May Beetles

Adult May beetles are very numerous in southern Illinois. They can be a problem to ornamental trees and shrubs as well as having a delayed impact on turfgrass.

There are several species of May beetles, genus *Phyllophaga*, in Illinois. The adults currently numerous in southern Illinois are about one inch long, stocky, dark brown beetles. They are found throughout the state, overwintering in the soil as adults. It is common to dig them up when planting trees or shrubs in the fall or spring. Another very common species at this time of year looks similar, but is reddish-brown.

The adult beetles are strongly attracted to lights at night, as shown in the accompanying photo. It is common to see them swimming or drowned in the morning in dog water dishes. They hide in the turf thatch during the day, emerging at night to feed on the leaves of trees and shrubs.

I have noticed the adults feeding on crabapple, oak, and ash, but they attack many other trees. They feed on the leaf margin and sometimes eat all of the leaf except for the midvein. Commonly, females will be feeding while males are mating with them. If you have feeding damage on deciduous tree leaves with no apparent responsible insect, check out the tree at about 10:00 p.m. It is common for large numbers of beetles to be on the foliage at that time of night.

Mated females burrow into turf to lay their eggs. These will hatch out in 2-3 weeks into true white grubs. Although they hatch well before Japanese beetle and masked chafer white grubs, they are controlled with the same insecticide treatment at the same time. With their small size and usually modest numbers, they are unlikely to cause turf damage before treatment for these other grubs occurs in July or August. They look similar to other white grubs, being C-shaped with three pairs of legs. They are white with brown heads. All true white grubs’ raster pattern has two parallel rows of spines. Species vary in the number of spines per row, whether the rows spread apart, and whether they spread towards the front or back.

True white grubs have various life cycle lengths. The most well-known are the species known as three-year white grubs. Their larvae feed for the balance of this growing season, descend deeper into the soil for the winter, ascend to feed for a second growing season, descend for their second winter, and ascend for a third growing season. Most turf damage occurs during the second and third year of feeding. In late summer of the third growing season, they pupate in the soil, emerge in the fall as adult beetles, but stay underground until the following spring.
There are also one-year, two-year, and four-year life cycles. One of the one-year life cycle species is common in southern Illinois, emerging as adults at about this time of year. These adult beetles are tan and about one-half inch long, appearing similar to masked chafers.

True white grubs tend to be common in drier soils than Japanese beetle or masked chafer grubs, so are more likely to cause damage to non-irrigated turf areas. They also have a wider diet, feeding on mulch, other decaying plant material, and on the roots of plants other than grasses. They damage carrots, potatoes, and other root vegetables. They are commonly found in flower beds and other mulched areas where they usually cause no harm.

Feeding on tree leaves by adult May beetles can be controlled with a spray of carbaryl (Sevin), labeled pyrethroid such as cyfluthrin (Tempo) or bifenthrin (Onyx), or other labeled insecticide. Control of the larvae is normally not necessary until July. At that time, we will provide white grub control recommendations—Phil Nixon and Ron Hines, Growmark

**Emerald Ash Borer Control**

A new publication has been produced on control recommendations for emerald ash borer (EAB). This is co-authored by entomologists from Ohio State University, Michigan State University, Purdue University, University of Wisconsin, and University of Illinois. Dr. Dan Herms, Ohio State University, and Dr. Deb McCullough, Michigan State University, are responsible for most of the content, but all five universities added to and endorse the publication. This publication will be available at: [http://ipm.illinois.edu/](http://ipm.illinois.edu/).

The significant change in these control recommendations is the use of emamectin benzoate (Tree-Age) as the insecticide of choice injected into the tree every two years. Recent research, primarily conducted by Michigan State University and Ohio State University, shows that a high level of control is achieved for at least two years with each application of emamectin benzoate. This level of control is high enough to save trees even with very high pest pressure.

