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

Number 3 - May 11, 2015

Modified Growing Degree Days (Base 50°F, March 1 through May 7)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	277	209	345	416
St. Charles	266	203	331	397
DeKalb	270	233	344	421
Monmouth	362	270	443	527
Peoria	376	299	461	547
Champaign	379	299	466	556
Springfield	466	337	562	661
Brownstown	427	386	526	629
Belleville	492	407	595	701
Rend Lake	538	446	649	760
Carbondale	503	427	604	708
Dixon Springs	520	467	628	738

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*)

*UPDATE - Illinois Invasive Awareness Month Symposium

We have reached our on-site capacity for the for the Illinois Invasive Species Awareness Month (ISAM) Symposium Thursday, May 28. The symposium will be broadcast online and will be available later as a recording thanks to University of Illinois Extension and Illinois Natural History Survey, a division of the Prairie Research Institute at University of Illinois.

The Illinois Invasive Species Symposium is a one-day, all-taxa symposium that features talks on current and emerging issues surrounding invasive plants, diseases, insects, and animals in Illinois. Featured as the culmination of the 2015 Illinois Invasive Species Awareness Month, the event also includes the ceremony for this year's Invasive Species Awareness Month Awards.

If you are interested in viewing the online option, we ask that you still register at http://web.extension.illinois.edu/cfiv/ and the link will be emailed to you to access on the 28th. (*Kelly Estes*)

Fire Blight

Fire Blight symptoms started to appear on several rosaceous hosts this past week. The majority of the foliage on the trees that I observed appeared healthy, with only a few branch ends affected by the disease. Warm temperatures followed by moist conditions that occurred during flowering lead me to suspect that more branches will likely be affected as we progress through the month of May.

Fire blight is a bacterial disease that affects rosaceous plants. Apples, pears, crabapples, and ornamental pears are the most seriously affected species. Other rosaceous hosts include: cotoneaster, hawthorn, quince, firethorn, and mountain-ash.

Affected trees have water-soaked or wilted new growth at the branch tip that quickly turns brown to black and remains attached to the stem. Frequently, the tip of the blighted shoot bends over and forms a distinctive diagnostic feature that resembles a shepherd's crook. Symptoms are similar to frost injury. Cankers also develop in the wood of infected stems and branches.

Fire blight is caused by a bacterium (*Erwinia amylovora*). The pathogen overwinters in living tissue at the margins of trunk and branch cankers that were formed by infections initiated in previous years. The disease can cause numerous cankers on a single tree. Not all cankers survive the winter, but the few that persist produce millions of bacteria capable of causing new infections. Rain or insects move the bacterium from cankers to open blossoms, vigorous shoot tips, and leaves. Fire Blight outbreaks sometimes occur following severe storms. Gusty winds and hail wound the trees, creating an entry point for the pathogen. The bulk of the infections occur during flowering when temperatures are warm (optimal 76°F) and conditions are wet. These conditions also encourage rapid disease development.

An important step to controlling this fire blight is avoiding highly susceptible cultivars. Prior to planting new trees, research and select plants and cultivars known to have good to excellent fire blight resistance. When selecting crabapples, also consider other common diseases such as apple scab and cedar rusts. There is no effective management option for trees infected with fire blight. Prune out infected wood in the dormant season, if you can wait. If not, prune in an extended dry period and disinfect pruning tools after every cut. The bacterium may have extended down the stem ahead of the canker. Unfortunately this means wood should be removed 8-10 inches below the edge of the visible canker. Chemical options are limited, especially for homeowners and the timing of sprays are also critical. Commercial growers apply copper products in the dormant season and streptomycin at 4-5 day intervals throughout bloom. Fertilization and watering are not recommended. Such practices will promote lush growth, which is more susceptible to infection by the fire blight bacterium. (*Travis Cleveland*)

Anthracnose on Herbaceous Ornamentals

Anthracnose is the name given to group of plant diseases caused by related genera of fungi. Anthracnose diseases can affect both trees and herbaceous ornamental trees. The University of Illinois Plant Clinic has diagnosed both trees and ornamental plants with anthracnose this year.

