

Number 4 - May 16, 2016

### Modified Growing Degree Days (Base 50°F, March 1 through May 12)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	294	267	365	440
St. Charles	284	257	350	419
DeKalb	301	295	377	459
Monmouth	386	338	471	555
Peoria	400	371	487	572
Champaign	437	372	526	618
Springfield	503	418	603	705
Perry	500	401	591	681
Brownstown	489	469	591	697
Belleville	674	493	779	889
Rend Lake	678	538	789	905
Carbondale	650	511	753	863
Dixon Springs	678	557	787	902

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)

### Brown Boxwoods

Each spring we receive questions and concerns regarding browning boxwoods. The browning foliage is often

the result of winter injury, and weak pathogens infecting the winter injured tissues. More recently, however, callers have been concerned about Boxwood Blight, a new and devastating disease to boxwood. Boxwood blight has been identified in 18 states, mostly along the eastern seaboard and Oregon. In the Midwest, it has been confirmed in Ohio and Missouri. To date, Boxwood Blight has not been detected in Illinois. However, this disease is considered a threat to Illinois. Please contact us if you see a suspect plant. Key identification characteristics of Boxwood Blight and its look-alikes are provided below.

### Boxwood Blight (*Calonectria pseudonaviculata*, syn. *Cylindrocladium buxicola*)

Hosts are limited to the Buxaceae family, including boxwood and pachysandra. Boxwood species vary in their susceptibility. *Buxus sempervirens* and cultivars are the most susceptible, while *Buxus sinica* var. *insularis*, *Buxus microphylla* and their cultivars have been noted to be more resistant. While resistant cultivars show fewer symptoms, they can still spread the pathogen, and may act as a "Trojan Horse," introducing the pathogen to new locations.

Look for these characteristic symptoms of Boxwood Blight:

- Dark brown or black, circular leaf spots

- Dark brown or black linear stem cankers
  - Complete defoliation of the plant.
  - White fungal sporulation on the undersides of the leaves.
- \*\*Many of these symptoms are similar to other diseases. Diagnosis should be confirmed by a plant diagnostic laboratory, such as the University of Illinois Plant Clinic

### **Boxwood Blight Look-alikes**

Winter Injury, *Macrophoma* Leaf Spot, and *Volutella* Blight are common problems of boxwoods grown in Illinois. Their symptoms have similarities to those of Boxwood Blight. To manage these diseases, prune out dead tissues in the spring, preferably during dry weather. Lightly thin the plant so that there is good air circulation within the canopy. Remove all dead leaves and fallen leaves from around the plant. Take steps to avoid winter injury. Protect boxwoods from desiccating winter winds and intense sunlight.

### ***Winter Injury*** (Abiotic)

Winter injury occurs as cold, dry, winter winds and/or direct sunlight causes moisture loss from the evergreen leaves. Frozen soils prevent the plant from taking up water and freeze-dried burn symptoms often result. Depending on a plant's hardiness, location, and the weather conditions, winter injury can damage the entire plant or just the branch or leaf tips causing leaves to become pale yellow/reddish bronze. The pattern of injury can also be helpful in diagnosing winter injury. Injury is most likely to occur on southwest and windward facing sides of the plant. A "snow

line," or distinct line that separates the healthy green bottom from the damaged brown top can also be an indication of winter injury. Snow insulates and protects foliage from desiccating winds and extreme cold temperature.

### ***Macrophoma Leaf Spot*** (*Macrophoma candollei*)

*Macrophoma* is a weak pathogen that can be confused with Boxwood blight. The disease causes leaf spots and straw colored leaves and can be easily identified by the numerous black, raised fruiting bodies found on dead or dying leaves.

### ***Volutella Blight*** (*Volutella buxii* (asexual stage of *Pseudonectria rouselliana*))

This fungal pathogen often infects wounds resulting from winter injury. Infected leaves on branch tips turn tan, straw-yellow or bronze color in the spring. *Volutella* often moves down the stem, whereas winter injury happens seemingly at once and does not progress down the stem. Under moist, humid conditions, the foliage may develop distinct masses of pink to salmon colored spores. (*Travis Cleveland*)

### **Roundheaded Appletree Borer**

Roundheaded appletree borer attacks rose family plants including hawthorn, mountain ash, quince, serviceberry (shadbush), cotoneaster, and crabapple.

At this time of year, roundheaded appletree borer adults emerge from infested trees. The adult beetles are elongate, one-half to one-inch long, brown to black bee-

gles with white undersides, two white stripes down the back, and long antennae. Females fly for about 40 days, making one-inch long longitudinal slits through the bark, usually just above the soil line. Within each slit, she lays a single egg.

The hatching legless larvae tunnel up and down in the sapwood. Fully-grown larvae are whitish with dark heads and are about one and one-half inches long. They grow slowly, taking two to three years to become fully-grown. Pupation occurs in the larval tunnels.