Other methods of control, including imidacloprid (Merit, Imicide, Xytect) soil and trunk injection and soil drench, and dinofeturan (Safari) trunk spray, provide a level of control adequate for lower pest pressure. These insecticides are more useful as a preventative before EAB becomes numerous in an area or after heavy infestations have ended and most untreated trees have died. In both of these situations, there are fewer beetles present to attack the trees, allowing less effective insecticidal control to be adequate. A basis for this recommendation is that many of the trees annually treated with insecticides other than emamectin benzoate in high EAB pressure areas of Michigan and Ohio have died.

We are still not recommending control in an area until EAB has been found within 15 miles. Recent research continues to indicate that most trees with up to 40% dieback from EAB will survive if treated with emamectin benzoate.—Phil Nixon
Stressed Yews

A few samples of stressed yews have arrived at the Plant Clinic this season. Callers also have been concerned about their yews. Clients complain that they are seeing branch tip dieback, often scattered throughout the established plants.

There are a few disease problems that affect yews in Illinois, but in most cases I would have to put yews in the category of “not bothered by serious disease problems”. The three fungi that you may find reported on stems of this host include *Botryosphaeria*, *Pestalotiopsis*, and *Phomopsis*. In all cases, however, the fungi are reported as opportunistic on dead or dying tissue. They do not cause the tissue to decline. They follow the decline. One of our cases this year was infected with *Phomopsis* dieback. Sprays are available, but only as preventives as the new growth emerges. Phytophthora root rot can be a problem too. It will appear on plants that are growing in very wet or poorly drained locations. On the other hand, yews are known to decline in wet situations. As the literature states, “they will not tolerate wet feet”. Obviously this means wet roots. Except for one wet nursery situation, I have not seen Phytophthora root rot on yews.

It is very likely that tip dieback on yews at this time of year is the result of cold injury or very wet roots. New growth is most susceptible to cold injury as seen in the first image. Look for this problem where warm temperatures allowed plants to come out of winter dormancy and then a cold snap followed. Usually such injury affects new growth and not older tissues. Removing dead growth is the most you can do to help the plant.

If older growth seems to be affected as well, then wet soils are more likely. The second image shows injury on a plant in very wet soil. Noninfectious problems such as these are often difficult to prove. Eliminating other factors is helpful. I suggest that you pull soil away from the trunk (using gloved hands only) and look for girdling roots or other obstructions just below the soil. Many times deep planting is also a factor.

Do not be quick to use fungicides to remedy these situations. It is very likely that a fungal pathogen is not to blame.

--Nancy Pataky

Pine Wilt

If you are seeing large pines (15-20 years old) that have suddenly turned gray-green, then brown, consider the possibility of pine wilt. The disease may appear on one or two pines in groups of many trees. It may affect only solitary pines. The disease is spread by the Sawyer beetle and follows the pattern of the beetle’s feeding. Pinewood nematodes are the actual pathogen, but the only way they can get into a pine is via the Sawyer beetles.

We see pine wilt on Austrian, Scotch, Mugho, and just about any pine grown in Illinois EXCEPT white pines. If you see these symptoms on white pine, it is more likely that a root related problem is to blame. Consult issue #3 of this newsletter for more on white pine problems.
Pinewood nematodes get their name from the fact that they occur in the wood of the pine tree. This is an aboveground nematode. It is not found in the roots and will not be transmitted through roots or soil. It does not move from tree to tree by branch contact either. The insect vector is the only way for it to move.

Testing for this nematode is quick and easy for most diagnostic labs. Branch sections that are 2” in diameter, come from branches with brown needles attached, and are long enough to place in a vise are desired. Discs are cut from the branch in the lab. These discs are floated in water overnight. The extract is examined the next day with the use of microscopes that can confirm the species of nematode present.

What can you do about an infested tree? Since there is no chemical control for this disease, it is very important that infested trees be removed and burned, buried, or immediately chipped. Failure to do so means you risk further spread of the nematode in your area. For more details, consult Report on Plant Disease, #1104, which you can access for free on line at http://web.aces.uiuc.edu/vista/pdf_pubs/1104.pdf. --Nancy Patak

**Crabapple Scab Note**

Have you looked at your crabapple tree leaves lately? The lengthy cool, wet conditions have resulted in more than the normal amount of crabapple scab this year. Many trees in the Champaign/Urbana area that usually have minor scab infection are already heavily infected and dropping some leaves.

