

Number 10 - June 27, 2016

### **Last Weekly and Degree Day Issue**

This is the last weekly issue of the Home, Yard, and Garden Pest Newsletter for this year. We will publish every other week through July, August, and September with a final issue in October. Insect, weed, and disease problems arise in rapid succession during the first half of the growing season, making weekly issues necessary.

Although there are important pest problems in the second half of the growing season, they develop slower and are less frequent than in the first half. Also, by the second half of the growing season, leaves have produced most of the sugars for the plant for the growing season so their loss is less harmful to plant health. Leaves have also hardened and become tougher for insects and diseases to damage. For these reasons, we can keep you up-to-date with less often issues.

Degree day timing also becomes less critical in the second half of the growing season. Degree day and phenology timing is critical early in the growing season because early and late springs cause pest susceptibility timing to vary considerably. By July, these variations have evened out through spring cool and hot spells to where calendar timing becomes much more accurate. Degree day information can still be accessed through the rest of the growing season at the web site listed in each degree day article, but

we will not be carrying that information in the newsletter. (*Phil Nixon*)

### **Bagworm**

Bagworms have hatched throughout the state and have been ballooning from tree to tree. They have now settled in southern Illinois and can be effectively controlled with one spray application. They will be controlled best towards the end of the first week of July in central Illinois and about a week later in northern Illinois.

Early bagworm feeding damage appears as scarifying of the needle or leaf epidermis with the internal mesophyll tissue eaten. Damaged foliage is lighter green at first and then whitish to brownish as the exposed and damaged cells die. As the bagworms get older and bigger, they eat entire leaves. Although bagworms feed on many tree and shrub species, they prefer Eastern red cedar, other junipers, arborvitae, and spruce. They also feed on crabapple, oak, maple, and other deciduous hosts.

Bagworms start forming bags soon after hatching. Each larva spins a silk tent around itself and covers the outside of the silk with bits of foliage. These green foliage bits soon turn brown. Very young larval tents look like one-eighth-inch long, conical, brown hats. As the larvae grow, the individual tents become more

elongate and bag-like. At this time, the bags are about one-quarter inch long in southern Illinois, while most of those in northern Illinois are still hat-like. Fully-grown bagworm caterpillars have bags that are one to one-and-one-half inch long.

Scout for early scarifying damage at the top of susceptible hosts. *Bacillus thuringiensis* kurstaki (Dipel, Thuricide, others) and spinosad (Conserve) are effective and selective, causing less damage to pollinators and other non-pest insects. They are also organic. Other effective insecticides include cyfluthrin (Tempo), permethrin (Astro), acetamiprid (TriStar), indoxcarb (Provaunt), and chlorantroniliprole (Acelepryn).  
(Phil Nixon)

## Japanese Beetle

Adult Japanese beetles have been reported in southern, central, and northern Illinois. Early control reduces damage through the six weeks that they are actively feeding as beetles are attracted to previous feeding damage.

Japanese beetles feed on the upper leaf surface, eating through the epidermis and mesophyll, leaving the lower leaf surface (epidermis) intact. This lower surface is initially light-colored, but soon dries and turns brown. Japanese beetles feed on more than 100 plants, with favorites including smartweed, willow, linden, rose, buckeye, birch, crabapple, apple, cherry, hazelnut, currant, grape, and raspberry.

They tend to feed on the upper parts of plants, causing the upper third or more of favored trees to be heavily damaged

and eventually defoliated as damaged leaves drop. This tendency to feed at the top of trees allows one to accept damage on tall trees without it being very obvious to the general public.

Traps are available that will attract male beetles to a pheromone and female beetles to a floral scent. Research has shown that these will attract beetles from a considerable distance outside the typical residential landscape, but many of these attracted beetles will not be caught in the trap. This results in more beetle damage in areas that have traps than in areas that do not.

Adult Japanese beetles are difficult to control. Carbaryl (Sevin), bifenthrin (Talstar), cyfluthrin (Tempo), lambda-cyhalothrin (Scimitar), or permethrin (Astro) foliar sprays provides protection for about two weeks. A single soil application of imidacloprid (Merit, others) is also effective. Do not apply imidacloprid to linden and other hosts that bloom during the Japanese beetle flight season to avoid impacts to pollinating insects.

Hand-picking the beetles every couple of days is effective, but time-consuming. When disturbed, particularly in late afternoon, the beetles fold their legs and drop to the ground. Hold a can or jar containing rubbing alcohol or water with dishwashing detergent below the foliage; the beetles will drop into the container and be killed.

