

Number 18 – October 22, 2012

### **Last Issue for 2012**

This is the last issue of the Home, Yard, and Garden Pest Newsletter for 2012. There is an index to this year's articles and topics in this issue. We plan on publishing the first issue of 2013 in mid-April. We are always interested in your feedback concerning the newsletter which can be sent to me, the newsletter coordinator, at [pnixon@illinois.edu](mailto:pnixon@illinois.edu) or to another author. Thanks for your updates and comments through the season. Thank you for your interest. (*Phil Nixon*)

### **Neonicotinoid Concerns**

Recent research studies have shown a connection between several neonicotinoid insecticides and bees. These highly systemic insecticides have been increasingly shown to translocate into the flower pollen of various plants where they are picked up by pollinating insects including honey bees and bumble bees. Following are some research papers and review articles on this subject.

<http://web.extension.illinois.edu/ipr/#1>  
[http://web.extension.illinois.edu/ipr/i8262\\_829.html#5](http://web.extension.illinois.edu/ipr/i8262_829.html#5)  
<http://pubs.acs.org/doi/abs/10.1021/jf205393x>  
<http://www.xerces.org/neonicotinoids-and-bees/>

It is difficult to time insecticide applications to avoid pollen contamination because several of these insecticides persist in plants for about a year. Research shows that there are reduced levels of these insecticides in flower pollen and pollinators when application is made after flowering has ended, particularly with trees and other plants that only flower once per year.

Insecticides of concern include imidacloprid, sold as Merit, Xytect, Imicide, Allectus, and other brand names, thiamethoxam, sold as Meridian and Flagship, and clothianidin, sold as Arena and Aloft. Dinotefuran, sold as Safari, is also a neonicotinoid, but it has not been implicated in any of the research studies.

Merit, Allectus, Meridian, Arena, and Aloft are commonly used to control white grubs and other turf insects. Although turfgrass is not very attractive to pollinators, clovers, dandelion, and creeping Charlie are very attractive. We suggest that you avoid applying to turf where these weeds are common. Application to turf areas with a high level of weed control is unlikely to cause serious effects to pollinators.

Merit, Xytect, Imicide, and other imidacloprid insecticides are used to control Japanese beetles, soft scale, and other insects on trees and shrubs. It is known that imidacloprid translocates

into linden blossoms, and linden is probably the tree most heavily attacked by Japanese beetles. Other trees heavily attacked by Japanese beetles are crabapple, rose, and others in the rose family. Imidacloprid is labeled for use on apple, which is in the rose family, which indicates that it probably does not translocate into apple flowers. Many rose varieties are so highly derived that they no longer attract bees or other pollinators, but others, particularly those with a single row of petals, do. It is known that imidacloprid does not translocate significantly into the flowers of some plants.

Ash and many other trees are wind-pollinated. Generally, these trees' pollen is not collected by bees and other pollinators. Applications for emerald ash borers and other insects are unlikely to seriously affect pollinators. Avoid soil applications where dandelions, annual flowers, and other flowers that attract pollinators are present.

Imidacloprid and/or clothianidin are labeled and effective against a wide range of borers, scale, caterpillars, and other insects of many trees and shrubs. When selecting an insecticide for treatment, consider the plant's flowering and attraction to pollinators. Until we know more about translocation into pollen in various plants, it is prudent to avoid these neonicotinoid insecticides in applications to plants attractive to pollinators. (*Phil Nixon*)

### **New Uninvited Fall House Guests: Brown Marmorated Stink Bugs**

Like many invasive species, the brown marmorated stink bug (BMSB) has a

long list of host plants, including many woody ornamental trees as well as several agricultural crops including fruit trees, grapes, tomatoes, corn, soybeans and others. Also, like many other invasive insects, it is easily moved from location to location by humans (hitchhiking on vehicles, movement of shipping materials, and movement of plants). In the eastern part of the U.S., where very large populations of this insect occur, economic damage has been seen in several crops. They are also causing lots of problems for homeowners as well.

