COOPERATIVE EXTENSION SERVICE
HOME, YARD & GARDEN PEST NEWSLETTER
College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana - Champaign
Illinois Natural History Survey, Champaign

Modified Growing Degree Days (Base 50° F, March 1 through May 16)

Station Location	Actual Total	Historical Average (11 year)	One- Week Projection	Two-Week Projection
Freeport	227	297	299	377
St. Charles	218	285	284	357
DeKalb	207	328	285	370
Monmouth	287	375	371	458
Peoria	328	409	413	502
Champaign	385	411	475	570
Springfield	415	461	515	619
Perry	416	441	506	599
Brownstown	446	514	549	659
Belleville	537	540	644	757
Rend Lake	549	588	662	782
Carbondale	556	557	661	776
Dixon Springs	589	605	701	820

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)

Eastern Tent Caterpillar

Eastern tent caterpillars (*Maclacosoma americanum*) are native North American pests that can be heavy defoliators. They feed predominately on members of the rose family including crabapple, apple, cherry species, hawthorn, peach, plum species and many others. When feeding, the caterpillars chew from the margin of the leaf inward, leaving the midvein of the leaf behind.

Eastern tent caterpillars overwinter as eggs on host trees and young caterpillars hatch at bud break. Caterpillars are dark with a yellow-gold stripe down their back and blue spots along their sides. The caterpillars have short velvety hair covering their bodies with some sparse longer hairs along their bodies and can grow to be 2 inches long.

The caterpillars create silk tents at the crotches of branches and venture out of the tents to feed on foliage. As the caterpillars grow, they will expand their tents. The tent provides protection from predators, parasites and pathogens. The tent also has a greenhouse effect, creating a warm, humid environment that is beneficial for caterpillar growth and activity.


Eastern tent caterpillars (*Maclacosoma americanum*; left), eastern tent caterpillar tent (right). Photos by Phil Nixon.

Eastern tent caterpillars can be differentiated from other tent building caterpillars like fall webworm by the location of their tents on the trees. Eastern tent caterpillars construct their tents at crotches or Y-intersections on trees early in the season, while fall webworms build their tents at the tips of branches later in the season.

Eastern tent caterpillar populations vary from year to year, so we may find low population for multiple years and one year with a heavy population. When populations are heavy, feeding can lead to significant defoliation. Removal of tents or application of Bt treatments can limit further defoliation.

Cultural and Mechanical Controls

Removing tents by winding them around a stick and squashing the caterpillars is an effective means of reducing caterpillar populations quickly. By removing tents at night or on cloudy days, more caterpillars will be inside the tent when it is removed and more caterpillars can be controlled at once. When the

tents are damaged or removed, the surviving caterpillars will be exposed to disease, parasites and predators.

Inspecting branches and removing of egg masses from previously infested trees in the fall can help reduce caterpillar populations the following year.

Biological Applications

Bacillus thuringiensis kurstaki (Bt) treatments like Dipel or Thuricide are bacterial treatments that can be used to control caterpillars. Bt treatments are most effective when caterpillars are young. The caterpillars must consume the Bt treatment for it to be effective so applications to foliage are most effective.

(Sarah Hughson)

Scouting for Bagworms

When the Japanese Tree Lilacs are in bloom, it is time to scout for and control bagworms. This species flowers later than other lilacs, with large fluffy white blossoms on a 20 to 30-foot tree. Known for their fragrant flowers in early- to mid-June, Japanese tree lilac is a common urban tree. In Bloomington, Miller Park has impressive specimens by the entry to the zoo.

But don't get swept away in the aroma. On nearby evergreens there are tiny caterpillars climbing to the top of infested trees, spinning a single strand of silk to catch the wind and look for a suitable host. Juniper and arborvitae are the most susceptible but there are hundreds of other species that can be attacked, including pine and spruce. These tiny paratroopers have hatched from eggs overwintering in the bags from the previous season.

Small caterpillars feed on the outer layer of the leaves or needles on their host, causing browning, usually starting at the top of the tree. As they grow, their appetite increases and they begin to eat all of the foliage. They feed throughout the summer but are much easier to kill when they are small. These caterpillars remain susceptible to chemical treatment into early July. Heavy infestations of these insects can not only be unsightly with all the eaten foliage, but can kill branches or whole plants.