Because Japanese beetle adults feed on many plant species and require multiple treatments for effective control, we recommend that professional landscapers and others avoid spraying most of the landscape. Although Japanese beetles cause obvious aesthetic damage, they

are unlikely to cause dieback or death to healthy ornamentals. We suggest that you select for multiple treatments those susceptible plants that are focal points of the landscape, such as roses and crabapples at building front entrances, or small lindens in front yards. Large trees and ornamentals along back property lines can usually be left untreated. Of course, the decision of whether or not to treat a plant requires consultation with the client. (*Phil Nixon*)

### **Invasive Species Alert: Jumping worm confirmed in Southern Illinois**

A new invasive species, jumping worm (*Amyntas* spp.), was identified in Illinois in 2015. By the end of the year these worms had been confirmed in three northern counties: Cook, DuPage, and McHenry. A worm from far southern Illinois in Williamson County was examined at the University of Illinois Plant Clinic and confirmed as a jumping worm, drastically increasing the range of this worm in Illinois.

Jumping worms are earthworms native to East Asia. They have been sold in the United States as bait under the names crazy worm, Alabama jumper, and snake worm. The worm has characteristic coloration and behavior. When disturbed, jumping worms become very active, wriggling and thrashing vigorously. Adult worms are approximately the same size as our naturalized earthworms, but are much darker. Most of the tissue is dark gray/brown, with a milky white or light gray band of tissue (the clitellum) circling the body. The clitellum is smooth, compared to other common species in which the clitellum is raised compared to the body.

Jumping worms are voracious consumers of organic material, which can affect soil quality. They breed quickly and eggs survive Illinois winters. Adults reach maturity in approximately 60 days, allowing populations to double during the growing season. These worms are also capable of reproducing without mating. There are concerns about the effect these worms will have on native areas, ornamental plantings, and agronomic fields. The worms have been identified in several U.S. states, including Wisconsin (2013) and Indiana (2015). From reports from Wisconsin, it appears that these worms are most damaging in areas without other established earthworm populations.

Recommendations to prevent the spread of jumping worms and their eggs include cleaning equipment before moving to another site, reducing the transportation of mulch and soil, and carefully inspecting nursery plants before installing them in a new landscape.

The University of Illinois Plant Clinic, in cooperation with the Illinois Department of Agriculture, the Illinois Natural History Survey, and University of Illinois Extension, is trying to identify where these worms are in Illinois. If you suspect you have found a jumping worm, please send pictures or video of the worm's movement to the University of Illinois at [plantclinic@illinois.edu](mailto:plantclinic@illinois.edu). You can also contact us at 217-333-0519.

We have found that the worms are very sensitive to heat and cold and so far, no live samples have survived being sent via mail. Samples preserved in ethanol allow us to observe physical characteristics, but discoloration of the tissue occurs, complicating identification. Please

contact us before sending a sample to the Plant Clinic. (*Diane Plewa*)

### **Mushrooms in the Turf**

Mushrooms can suddenly pop up in lawns throughout the summer, often appearing overnight. Typically, most of the mushrooms are more annoying than problematic, though on occasion, they can indicate some underlying turfgrass issues.

Mushrooms come in many shapes, sizes and colors. More importantly, they are the fruit bodies of the fungi living in the turf or underlying soil. As such, they really aren't causing problems but merely housing the spores for reproduction. Removing the mushroom does little more than improve the appearance of the lawn, though it does keep the mushrooms away from animals and children. Fungal spore production may be reduced in the immediate vicinity, but spores can be carried in breezes for many miles, as well as by animals. Most mushrooms aren't toxic, but there are some lawn mushrooms that could be. It's a safe practice to NOT eat any of the mushrooms without a 100% positive identification.

There is really no way to predict where most mushrooms will appear and at what time of the year. Typically, mushrooms appear after prolonged wetness either through rain or irrigation. Some mushrooms, such as those causing fairy rings, are a little more predictable.

Mushroom producing fungi feed on organic matter in the soil, which could be anything from thatch between the soil and green grass, decaying tree roots, or lumber left over and buried in the lawn

during home construction. Most of these fungi feed on this organic matter, breaking it down and recycling nutrients for other plants. It's essentially nature's "Circle of Life." In most cases, once the organic matter has been decayed, the mushrooms will disappear.

Some mushrooms appear in newly laid sod, often around new home construction where building material has been buried. Since the sod is kept moist for a week or two until it's rooted, the excess moisture is perfect for mushroom production. Only wetting the sod and the top two inches of soil until the roots establish may cut down on mushroom production.

Fairy ring mushrooms usually pop up in a circle or an arc, and are usually accompanied by a dark green circle or crescent of grass. If the turf is lifted, a white mycelial mat can usually be found that could be several inches thick. Several genera including *Marasmius*, *Chlorophyllum*, and *Agaricus* cause fairy rings.

