

Number 3 – May 9, 2011

### **Weather Effects on Insect Pests**

The cool weather that we have had over the past week have kept insects somewhat at a standstill. Most insects do not develop at temperatures below 50 degrees F. They just sit as in suspended animation, not feeding or growing. Although they do feed and develop at temperatures in the 50's, they do so much slower than when temperatures are in the 70's and 80's. Meanwhile, plants tend to grow at temperatures above 39 degrees F or so, allowing them to get ahead of their insect pests when temperatures tend to hang in the 40's and low 50's. Two or three weeks of this type of weather, commonly called a blackberry winter, can greatly reduce the impact of serious spring pests. Not only do the plants develop past the growth stage when insects cause serious effects, but insects are vulnerable to fungal disease and predation longer, resulting in fewer insects surviving.

Although freezing temperatures can have serious effects on many plants, they have little effect on spring-occurring insects. Plants and insects are damaged by freezing temperatures when ice crystals form within cells, puncturing cell walls. Insects respond to cool temperatures by reducing the amount of water in their cells, resulting in increases in the relative percentage of sugars and other materials, reducing the freezing point of the mixture. This is

why ice cream is soft enough to dip when ice cubes taken out of the same freezer are very hard. The ice cream has a higher concentration of solutes which reduces the freezing point. In addition, insects produce long chain alcohols under cooling conditions including glycerol and ethylene glycol. Ethylene glycol is used as anti-freeze in car radiators. These alcohols also lower the freezing point of cell contents. Freezing temperatures during the summer will kill insects because they have not modified their physiologies.

In summary, the insect recommendations listed in last week's issue of this newsletter are appropriate for the coming week due to the lack of insect development. (*Phil Nixon*)

### **Oystershell Scale**

Oystershell scale feeds on a wide range of trees and shrubs, and is very capable of killing them. It feeds on at least 128 host species found in 19 genera in 12 plant families. This scale is most susceptible to crawler sprays, and crawlers are present and susceptible to control at this time of year.

Oystershell scale is shaped like an oyster's shell, being elongate and wider at one end. Fully grown scales are about one-eighth inch long. There are two races, brown and gray. The brown race,

also called the apple race, heavily attacks apple, crabapple, dogwood, and poplar. It produces crawlers earlier than the gray race with crawlers emerging when vanhoutte spirea (bridalwreath spirea) is in full to late bloom, which is likely happening now in southern Illinois. The brown race produces a second generation of crawlers when Queen Anne's lace (wild carrot) is blooming. The gray race, also called the lilac race, heavily attacks lilac, ash, willow, poplar, and maple. Gray race crawlers emerge when vanhoutte spirea has finished bloom. The gray race only has one generation per year in Illinois. Other hosts of one or both races of oystershell scale include boxwood, birch, beech, cotoneaster, elm, horsechestnut, linden, mountain ash, pachysandra, pear, plum, sycamore, tuliptree, viburnum, Virginia creeper, and walnut.

Both races produce gray crawlers that are pinhead-sized and crawl on the stems and leaves. It is relatively easy to spot the crawlers on the leaves, but another scouting method is to wind black electrical tape on infested branches with the sticky side out. Crawlers will get stuck on the adhesive and are easy to see on the black background.

The first stage nymphs or crawlers settle down to feed on stems and gradually lose their legs, eyes, and antennae while they cover themselves with a combination of shed nymphal skins and wax. This waxy covering protects them from most contact insecticides. They feed on cell contents rather than phloem vessels as do soft scales, making them less susceptible to systemic insecticides. The scales mature late in the growing season, overwintering as eggs. As such, they are not very susceptible to dormant oil

sprays. The eggs hatch the following spring into crawlers.

All of this makes oystershell scale very susceptible to control only during the crawler stage. There is a window of two to three weeks when contact insecticides such as insecticidal soap, summer spray oil, pyrethroids, and many other insecticides are very effective. As time elapses, they become less susceptible to control.

Oystershell scale commonly attacks only a single branch or side of a tree or shrub, making it important to scout all several areas of the plant. It also allows for significant control by pruning. If early attack is not noticed, the scale is likely to spread to other parts of the tree or shrub, and can kill the entire plant. (*Phil Nixon*)

### **Invasive Species Awareness Month**

Did you know that May is Invasive Species Awareness Month (ISAM)? ISAM provides opportunities for all citizens of Illinois to participate in invasive species awareness events around the state. Events and programs are being held across the state and everyone is encouraged to attend and learn more about invasive species (check out the ISAM website at

<http://www.invasive.org/illinois/>).

During May, you'll be able to volunteer to help remove invasive species, join a nature hike to see invasive species firsthand, or attend presentations to learn more about what they can do help fight these threats. Over 40 invasive species events are taking place across the state during May.

Invasive species come in many forms, from plants and animals, to insects and

diseases. Invasive species can greatly harm the ecology and economy of Illinois. Invasive species can reduce productivity of agricultural lands, impact diversity of natural systems, reduce wildlife habitat, and limit recreational activities. Illinois has its share of invasive species problems. Two of the most recognizable are Asian carp and emerald ash borer, but we also face many challenges with invasive plants such as garlic mustard, Oriental bittersweet, kudzu, bush honeysuckle, and leafy spurge.

