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Fall Armyworm

We have been receiving reports of large fall armyworm infestations of turf in southern Illinois. These caterpillars are stripping lawns of grass blades, then moving to and stripping adjacent lawns. They are causing damage throughout the St. Louis metro area extending east to Greenville. It is likely that other areas of southern Illinois are also being impacted. Their egg masses have been seen within the last couple of weeks in the Chicago area, so infestations could be found anywhere in the state.

Fall armyworm is a tropical insect, common in Mexico, Central America, and the West Indies. It is very cold sensitive, able to overwinter most years only in southern Texas and Florida in the U.S. The adults are strong fliers, migrating northward. They are common annually through much of Louisiana, Texas, and Oklahoma. The brown moths are about one inch long and are similar in size, shape, and color to many of the other moths or millers attracted to lights at night.

Female moths lay clusters of eggs on grass blades and also on tree leaves, buildings, golf flags, and other structures. Egg masses contain about 400 eggs and are composed of three to four layers of eggs covered by the abdominal hairs of the female moth. If the newly hatched larvae are unable to feed where

the eggs were laid, they drop down on silk threads to the turf or other plants to feed. Fall armyworm caterpillars feed on many plants. In turf, they feed on bermudagrass, Kentucky bluegrass, fescues, and ryegrass. In southern Illinois infestations, they are avoiding zoysiagrass. They are field crop pests, feeding on corn, wheat, and soybeans. They also feed on trees, shrubs, flowers, vegetables, and fruit trees.

Young caterpillars typically feed on only one side of leaves, with this window-feeding resulting in transparent tips on grass blades. Older larvae eat entire leaves. They feed throughout the day but feed heaviest in early morning and late evening. Mature larvae are one-and-three-sixteenths inch long and usually dark-colored with an indistinct light line down the back and a yellow to white stripe on each side. They can be various shades of pink, yellow, green, gray, and black, distinguished from other caterpillars by a light-colored inverted Y-marking on the head. Once the caterpillars eat all of the grass blades in one area, they will move as a group, like an army, to other turf areas to feed.

There are usually one to two generations per year in Illinois, occurring in late summer to early fall. Numerous generations occur farther south with four in Oklahoma and Louisiana and nine to eleven generations per year in the southern tip of Texas. Populations

build in the south before moths migrate north into Illinois.

Damage to turf is to the leaf blades, which will be completely eaten. Treating the caterpillars and irrigating typically results in the crowns sprouting new leaves, restoring the lawn. Fall armyworm larvae are controlled by the same insecticides used to control sod webworm including bifenthrin (Onyx, Talstar), carbaryl (Sevin), chlorantriliprole (Acelepryn), clothianidin (Arena, Aloth), deltamethrin (Delta Gard), indoxacarb (Provaunt), lambda-cyhalothrin (Scimitar), spinosad (Conserve), and trichlorfon (Dylox). The insecticidal nematode *Steinernema carpocapsae* is also effective. (Phil Nixon, Ed Nangle, Mark Black)

Fall Webworm

Fall webworm is numerous throughout the state, particularly in the southern half. It lives as a group of caterpillars that spin a communal silk web. This silk nest typically encloses the end of the branch and associated leaves. The caterpillars remain in the webbing, feeding on these enclosed leaves. When the leaves inside the web are eaten, the silk webbing is expanded to include more leaves. Webs of mature caterpillars are typically 2 to 3 feet long. Multiple colonies frequently occur on a single tree, so many branches can be involved. Occasionally, entirely webbed trees are found.

The caterpillars are yellowish and hairy. There are two races of fall webworm. The redheaded race has a red head and a yellowish body. The blackheaded race has a black head and a yellowish body

with many black spots and a wide black stripe running down the back.

This insect has an extremely large host range, being found on almost any deciduous tree and some shrubs. It is most commonly found in Illinois landscapes on crabapple, walnut, hickory, pecan, redbud, sweet gum, maple, and oak. There does not appear to be any separation of hosts based on the races of fall webworm.

In the southern half of Illinois, fall webworm has two generations per year. The first generation typically occurs in June, with the second generation in August and September. In the northern half of the state, only the August and September generation occurs.

Only the spring generation of these caterpillars is considered to be important to the health of the tree. The generation that occurs in August and September eats leaves that have already produced most of the energy that they will for the tree. As a result, the loss of those leaves is not a major problem to the plant. However, if the tree responds to the loss of these leaves by breaking buds and growing new leaves, then there is a health impact. Usually, this doesn't happen.

Pruning off the branch with its webbing and disposing of it is an effective control. Many insecticides are effective in controlling fall webworm. *Bacillus thuringiensis kurstaki* (Dipel, Thuricide), carbaryl (Sevin), pyrethroids, and other labeled insecticides are effective. However, the webbing is waterproof, making it spray resistant. Enough spray pressure is needed to break into the web and get the insecticide onto the leaves within the nest. Nest webs are typically ex-

panded only every week or so, so insecticide deposited on leaves outside the webs is likely to break down before the caterpillars expand the webbing over treated leaves. (Phil Nixon)

Impatiens Downy Mildew

Impatiens Downy Mildew (IDM) was covered in Issue 3 of this year's newsletter. At that point of the growing season, the plant clinic had not received any reports of the disease. The article's intent was to provide some suggestions to help avoid problems with IDM during the 2014 season. Unfortunately, IDM development is influenced by many factors. Even with the use of preventative practices, the disease was predicted to be problematic during the 2014 growing season. Cool and wet conditions throughout the summer have provided a near ideal environment for disease development. The plant clinic has recently received reports of the disease from various locations throughout the state. I have also observed the disease in numerous flower beds throughout the Champaign-Urbana area.