Nursery stock and newly planted trees are most susceptible to damage, being seen as a partial girdling of the lower trunk, resulting in reduced tree vitality and slow growth. Spraying the lower few feet of the trunk with imidacloprid (Merit) at this time throughout the state should be effective to prevent girdling and other weakening of the trunk near the soil surface. (*Phil Nixon*)

### **Flatheaded Appletree Borer**

Flatheaded appletree borer attacks a variety of rose family trees including crabapple, hawthorn, serviceberry, mountain ash, and ornamental pears, plums, and cherries. It also attacks maple, ash, and a variety of other trees. Now is the time to treat for this pest.

Flatheaded appletree borer generally attacks trees or parts of trees under stress. It commonly attacks older rose family trees, assisting in their death. Particularly in the northern two-thirds of Illinois, serviceberry, mountain ash, flowering cherry, purple-leaf plum, and Bradford and Callery pears are short-lived trees, frequently dying within 30

years. As these trees decline, flatheaded appletree borer frequently attacks them. With homeowners and other clientele commonly assuming that all trees live for a hundred years or more, this natural decline and borer attack is difficult for them to understand.

It also frequently attacks maples that have been recently transplanted as well as those with frost crack injury or storm breakage. Maples in nurseries and new landscapes are typically attacked near the base of the tree. The larva tunnels under the bark in a helical fashion around the trunk, girdling and killing the tree. Larvae are likely to tunnel beyond the frost crack or storm damaged area, causing additional damage. Frothy sap commonly exudes through bark cracks in damaged areas.

Larvae tunnel through the cambium with older larvae tunneling into the heartwood. The tunnels are broad and packed with frass. Fully grown larvae are about one inch long. Pupation occurs in the heartwood with adult beetles emerging at this time of year through oval holes that are about three-sixteenths inch in diameter. Adult beetles are about one-half to three-fourths inch long, long-oval in shape, and grayish-bronze. The wing covers are rough with small bumps. After mating, females lay eggs for the next generation in wounds and in cracks in the bark.

Newly transplanted trees should be watered when necessary to keep them as healthy as possible. Other cultural practices assisting in adaptation to site and rapid growth help reduce borer attack. Plastic or paper trunk wraps reduce borer attack, but be watchful for disease development under the wraps.

Application at this time of imidacloprid (Merit, Xytect, others) is effective to newly transplanted stock and damaged trees. Spraying the bark should provide control. Application to trees declining due to age may extend longevity only a couple of years and is usually not recommended. (Phil Nixon)

### **Viburnum Crown Borers**

Viburnum crown borers are several species of clearwing moth borers that attack at the base of viburnum shrubs. Younger plants and those that have just been transplanted or put under similar stress appear to be more susceptible to attack. *Viburnum opulus*, particularly *Viburnum opulus compacta*, appears to be considerably more susceptible to attack than other species. Commonly, new plantings of *Viburnum opulus compacta* are severely attacked, resulting in severe dieback and even the death of half or more of the planting. Other species of Viburnum are attacked but are usually not severely damaged.

Larvae tunnel in the cambium just under the bark, primarily from the soil surface to 6 to 8 inches belowground. Heavily attacked belowground stems are deeply furrowed by larval tunneling, with very little if any bark remaining. The fully grown white, legless larvae are about 1 inch long and 1/4 inch in diameter. They are easily located in the shallow tunnels. Heavily attacked shrubs have dead stems that break off easily from the crown. Moths emerge through round holes about 3/16 inch in diameter on the stems just above the soil line. Several-year-old emergence holes can commonly be found at the base of older, healthy viburnums of several species,

indicating that they were attacked early in life but survived.

Control is achieved by applying permethrin (Astro) to the base of the plant when beautybush and mock orange bloom. Beautybush is blooming at this time in central Illinois, so application at this time in southern and central Illinois is warranted. Application in northern Illinois should occur in a couple of weeks. Spray heavily onto the bark at the base of the plant. This provides complete coverage and allows the insecticide to run down onto the below-ground portion of the stem.

Because the larvae feed shallowly on the stem below ground and many are exposed to the soil, the insecticidal nematode *Heterorhabditis bacteriophora* is effective in late August against these larvae. Apply the nematodes to moist soil and keep it moist so that the nematodes do not dry out and die. (Phil Nixon)

### **Grass Sawfly**

Grass sawfly larvae have been found feeding on turf in northwestern Illinois. In the past, they have been found feeding on various species of *Lysimachia*, sometimes called loosestrife or creeping jenny. The sawfly larvae are whitish to pale green with light tan heads and obvious black eyes. Fully grown larvae are a little over one inch long. We're not sure which species this is, but it is likely *Dolerus nitens* as it is common as adults in late spring.

These insects are unlikely to cause important damage to turf, but localized damage to *Lysimachia* may occur. It is

likely that these insects are held in check by parasitic wasps, keeping them from being widespread pests. Although saw-fly larvae look similar to caterpillars, they have more than five pairs of pro-legs. Not being true caterpillars, they are

not controlled with Btk. Spraying the foliage with carbaryl, Sevin, or a labeled pyrethroid will provide control. Do not spray blossoms to avoid killing bees and other pollinators. (*Phil Nixon, Martha Smith*)