The tree anthracnose diseases tend to be more familiar, with sycamore, oak, maple, and ash trees commonly affected. On most tree hosts, anthracnose is not a serious concern. General symptoms of anthracnose are large, amorphous, necrotic lesions on leaves. These lesions are not bound by veins and can cause leaf distortion. If a tree is heavily infested, premature leaf drop may occur. Usually the plant leafs out a few weeks later and recovers from the infection.

While not as prevalent on herbaceous ornamentals, anthracnose diseases can be a nuisance. They damage the aesthetics of the plant and, if the disease persists, can stress the plant and make it more prone to environmental or other pest issues. In severe causes they can be lethal.

Symptoms on herbaceous ornamentals are similar to those on trees. The lesions typically first appear as dark spots which coalesce and form large, irregular, necrotic lesions with no defined shape. These lesions may appear on leaves or herbaceous stems. The fungus forms fruiting structures in the lesions. These fruiting bodies are visible as small dark dots in the affected tissue. Many anthracnose diseases also produce small hair-like structures in the fruiting bodies which are visible under low magnification.

A wide number of hosts can be infected with anthracnose fungi. Commonly seen hosts in Illinois include dianthus, hollyhock, ivy, pansies, snapdragon, statice, and violets (viola).

Anthracnose diseases are favored by periods of wet weather, so we usually see them in spring. By summer the pathogen becomes less active and less infection is observed. Reducing leaf wetness by watering early in the day, watering from below when possible, and properly spacing plants to allow for air movement is recommended for managing anthracnose diseases. The fungus overwinters in infected plant tissue so sanitation is critical. In fall, infected plants should be cut back to the ground. Infected plant material should be pruned out and removed from the area. Fungicides containing the active ingredient chlorothalonil or potassium bicarbonate can be used when the disease first appears. Fungicides containing other active ingredients may be labeled for use on specific host plants against anthracnose. (*Diane Plewa*)

Emerald Ash Borer

Emerald ash borer should be emerging in southern Illinois this week. It will probably emerge in central Illinois next week, and in northern Illinois in early June. The accompanying map from May 2 shows the 450 degree day base 50 degrees F area of Illinois and surrounding areas at that time. Emerald ash borer adults emerge at 400-500 DD. Referring to the degree day article in this newsletter issue reveals that we have reached that level in southern Illinois. Ash leaf expansion is proceeding on a pace to warrant insecticide application to control this insect.

Emerald ash borer larvae tunnel in the cambium of true ashes, those in the genus *Fraxinus*, including black, green, white, and blue ash. They do not attack mountain ash or wafer ash, not being in that genus or family. Recent research revealed that they also attack white fringetree, *Chionanthus virginicus*. EAB attacks and kills healthy ashes; it is unclear whether it attacks healthy fringetrees.

Attack starts near the top of the tree, primarily in one to two inch diameter branches, and proceeds down the tree, attacking larger branches and the trunk. Heavy larval tunneling girdles the branches and trunk, destroying the phloem, cambium, and most active xylem. Depending on the initial health of the tree, death occurs five to seven years after initial attack.

Faster growing ash species die quicker, with black and green ash being most susceptible. A few white and many blue ash trees are able to survive attack. Asian ashes, such as Manchurian ash, typically take more than seven years to die when attacked as healthy trees.

Fully grown larvae are white, slender, and up to one and one-quarter inches long. Their appearance is that of a chain of flattened children's beads with a tan head and two black spines at the posterior end. Eggs laid in late spring to early summer result in mature larvae entering the fall which pupate in late winter. Apparently, larvae from later laid eggs and those feeding in poor sites overwinter as larvae and feed through the following summer before pupating. Pupation occurs in chambers made by the larvae up to one-half inch deep in the sapwood.

Adults emerge in mid- to late spring through one-eighth inch wide D-shaped holes, being the size and shape of the adult beetle's cross-section. These beetles are metallic emerald green, flat on the back with rounded undersides. They are one-third to one-half inch long and one-eighth inch wide. Females are slightly larger than males.