Commercial applicators who treat trees annually for this fungal pathogen will look very good this year. It is, of course, too late to spray now. Fungicides are used as preventives and must begin as buds first begin to open. University of Illinois recommendations state that the first spray should be applied when leaves just begin to emerge from buds (about one-quarter inch green). This is to protect new leaves. Sprays must be continued according to label intervals until two weeks after petal fall to give maximum protection against ascospore infection. For now, make sure you can identify this disease and mark your calendar to take fungicide action next spring or consider a resistant cultivar.

Many crabapple cultivars have resistance to scab, and resistance is definitely the long-term solution to infection. If you are planting new crabapples this year, look for varieties with resistance to scab, rust, fire blight, and powdery mildew. A publication that may help is this reference by U of I professors Dave Williams and Gary Kling: *Recommended Crabapples for Illinois Landscapes*. Look for it on the Web at http://www.extension.uiuc.edu/IPLANT/plant_select/trees/Selecting_Crabapples.pdf When looking at resistance options, look at ratings that have been made for your geographical area.

Crabapple scab causes velvety growth on the foliage as you can see in the picture. It starts out most commonly along veins but eventually appears as black spots on the foliage, much like black spot of rose. Susceptible leaves turn yellow, except for these black areas. Foliage drops in mid-summer, giving infected crabapples thin canopies.
Diagnostic labs can view the causal spores with the help of a microscope. Often incubation of infected leaves is not even necessary.

Although the disease does not kill crabapples, it certainly weakens growth and may predispose the tree to other disease and insect problems. Many websites are available on scab diseases. For University of Illinois details on this disease, consult Report on Plant Disease #803, Apple and Crabapple Scab available at http://www.aces.uiuc.edu/~vista/abstracts/a803.html.--Nancy Pataky

Have You Seen The Purple Traps?

If you have been driving around Illinois, particularly in the southern half of the state, you have probably noticed the big purple boxes hanging in trees. The Illinois Department of Agriculture, United States Department of Agriculture and other cooperators are using these sticky traps to aid in the detection of the emerald ash borer.

The emerald ash borer (EAB) is an invasive insect that was first discovered in Illinois in 2006 in Kane county. This metallic green beetle is responsible for killing millions of ash trees and threatens to kill millions more throughout North America. It has currently been found in 10 states (http://www.emeraldashborer.info/files/MultiState_EABpos.pdf); most recently in St. Paul, Minnesota in mid-May.

Where are the traps being placed?
Approximately 5,000 traps will be placed in Illinois ash trees in 2009. Traps will be concentrated in a 50 mile buffer zone (area in blue) outside of last years trapping location. An additional 2,000 traps will be placed in previously trapped areas as a partnership with municipalities (area in green) and 200 are being placed in high risk areas in southern Illinois (area in light red).

How does the trap work?
The trap uses Manuka oil as an attractant to lure the beetle to it if EAB is already in the area. The surface of the trap is coated with a sticky material which causes the beetle to adhere to it.

How long will it be there?
Traps will be hung in May before the EAB flight season begins. The flight season of EAB is from May through August. The traps will be removed after flight season is complete. The traps will then be examined for the presence of EAB.

Will the traps bring EAB into the area?
No, the traps will not bring the beetle into an area that is not already infested. It will simply help officials determine if EAB is already present in your area.

From a recent Illinois Department of Agriculture press release (http://www.agr.state.il.us/newsrels/r0515091.html), the department encourages citizens to watch for signs and symptoms (http://illinoiscapsprogram.blogspot.com/2009/05/emerald-ash-borer-awareness-week-signs.html) of the emerald ash borer and asks that the purple traps be left along and not disturbed.

Visit the Illinois CAPS website (http://www.inhs.illinois.edu/research/CAPS/) for all the latest news on invasive pests in Illinois.—Kelly Estes