COOPERATIVE EXTENSION SERVICE
HOME, YARD & GARDEN PEST NEWSLETTER
College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana - Champaign
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Green June Beetle

Green June beetle adults have been reported in large numbers. These beetles are stocky, green, and about three-fourths inch long. They make a loud buzzing sound when they fly and apparently prefer to fly into upright objects, including people. They are most active on warm, sunny days and are present from Peoria on south in Illinois. They feed on flower pollen and are commonly found on flowers. They also feed on soft fruits, causing severe damage to ripening peaches.

Their larvae live on dead grass, being common in piles of grass clippings, piles of horse manure, and in turf. The larvae grow to about two inches long and appear similar to white grubs except that they are less likely to be C-shaped when found. They have an interesting habit of foraging above ground at night where they are sometimes spotted on sidewalks. They have shorter legs than other white grubs, so they flip over and crawl on their backs. They use long setae on their backs to grip the surface as they crawl.

When feeding in turf, they tend to be present in higher numbers under trees. They leave one-half inch diameter holes in the soil when they come out of the soil to forage at night. Because they feed on dead grass blades, they do not do direct damage to turf but can loosen the roots as they feed. If treatment is needed, watering in an application of carbaryl (Sevin) or applying a white grub insecticide application will provide control.

Areas with green June beetle grubs commonly have large numbers of scoliid wasps whose larvae feed on them. Scoliid wasps are black and red with yellow spots on the abdomen. They are about one inch long and have bluish transparent wings. They are quite active during the day flying low over the turf. Although fearsome looking, they are reluctant stingers. (*Phil Nixon*)

Minute Pirate Bug

There have been numerous reports of people being bitten by minute pirate bugs throughout the state. A common species, *Orius insidiosus,* is known as the insidious plant bug.

Adult minute pirate bugs are black and white, flattened, oval bugs about 1/16 inch long. They have a needlelike beak that originates at the front of the head and is bent back under the head when not in use. They use these piercing-sucking mouthparts to penetrate their prey and suck out their juices. They feed primarily on other small insects and mites, being available commercially for the biological control of small plant pests such as spider mites, thrips, and aphids.

Minute pirate bugs are native to Illinois and are commonly found on foliage, particularly the blossoms of flowering plants. Adult pirate bugs are excellent fliers; the smaller, brownish nymphs look similar to the adults but have no wings. It is common to have nymphs and adults walking on your arms when hand-weeding, pruning, or otherwise working with outdoor plants. While you're sitting or walking outdoors, it is common for

adult minute pirate bugs to fly onto your arms and other areas of your body.

Many insects determine whether something is good to eat by tasting it. It is thought that minute pirate bugs probe whatever they land on to determine whether it is food. People feel this probe as a pinch-like bite, which is considerably more noticeable than the insect delivering the bite. For many people, the pain is short-lived and nothing comes of the bite. In others, swelling and itching can occur at the bite, probably due to the body's reaction to foreign proteins that entered the body during the bite.

There is very little that can be done to avoid bites while outside, other than keeping most of your body covered with clothing by wearing long-sleeved shirts and long pants. Minute pirate bugs tend to be more active during the daytime and seem to be particularly active before it rains.

Insect repellents used for protection from mosquitoes, chiggers, and ticks are not effective against these insects. Insect repellents function by confusing the sensory apparatus that insects use to detect us. Mosquitoes and other biting pests are attracted by the lactic acid, carbon dioxide, and other chemicals that we exude from our bodies. Insect repellents keep the insects from detecting these chemicals and following their gradient to us. Thus, insect repellents would perhaps be better called insect non-attractants.

Because minute pirate bugs do not seek humans but randomly land on them, repellents have no effect against them. Some repellents have perfumes added to them to make them more acceptable by people. It is possible that the perfumes in the repellent might even attract the minute pirate bugs because the bugs tend to be numerous on flowers.
(*Phil Nixon*)

Springtails

Springtails are tiny, jumping insects associated with turf, mulch, and nearby areas. Most species are one-sixteenth to one-eighth inch long, although there are some giants that approach one-quarter of an inch. They are particularly numerous this year, probably due to the extra rainfall.

Springtails are elongate, cylindrical insects with simple eyes and obvious antennae. Perhaps their most obvious trait is a slender, forked furcula that extends from the posterior end of the abdomen and is carried folded up under the abdomen. When disturbed, the furcula is released, striking the surface with enough force to send the springtail flying up into the air. Many springtails jump two to three inches into the air, a considerable feat for such a small insect. Springtails also have a collophore which is a broad, tube-like organ extending downward from the front of the abdomen. It is probably used in maintaining a proper internal water balance.

Springtails not only live at the soil surface, but also several feet down. Different species live progressively deeper. Species that live just a few inches below the surface have a reduced furcula that is eventually lost in deeper-dwelling species. After all, being able to jump serves no purpose when surrounded by soil. Species that live deeper in the soil also do not have eyes.

Springtails have very tiny mouths and are unable to bite humans. Some people are apparently sensitive to their scale-like setae or hairs and develop irritated skin when springtails are numerous.

Springtails are perhaps the most numerous insects in the world. Every cubic foot of soil from the poles to the tropics contains large numbers of them, with populations commonly estimated at 3000 per cubic foot. They feed on molds and mildews which require dead organic matter, and both

springtails and fungi need high moisture levels. Their feeding on fungi has resulted in their consideration as natural control agents for *Pythium* and other destructive fungi. Springtails increase in number and become obvious when dead organic matter and moisture is abundant.