As the caterpillars feed, they produce silk and use foliage from the plant to create a bag. In late summer, these caterpillars pupate for about 7 to 10 days. The adult female remains in the bag and has greatly reduced legs, eyes and mouthparts. The males emerge from the bag as a black moth and find a female within a bag to mate with. After mating, she produces 500-1000 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. As they are protected by the bag, control is futile until the eggs hatch and the juveniles emerge from their winter homes.

Any time of the year, removal of bags is good technique to employ. As the tree lilacs fill the air with their perfume, the following chemical treatments are effective: *Bacillius thuringiensis kurstaki* (also known as Btk, and found in Dipel and Thuricide), Spinosad (organically derived and found in products like Conserve) and cyfluthrin (Tempo) can be effective in ridding your landscape trees of future bagworm infestations. As always with pesticides, read and follow the labels to ensure safe and effective application. Follow up applications may be needed.

(Kelly Allsup, kallsup@illinois.edu)

Fields of Yellow

The fields of central Illinois may not be full of corn or soybeans yet, but they are full of yellow. Butterweed is having a glorious year with the cool, wet weather conditions we have experienced. It is quite striking to see an entire field of yellow on an otherwise barren landscape. I've seen people stop to take pictures of it. My farmer brother recently watched two girls haul away buckets of the cut flowers from his field. He was fine with it but was puzzled just the same as to why they would want this weed of his. More power to them. Please, come take more.

Butterweed, also known as cressleaf groundsel, is additionally known as *Senecio* by many. The latin name was *Senecio glabellus* for many years but was changed in the last few years to *Packera glabella*. Other common names include ragwort and squawweed. Regardless of what you may call it, this is a weed we have been seeing much more frequently in recent years although it is native to North America.

This weed may be confused with other yellow blooming weeds. Keep in mind that it's still too early in the growing season for wild parsnip and the goldenrods will not be in bloom until late summer. Similar sounding names can be confusing too. The Buttercup family (not butterweed) has several members that bloom yellow. Yellow Rocket is a mustard that is also known as winter cress. "Cress" is actually found in several plant names.

Butterweed is a winter annual that grows erect on a hollow, succulent, smooth stem from a basal rosette. Stems are typically green but can have a reddish coloring as well, often in vertical stripes. Stems can reach 3 ft in height. Leaves along the stem are deeply lobed, smooth, and often glossy. The flowers of this aster are somewhat distinct. Appearing in clusters at the end of the stems, they are bright yellow or golden. Unopened flowers are somewhat rounded in shape. Slightly lighter colored outer ray petals number 5 to 15 and surround the slightly darker colored disk florets. The number of petals is useful in differentiating between this species and other yellow weeds in bloom at this time. Mustards will have 4 petals. The seed heads are dandelion-like puffballs which are disseminated by the wind. Occasionally, they find their way to landscape beds. They should be removed before seed heads develop.

Michelle Wiesbrook

Maple Leaf Blister

Maple leaf blister commonly infects silver and red maples as well as their hybrids. Outbreaks usually occur during springs with extended cool, wet weather. 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. As the leaves mature, they become resistant to the fungus, so there is effectively one infection cycle per year. The fungal pathogen causes abnormal cell division and enlargement, which can cause infected leaves to have a blistered, crinkled appearance. The blisters are initially green but quickly transition a brownish-black color. Anthracnose infections are also likely, given this spring's predominately cool, wet weather. One way to distinguish a *Taphrina* infection from an anthracnose infection is that *Taphrina* usually does not cross leaf veins or infect the leaf petiole.

Maple Leaf Blister

Maple Leaf Blister (University of Illinois Plant Clinic)

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

(Travis Cleveland)

Red Thread

Red thread is a turf disease named for the thread-like structures produced on the tips infected grass blades. It is a foliar disease that usually occurs on tall mown turfgrasses during the spring and fall. This disease is particularly common on slow-growing, nitrogen-deficient, fine-leaf fescues and perennial ryegrass. Outbreaks are favored by cool (60 to 75 degrees F), wet periods coupled with extended overcast conditions.