IDM is caused by the fungal-like pathogen, *Plasmopara obducens*. The disease only infects garden impatiens (*Impatiens walleriana*), while New Guinea Impatiens (*Impatiens hawkerii*) and related hybrids exhibit high resistance. IDM is an aggressive disease and has the ability to overwinter in the soils of previously infected planting beds. As a result, infections can occur even when growers provide clean, disease-free plants.

Early symptoms of IDM are subtle. Infected plants display slight chlorosis or mottling of the leaves. Affected leaves

often appear wilted with edges that curl downward. The most distinct disease identification feature is a white, downy growth on the undersides of the leaves. Infected leaves eventually drop from the plant. Stems initially remain upright, but eventually collapse.

It is important that you remove and destroy infected plants as soon as possible. Bag the infected material, including any fallen leaves or blossoms. Any nearby impatiens should also be removed from the site, as they may be infected as well. Composting the diseased material is not recommended. The pathogen produces structures capable of overwintering in the Midwest. Composting may not completely destroy the pathogen. Avoid replanting a previously infected location with susceptible impatiens. The IDM pathogen is suspected to produce spores capable of surviving in the soil for many years. If you have struggled with this disease in years past, your only option is to consider planting other shade tolerant species. Since the introduction of this disease, alternatives to *Impatiens walleriana* have been promoted for use in the landscape. Most retail greenhouses and garden centers provided suggestions for suitable alternatives. Michigan State also published a fact sheet titled, [Alternatives to Impatiens](#).

Fungicides can provide some protection when applied preventatively on an appropriate schedule with a rotation of active ingredients. However, homeowners have fewer fungicide options when compared to commercial applicators and may not be able to protect impatiens for the entire season. Therefore, we do not recommend that homeowners rely on fungicides for control of IDM. (Travis Cleveland)

Mistakes People Make in Weed Control

I read once on a bumper sticker that “Mistaeks Happen”. It’s true. We’re all human. Fortunately, we learn from our mistakes, most of the time. As Groucho Marx put it so well, “Learn from the mistakes of others. You can never live long enough to make them all yourself.”

Often mistakes happen in weed control. Many are preventable simply by carefully reading, understanding, and following the herbicide label. Spills can be prevented but let’s face it, they still happen.

In addition to the label directions being understood, the herbicide mode of action should also be understood at least somewhat. How is it taken up by the plant? Where does it need to be put so uptake can occur? A gentleman told me recently that he had tried to use a herbicide on his tree seedlings growing around his house and his control attempts were unsuccessful. We discussed his application methods and he said that he knew trees took things up from the roots. Therefore, he applied the herbicide to the ground. Unfortunately, his herbicide should have been applied to the leaves. Had he read the label? No.

Does the herbicide move in the plant? Is it systemic? If so, patience is needed as it will take a while for injury symptoms to appear on the leaves followed by complete kill if all goes well. Once I was hired to do some garden work for a professor. She had me spray some weeds with a systemic herbicide. Upon completion of that activity, I inquired about my next task. She gave it some thought, handed me a knife, and told me to return to the weeds I had just sprayed and cut them down. We then had a little chat

about how her herbicide works and that patience and time were needed.

How much herbicide is needed to kill unwanted weeds? If a little is good, isn’t more better? No. That line of reasoning only works with things like chocolate. Some would argue it won’t even work with that. Again, the product label will give specific guidance on rates. The maximum rate should never be exceeded. Rates have been carefully evaluated to determine what is most effective. Herbicide rates that are too high can result in poor weed control due to damaged or burned plant tissue which prevents absorption into the plant. It’s like setting out to break into a house by first setting fire to the door.

What about homemade mixtures? Aren’t they safer and less expensive than traditionally manufactured herbicides? Recipes abound on the internet but they aren’t recommended. It’s best to use research based products that come with labels that provide application specifics and tell you how to properly cover up your body just in case something goes wrong and the weed killer ends up in your eye (vinegar is caustic by the way). Recently, a weed scientist in Wyoming compared a “homemade” herbicide recipe to glyphosate. He took a close look at the effectiveness, cost, and toxicity of both. Learn what he discovered here: <http://weedcontrolfreaks.com/2014/06/salt-vinegar-and-glyphosate/> There are vinegar-containing EPA registered products available in a garden center near you. Check them out! But it helps to know what type of weed you are trying to control, yet, another mistake commonly made! Vinegar burns off the top growth and won’t move down into the roots. Just like the Terminator, your perennial weeds will be back!

One last mistake is allowing weeds to develop seeds or letting those seedheads remain on site. It's late in the growing season. Our landscapes likely have more weeds than we care to admit. Usually the heat makes us retreat to the cooler house. We're tired and weary and perhaps ready for frost so the last zucchini plant will finally die. We'll start fresh next year. But allowing weed seeds to stay ensures more work for the next several

years. The old saying, "One year's seeding makes seven years' weeding" is sadly inaccurate when it comes to certain weeds that may remain viable for say 50 years. If hand removal of the entire weed seems too daunting, simply pull out or cut off the tops and bag them for disposal.

Finally, don't spend too much time worrying about your mistakes. Mistakes become experience. *(Michelle Wiesbrook)*