Newly-emerged adults feed on ash leaf margins before eggs are developed. This early leaf feeding is critical in emerald ash borer control. Systemic insecticides recommended for control of this pest are highly effective at controlling leaf-feeding adults. These insecticides are carried up the tree primarily with water transported in the xylem. Much of the insecticide concentrates in the leaves as water is lost through transpiration. This appears to be the primary means of emerald ash borer control in most systemic insecticides; however, emamectin benzoate is also highly effective in controlling larvae.

Fed and mated emerald ash borer female beetles each lay 30-40 eggs singly or in pairs under the bark. They are attracted to the odor of declining trees and the purplish wavelengths of the ash bark. Traps have been placed by the Illinois Department of Agriculture and cooperating organizations in southern Illinois outside of the quarantined area as shown in the accompanying map. They are purple with a scent lure that resembles decaying ash trees. Made of corrugated plastic, they are approximately one by three foot triangular traps somewhat resembling box kites. They are placed in ash trees where their sticky covering holds visiting emerald ash borer adults. They are effective in detecting local new infestations. They do not attract beetles from outside the immediate vicinity because the beetles have to see the trap, and the lure's odor does not travel far.

There are several insecticides that provide effective control. Apply emamectin benzoate (Tree-age) or azadirachtin (Azasol, TreeAzin) as a trunk injection, imidacloprid (Merit, Imicide, IMA-jet, Xytect, and others) at the highest labeled rate as a soil drench, soil injection, or trunk injection, or dinotefuran (Safari, Transect, Xylam) as a soil drench, soil injection, or bark spray.

Do not apply imidacloprid into mulch or other dead organic matter. Apply the neonicotinoids, imidacloprid or dinotefuran, after three-fourths ash leaf expansion to avoid deposition into ash pollen and impact on honey bees and other pollinating insects. Ash leaves are cur-

rently at three-fourths expansion in central Illinois.

Applications of all of these insecticides should be made annually except that Tree-Age needs to be applied only every two years. Control is more effective on smaller trees, those with a trunk diameter of less than two feet. Application is recommended to trees within 15 miles of a known infestation. Even infested trees showing dieback survive and show signs of recovery in the form of normal stem and leaf growth with the above insecticide recommendations if the dieback is not too severe. (*Phil Nixon*)

Bridalwreath Spirea and Insect Management

Bridal wreath spirea, or Vanhoutte spirea (*Spiraea x vanhouttei*), is blooming in throughout the state. This is a major phenology plant in Don Orton's book Coincide. With phenology, stages of plant development (usually bloom time) are used to predict stages in pest development. This method is more accurate than using calendar dates because the plant is exposed to the same climatic conditions as the insect. Thus, "early" and "late" springs associated with unusually high or low temperatures, respectively, cause similar responses in both plant and insect.

Don Orton revised Coincide in 2007 to include phenology information on diseases as well as insects. It continues to be published by Labor of Love Conservatory, 723 Dawes Avenue, Wheaton, IL 60187, (630)668-8597, dennyjam@aol.com. Although occasionally sold in gift stores in locations such as the Morton Arboretum, Chicago Botanic Garden, and Missouri Botanic Garden, it is normally not seen in bookstores. It is probably easiest to obtain directly from the publisher.

Phenology helps predict when pest stages susceptible to control are likely to be present, but it is not a spray guide. When a phenological event predicts that a pest is susceptible to control, one needs to scout to verify that the pest is present and in a susceptible stage before using a control measure. We include phenology information from Coincide in our University of Illinois Extension pest management recommendations published in the Illinois Commercial Landscape and Turfgrass Pest Management Handbook. Following are the most common pests that are in susceptible treatment stages during vanhoutte spirea bloom.

Full bloom: Birch leafminer young larvae; elm leaf beetle young larvae; European pine sawfly feeding larvae; gypsy moth feeding larvae; pine needle scale crawlers (first generation), black turfgrass ataenius (first generation).

Full to late bloom: Lilac (ash) borer newly hatched larvae; oystershell scale (brown) crawlers.

Finishing bloom: Bronze birch borer newly hatched larvae.

Most blossoms brown, still a few white: Flat-headed appletree borer larval hatch; peach tree borer newly hatched larvae; viburnum borer newly hatched larvae.

Bloom finished: Oystershell scale (gray) crawlers. (*Phil Nixon*)