From a distance, red thread infections appear as circular patches of tan or pink turf. Patches generally range between two and eight inches in diameter. Upon closer inspection, the infected turf will have distinctive, pink to reddish thread-like fungal growth (sclerotia) emerging from the leaves and sheaths. As the disease progresses and more of the turf turns dry and tan, the pinkish fungal growth stands out even more and begins to look like red threads. These threads drop into the thatch, allowing the pathogen to survive for long periods.

Red thread patches

Red thread

Red thread sclerotia protruding from infected grass blade

Control practices may include:

- Maintaining adequate nitrogen fertility to reduce the severity of the disease.
- Increasing light penetration, air movement, and promoting rapid drying of the grass surface
- Mowing frequently at the recommended height for the turf species.
- Mowing with sharp blades to minimize wounding of leaf tips.
- Collecting grass clippings (and threads) during periods when the disease is active.
- Use of fungicides.

The use of fungicides may be justified where red thread has been particularly severe. Apply a suggested fungicide during wet weather in the spring and fall, when daytime temperatures average between 65 and 75. Begin applications when the disease is first evident. QoI fungicides (azoxystrobin, fluoxastrobin, pyraclostrobin, trifloxystrobin) and flutolanil are particularly effective. Homeowners have access to fungicides with myclobutanil, propiconazole, and thiophanate-methyl as their active ingredients.

(Travis Cleveland)

What’s in a Rate?

If a little is great, and a lot is better, then way too much is just about right!- Mae West It might hold with some things, but when it comes to pesticides, rates are critical for control. Some labels have a range of pesticide application rates. These rates are based on timing and conditions. Applying the wrong amount of herbicide can result in problems that include, nonperformance in the control of weeds, and injury to off-target vegetation, turf, and non-target species. Most serious problems encountered with herbicide use often stem from improper application. Errors in application often occur with inaccurate calibration, mixing, improperly operating equipment, and failure to read the product label. A study conducted at the University of Nebraska looking at agriculture pesticide use found-"that the primary problem with ag chemicals is not the chemicals themselves but the people who apply them.” Misapplication wastes an estimated $1 billion annually. With these things in mind, applicators should take time to ensure the application is done accurately, with the correct amount applied at the right time.

So what is the need for the full labeled rate?

The definition of a labeled rate is a rate or range of rates set by herbicide manufacturers to consistently provide effective control of weed species across growth stages and site conditions.

The definition of a low rate is a rate applied below the labeled rate that may provide control at a single location, but will not be consistent over a wide range of conditions.

Weeds that are routinely exposed to low rates can allow a portion of the population to survive, leading to the evolution of herbicide-resistant populations.

When speaking with pesticide distributors, a concern was expressed that many applicators start off using too much of a product and often at the wrong time of the year. For example, a pesticide dealer mentioned selling a lot of, Quinclorac, a herbicide for crabgrass control, for use in late July.

If we dive into this issue, we will see that the problem isn't with the product, it is with the timing of use. The label recommends for use on crabgrass but it is not recommended for use over 90 degrees Fahrenheit as it will result in turf injury. We, unfortunately, aren't given more information on the amount other than it is “too much”. The label has one rate only for use, and so I am left with an unanswered question.

With an unanswered question of amount, we could dive into what would cause an applicator to apply more product than the recommended rate? Could it be an issue that they don't trust the label and that they think more is better? Or maybe they didn't get a good kill previously and want to ensure a better kill this time? Is the issue that the product was ineffective, or is there

possibly a resistance issue at hand? The reverse can be asked as to why a person might be tempted to use a lower rate. Do they not trust the label? Do they believe that they can save money by using a lower rate and still gain control?

As we run the questions in our head about why someone would use too much or not enough of a product, we go back to the core lesson of reading and following the label directions. Many hours and thousands of dollars are invested in product research studies to determine the amount and time that they are most effective for control of pests. It is the law to follow the label directions. As an applicator, it is your responsibility to read and follow the label. Scouting and correctly identifying the pest will allow you to determine the pesticide for treatment. Following these steps can provide better weed control and can save time as well as money in retreatment. Herbicides may not be necessary in a healthy well maintained lawn. When they are needed, use them as part of an integrated pest management program.

(Maria Turner and Michelle Wiesbrook)

Sources-

Applied Weed Science- Ross, Merrill, Lembi, Carole.

http://wssa.net/wssa/weed/resistance/