Organizations, agencies, and groups from across Illinois are teaming up to make this Invasive Species Awareness Month a huge success. Central to this year's events is the theme that each person in Illinois can make a significant difference in battling invasive species, whether it is through cleaning water craft, volunteering at workdays, choosing to purchase species that are not considered invasive, knowing proper disposal methods for bait and unwanted aquarium pets or plants, or controlling invasive species on their lands. (Kelly Estes)

### **Henbit**

In the past few weeks I've received a few phone calls concerning the identity of the purple flowers that are abundant in fields, lawns, and landscapes now. Although there are a couple of weeds they could be, odds are that sea of lavender that you see across the state is really henbit (*Lamium amplexicaula*).

This cool season annual or biennial mint has certainly been loving this cold, wet spring. Not only are there many henbit plants in bloom right now, but I've also seen several henbit seedlings as well.

This plant reproduces by seed and may spread by rooting stems. Plants are generally low growing but can grow to 16 inches tall. The stems are square shaped (4 sided), green to purplish, and may be smooth or hairy. The leaves are triangular to circular in shape and have palmate venation with a deep crinkle along the veins. The leaf edges have rounded teeth. Upper leaves are borne directly on the stem, while lower leaves are found on long petioles (opposite each other). Leaves are typically 1/2 to 1 inch long and hairy. They often begin as a dark green but tend to lighten in color as they age. The roots are fibrous. Henbit flowers are tubular, up to 3/4 inch long, pink to red to purple, and borne in whorls in the upper leaf axils (where the leaves meet the stems). To me, they look like pink puckered lips. Henbit normally produces flowers April to June but can sporadically until fall.

Henbit may be pulled pretty easily, especially right after a rain when the soil is moist. A hoe will work well too. In landscape beds, mulch and groundcovers work well to keep weed pressure down. In established turf, prevent henbit infestations by maintaining turf density and health. A thicker lawn will compete well with weeds. Avoid thin seedings in the autumn. Apply postemergent herbicides (such as 2,4-D or dicamba in turf) from mid through late spring and again from mid to late autumn. They work best when weeds are small. Be sure to seed open areas in with turf to prevent more unwanted weeds from moving in. Preemergent herbicides (such as pendimethalin, dithiopyr, isoxaben, or prodiamine) should be applied in late summer before germination. For example, Preen (trifluralin) could be

applied to landscape beds in the late summer/early fall. Of course, read and follow all herbicide labels very carefully. Certainly control henbit before it goes to seed as one plant is capable of producing 200 seeds.

There are a few henbit look-alikes including purple deadnettle (*Lamium purpureum*). The leaves of this plant, however, have a pointed tip so they are triangular shaped. They are less deeply lobed than those of henbit and are attached to the stem by a short petiole. Also, the leaves and stems are conspicuously red or purple. Groundivy or creeping Charlie is similar to henbit too, but it is a creeping perennial with smooth leaves in pairs on long petioles. (Michelle Wiesbrook)

### **Watch Out For Anthracnose**

Rains have been plentiful and temperatures have been cool. This weather has been ideal for the development of anthracnose on shade trees just as tender leaves are first developing. Anthracnose causes water-soaked leaf spots ranging in color from dark green to brown. Some tree species, such as ash, oak, maple, and sycamore, may also form small twig cankers where anthracnose fungi may reside.

This disease is most prevalent in the spring because conditions are conducive to fungal development, while slowing plant development. Leaves emerging in warmer, drier conditions usually escape the disease. Conditions needed for infection vary with the host and the fungus. For most, the critical period for primary infection is the 2 weeks after budbreak.

Unless anthracnose fungi have repeatedly hit a tree or a very young tree is involved, we do not recommend using fungicides. Dogwood anthracnose is another story altogether. Look for dogwood anthracnose in June. It can cause extensive damage, and fungicides are recommended.

There can be differences in susceptibility to anthracnose within species. In addition, hybrids and cultivars within species can vary in resistance. Unfortunately, *Plantanus* species (Sycamore or Plane/Plane trees) are very susceptible to this disease.

In general, anthracnose diseases do not kill trees; but repeated infections can weaken trees, making them susceptible to other problems. Some defoliation may occur, but refoilation with healthy leaves follows in warmer weather. Concentrate on boosting tree vitality, which promotes new growth. Prune in and around the tree to open it to better air movement. Remove dead or dying branches, water in periods of drought, and mark calendars now to fertilize affected trees in the fall. Watering in summer drought is probably the best advice we can give to help infected trees.

You might confuse anthracnose with late frost damage. Anthracnose generally causes more discrete spotting on the leaf blade; it occurs where air movement is slow and relative humidity high--most severe near the bottom and inside of the canopy. Frost injury is more likely on branch tips or near the canopy top--areas more exposed to weather conditions. For more information, see *Report on Plant Diseases*, no. 621 at [http://web.aces.uiuc.edu/vista/pdf\\_pub/s/621.PDF](http://web.aces.uiuc.edu/vista/pdf_pub/s/621.PDF). (Stephanie Porter)