Springtails become abundant outdoors when turfgrass is over-fertilized, producing extra thatch, and is over-watered either by humans, rainfall, or both. Similarly, they become abundant in mulch when it is too wet for long periods. The answer to reducing the springtails is reducing the fertilization and watering. Insecticide applications have little effect.
(*Phil Nixon*)

Verticillium **Wilt Strikes Again**

Verticillium wilt on elm has recently been diagnosed at the U of I Plant Clinic. *Verticillium* wilt is caused by the fungal pathogens, *V. albo-atrum* or *V. dahlia*. These pathogens are found in the soil and can easily survive there for years because of its ability to produce resting structures that can directly infect the roots of susceptible plants. Hundreds of plant species, including trees, shrubs, groundcovers, vines, vegetables, fruits, herbaceous ornamentals, and flowers may become infected. There appears to be different strains of *Verticillium* sp., so plant susceptibility may vary. Some trees that are frequently infected by this disease are maple, ash, elm, and redbud. Luckily, some plants can be genetically resistant to this disease. For a list of trees and shrubs that are affected by *Verticillium* wilt, you can refer to the following link:
http://urbanext.illinois.edu/hortanswers/detailproblem.cfm?PathogenID=26

Infection of *Verticillium* sp. begins in the roots and then the fungus proceeds up the tree. The water conductive system becomes plugged with the fungus. The tree responds to the infection by further plugging of the water conducting vessels with tyloses and gum to try to block the fungus. This means that no water is able to get to the foliage and symptoms such as curl, wilt, yellowing, reddening, defoliation, and branch death can occur. During the onset of the disease, one side of the tree may exhibit symptoms or one or more individual branches may die. Peel off some of the bark on a symptomatic branch and look for staining of the wood in distinct streaks of brown, dark green, or yellow-green wood. *Verticillium*-infected ash trees do not always show staining.

Symptoms may be observed throughout the growing season and the severity of symptom development is dependent upon host susceptibility and environmental conditions. Some plants may die quickly, while others are slower to decline. Trees under stress (drought, nutrient, salt) are even more vulnerable to infection. Some plants may be able to recover, but may develop symptoms years later. *Verticillium* wilt symptoms can be confused with many other problems, so we suggest that you rule out this disease by submitting a sample to the U of I Plant Clinic. Samples should be alive, showing vascular streaking (excluding ash), thumb-thick (if possible), and 8 to 10 in. long. If you want to test ash for *Verticillium* wilt in ash, you will need to be sure to submit leaf petioles for testing. The cost for *Verticillium* testing is $15.
There is no cure for *Verticillium* wilt. Still, there are many cultural and preventive strategies to help manage the disease and help infected trees live with the fungus. Always start with healthy plants and maintain their vigor. Grow plants in the appropriate site conditions. If your tree dies due to *Verticillium* wilt, you should avoid growing susceptible species in that area. If only mild symptoms of this disease occur, you may want to try to delay the progression of this disease by pruning out affected limbs, supply balanced fertilization, and provide adequate irrigation.
(*Stephanie Porter*)

Spotted Wing Drosophila: A New Pest of Illinois Fruits

In the upcoming weeks as fruit crops ripen and become ready for harvest, the invasive pest Spotted Wing Drosophila (SWD) will begin to make its appearance. Originally from East Asia, SWD first appeared in the Western US in 2008 and became widespread throughout the country within a matter of years. Detected in Illinois in 2012, infestations were confirmed in Pope, Union, Marion, Champaign, Tazewell, Adams, and Ogle Counties, but is likely to be present throughout the state.

Spotted Wing Drosophila is a small vinegar (fruit) fly. Females lay eggs in healthy, ripe fruit using their distinct ovipositor with two rows of dark, serrated teeth that saw open a layer of skin. Larval feeding will cause flesh breakdown, discoloration, and lead to a healthy fruit's decay. Fungal pathogen may also be introduced. This makes SWD more destructive than native fruit flies that only lay eggs in already rotting and decaying fruit. SWD feed on a large number of host plants including ornamental shrubs and trees, fruits, and vegetables.

Many of the potential host plants are found and grown in Illinois including raspberries, blueberries, apples, pears, blackberries, grapes, tomatoes, strawberries, and more. Also, within a single growing season there can be over 10 generations of SWD. This is due to their extremely short lifespan and rapid reproduction; they live up to 8 days and can produce over 100 eggs in a single day. This can allow for the rapid growth of populations and infestations to occur, so early management and detection are important while prevention is the best management.

Identification between native fruit flies and SWD is very important for they are similar in appearance to many native Drosophila species. SWD adults are small flies about 1/8 inch with red eyes, a brown thorax, and black strips on the abdomen. Male SWD have a distinct black spot on the tip of each wing while females have the distinct ovipositor mentioned above. Larvae are small white maggots that will be seen feeding in fruit.

More information, including how to trap for, and report SWD in Illinois can be found on the Illinois SWD Factsheet.

Other websites with lots of SWD facts:
Michigan State Spotted Wing Drosophila Site
Oregon State Spotted Wing Drosophila Site
Spotted Wing Drosophila in the Northeast
(*Maggie Corr, Kelly Estes*)

Modified Growing Degree Days (Base 50^0 F, March 1 through July 25)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	1617	1592	1775	1927
St. Charles	1615	1510	1764	1905
DeKalb	1622	1647	1773	1917
Monmouth	1793	1733	1952	2103
Peoria	1830	1835	2000	2164
Champaign	1912	1890	2087	2253
Springfield	2037	2020	2219	2396
Brownstown	1986	2107	2172	2351
Belleville	2082	2117	2265	2444
Rend Lake	2210	2258	2403	2588
Carbondale	2121	2137	2306	2484
Dixon Springs	2136	2221	2324	2505

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 University Of Illinois

Department Of Crop Sciences and the
Illinois Water Survey).
(*Kelly Estes*)