Stinkhorns look like an extended finger or phallus when mature. In fact, the genus of the mushroom is *Phallus*. The mushrooms cap is usually covered with a sticky goo that stinks, but attracts insects which carry the spores to another location.

Inky caps (*Coprinus*) have that traditional mushroom look, but with caps that turn dark black and slimy when mature. Puff balls (*Vascellum*), usually show up later in the season, and look like snowy white globes when young, ranging in size from a few inches to 18 inches.

Other mushrooms popping up in the yard include *Armillaria* (usually around the base of dead or dying trees), *Clitocy-*

*be, Conocybe* (often depicted in non-morel mushroom lawn ornaments) and *Panaeolus spp.*

Aesthetic control involves removing the mushrooms as soon as they appear. They can easily be broken or kicked over, gathered and discarded in the trash or buried in the compost pile.

Check the thatch. If excessive (more than ½") thatch is present, dethatch in the early autumn or spring, as well as determine why the thatch accumulation is present. Aeration will control thatch and allow water to penetrate into the root zone to stimulate grass growth.

With new construction, make sure wood products are not buried in the yard but discarded properly.

If mushrooms keep reappearing, fertilizing could hasten the decomposition of organic matter. Use water-soluble fertilizers at the rate of no more than 1 pound actual nitrogen per 1000 square feet in the early fall (September), and late spring (May). (*David Robson*)

### **Clean Sweep Pesticide Collection in Central Illinois**

Residents of twelve central Illinois counties can dispose of unwanted agrichemicals for free this year through the Illinois Department of Agriculture's (IDOA) agricultural pesticide "Clean Sweep" program.

A "Clean Sweep" collection has been scheduled in late summer for Clark, Coles, Crawford, Cumberland, Douglas, Edgar, Effingham, Jasper, Lawrence, Moultrie, Richland, and Shelby counties, the Department announced recently.

The collection, which rotates among Illinois counties, is open to farmers, retired farmers, nursery owners, private pesticide applicators, structural pest control applicators, and landowners who inherited unwanted agricultural pesticides with their property.

"There are two main reasons to take advantage of this program," said John Teefey, Bureau Chief of Environmental Programs. "The Department is able to provide the service free of charge thanks to a grant obtained from the U.S. Environmental Protection Agency. If individuals were to properly dispose of agrichemicals on their own, the cost would be expensive. Secondly, the state of Illinois, not the program participant, will assume liability for the proper disposal of all materials collected."

Participants must register the products they plan to dispose of by July 15. Registration is required to give the waste disposal contractor time to prepare for the different kinds of materials that will need to be handled. Forms can be obtained either by calling the Illinois Department of Agriculture's Pesticide Hotline at 1-800-641-3934 or by visiting one of the program sponsors listed on the IDOA website at:

<https://www.agr.state.il.us/pesticide-clean-sweep-program/> .

Completed forms should be mailed or faxed to the Illinois Department of Agriculture. The mailing address is: Clean Sweep Program, Illinois Department of Agriculture, State Fairgrounds, P.O. Box 19281, Springfield, IL, 62794-9281. The fax number is (217) 524-4882. Participants then will be sent a reservation card indicating the date, time and location of their collection.

The "Clean Sweep" program began in 1990 in Illinois. Since the inception of the program, the Department has held 45 collection events through the state and collected 525,311 pounds of material from 1,893 participants. (Travis Cleveland .Source: Press release from the Illinois Department of Agriculture, <https://www.agr.state.il.us/idoa-schedules-clean-sweep-collection-in-central-il-2016/>)

**Modified Growing Degree Days (Base 50°F, March 1 through June 23)**

| Station Location | Actual Total | Historical Average (11 year) | One- Week Projection | Two-Week Projection |
|------------------|--------------|------------------------------|----------------------|---------------------|
| Freeport         | 1061         | 894                          | 1217                 | 1371                |
| St. Charles      | 1001         | 843                          | 1150                 | 1299                |
| DeKalb           | 1098         | 955                          | 1257                 | 1412                |
| Monmouth         | 1252         | 1018                         | 1411                 | 1571                |
| Peoria           | 1265         | 1070                         | 1433                 | 1604                |
| Champaign        | 1277         | 1106                         | 1450                 | 1625                |
| Springfield      | 1443         | 1196                         | 1623                 | 1809                |
| Perry            | 1390         | 1113                         | 1555                 | 1726                |
| Brownstown       | 1390         | 1270                         | 1573                 | 1763                |
| Belleville       | 1652         | 1284                         | 1834                 | 2022                |
| Rend Lake        | 1650         | 1392                         | 1840                 | 2035                |
| Carbondale       | 1548         | 1315                         | 1724                 | 1909                |
| Dixon Springs    | 1546         | 1387                         | 1725                 | 1912                |

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)*