform by puckering or curling. As the disease progresses, infected leaves turn yellow and prematurely drop from the tree (usually by mid-summer). This early defoliation decreases the aesthetic value of the tree, and can weaken the tree. Fruits are frequently affected, with dark olive-brown spots progressing to cracked, black scabs on the surface of the apple. If infection occurs when the fruit are young, they will often become distorted as they develop.

The fungal pathogen overwinters on fallen infected leaves (it may also overwinter on buds, though this is less significant for the disease cycle). Typical spring weather (mild temperatures and rain) induces spore dispersal from fungal fruiting structures located on fallen leaves. These spores are borne by wind and rain splash into the canopy of nearby trees, where they infect apple blossoms and young leaves. Wet conditions are required for this primary infection. Spore dispersal occurs for several weeks in most years, from budbreak through the end of bloom. Once infection has occurred, a second type of spore is produced. These spores spread easily through wind and rain, and continuously infect new tissue. Warm, humid conditions favor spore development; cooler summers tend to result in less infection.

Management of apple scab is best achieved through multiple methods. Sanitation has been shown to be very effective at reducing disease the following year. Raking and removing leaves removes the pathogen from the environment, while mulching the leaves with a mower promotes leaf degradation which reduces overwinter survival of the pathogen. Either of these techniques is recommended to control the disease. Resistant varieties of both apple and crabapple are available, and should be considered if you are installing new trees. Spacing trees properly and pruning to increase air flow will reduce leaf wetness, which is required for initial infection in spring.

Fungicide sprays are available to protect new growth in spring from infection. The first application should be made when leaves begin to emerge from the buds in early spring. Sprays should be continued according to the labeled interval until 2 weeks after petal fall for maximum protection. If no leaf spots are seen at that time, fungicide treatments can be discontinued. The fungicide label may give a range of days between sprays as the labeled interval. In springs where there are frequent periods of wet weather or in areas with a history of scab, the shortest labeled interval should be used. Periods of dry weather and areas that have not been heavily affected with scab previously can be sprayed according to the longer interval. (*Diane Plewa*)

Viburnum Leaf Beetle

Obvious damage by viburnum leaf beetle is being found in northern Illinois. This is an exotic, invasive species common in areas of the northeastern U.S. It has recently been found in Illinois.

Eggs overwinter and hatch in May into yellow to brown larvae with black dots which feed on the undersides of viburnum leaves. The feeding damage is very characteristic as both the larvae and adults eat elongated oval areas of leaf tissue between lateral veins, creating an interesting angling damage pattern on heavily attacked leaves. Heavily attacked shrubs are defoliated, and those defoliated two to three years in succession are likely to die.

Larvae grow to about one-third inch long and drop to the soil to pupate, emerging as adult beetles in July to feed on the leaves through the rest of the summer. Adult beetles are a drab shade of yellow-green to brown and are one-quarter to one-third inch long.

Female beetles lay eggs into one-eighth inch diameter pits that they chew in rows into small twigs, primarily twigs produced earlier in the year. They cover the eggs with frass, a mixture of fecal matter and wood and bark fragments, whose appearance is different from the surrounding bark when deposited. Over time, the color difference becomes less obvious. These eggs hatch the following spring.

Many viburnum species are fed upon, but the insect prefers species whose leaves are less hairy such as European cranberrybush, American cranberrybush, and arrowwood viburnum. Damage is reduced by planting less preferred viburnum species such as Koreanspice, Burkwood, Judd, carlcephalum, leatherleaf, lantanphyllum, Japanese snowball, tea, and Siebold viburnums. Other viburnums are intermediate in feeding preference.

Pruning and destroying twigs containing eggs in the fall and winter reduces larval numbers the following spring. Acephate

(Orthene), carbaryl (Sevin), cyfluthrin (Tempo), imidacloprid (Merit), lambda-cyhalothrin (Scimitar), spinosad (Conserve), and malathion are effective. A spray application to young larvae in the spring is most effective in preventing damage. A second spray may be needed later in the growing season to control heavy adult feeding. (*Phil Nixon*)

May Beetles

There are many species of the genus *Phyllophaga*, also known as true white grubs or May beetles that occur in Illinois. Their larval stage is one of the genera known as white grubs that feed on turfgrass roots, but unlike other white grubs in turf, true white grubs also feed on dead organic matter. For that reason, they are commonly found in flower beds, under dead logs, and in mulch causing no apparent damage.

Adult May beetles feed on oak, crabapple, ash, and other tree foliage at night in the spring, eating the leaf margin to the mid-vein. Damaged tree leaves with no apparent responsible insect during the day may be due to May beetle feeding. Verify the cause by scouting the foliage after dark with a flashlight; adults hide in turf during the day.

Most May beetles are about one-inch long stocky dark brown to reddish brown beetles. These typically have three-year life cycles, spent mostly as white grubs. This spring, we have been seeing a May beetle species that is a one-half inch long, tan adult beetle, similar in appearance to masked chafer adults.

Adult feeding on tree foliage is usually not heavy enough to warrant treatment. If needed, a single application of carbaryl (Sevin) or a pyrethroid will provide control. (*Phil Nixon*)