It's during this time of year that we see insects hanging out on the sides of houses, garages, and window sills on sunny days, checking out places to spend the winter. While boxelder bugs and multicolored Asian lady beetles first come to mind, in several areas of the state, BMSB is starting to make its presence known as well. Typically, the adults will begin to move to overwintering locations in September, with peak movement in late September and October. Homeowners may start to see BMSB begin gathering on homes, barns, and garages during this time. In the spring, adults will begin to emerge from their overwinter locations as temperatures begin to warm.

BMSB has been making headlines in Illinois for a couple of years. After the first confirmation of this invasive insect was reported in the fall of 2010 (Cook County), additional reports continued in 2011 (Kane, McLean, and Champaign counties). Recently, we have confirmed BMSB in Jacksonville (Morgan County) and the first report has also come out of the Quad Cities area (Scott County, Iowa).

Currently, the known distribution of this insect in Illinois is limited. Homeowners are our primary source of information during the fall and spring. We are very interested in where these insects may be and continue to try to determine where they are in Illinois. If you believe you have BMSB, we would be very interested in looking at it. To positively confirm any insect as BMSB, we need to look at an actual specimen. Suspect stink bugs may be sent to Kelly Estes, 1816 S. Oak St., Champaign, IL 61820. Please put stink bugs in a crush-proof container (pill bottle, check box, etc). You can also send a photo to [kcook8@illinois.edu](mailto:kcook8@illinois.edu) for preliminary screening if you wish.

Adult BMSB have the typical “shield” shaped body of all stink bugs. In reference to their name, they have a marmorated or mottled brown color. Their antennae have distinct white bands; on the edge of their abdomen they have alternating black and white bands. The underside of the abdomen is white and the legs may also have faint white banding. There are several insects found in Illinois that are very similar in appearance, including the squash bug, common brown stink bug, western conifer seed bug, and spined soldier bug. *(Kelly Estes)*

### **Surveying for Illinois Invasive Species with the CAPS Program**

*This was published as a guest article for the Illinois Invasive Species Awareness Month Blog. We share it with the Home, Yard, and Garden readers to illustrate the importance of invasive species in our state and the risk they pose.*

While a central geographic location and a superior transportation system afford Illinois a competitive advantage over many other states in commodity movement, these same factors make Illinois extremely vulnerable to accidentally or purposely introduced exotic pests. The U.S. imports nearly \$400 billion in goods from the Pacific Rim; more than \$125 billion from China alone. The busiest corridor in the U.S. for transporting intermodal containers by rail runs from Long Beach, California, to Chicago, Illinois, and Chicago in particular is home to the largest rail gateway in the nation, connecting eastern and western United States and Canada. An excellent highway system of 2,000 miles and 34,500 miles of other state highways make trucking of goods fast and efficient. More than 65 million travelers pass through Chicago’s O’Hare International Airport annually. Illinois’ 1,118 miles of navigable waterways including the Illinois and Mississippi Rivers, make barge traffic an excellent option for shipment of grain to the Gulf of Mexico and shipment of imported steel and machinery upriver. However, any activity that allows the rapid movement of commodities also allows the development of fast-moving pest pathways. These fast moving pathways not only cut through Illinois’ agricultural commodity regions, but its natural areas as well. Illinois woodlands, wetlands, and prairies may also be affected by the potential invasion of exotic pests. Many of the invasive threats have a large host range. Not only will a potential invasive pest affect the Illinois economy, but it may also affect the beauty of our landscape, the diversity of our environment, and lead to the destruction of natural habitats.

While the first line of defense remains preventing the entry of exotic plant pests, domestic detection and response activities are equally important in the event that dangerous foreign plant pests enter the U.S. A primary objective of the **Cooperative Agriculture Pest Survey (CAPS)** program is to safeguard our nation's food and environmental security from exotic pests that threaten our production and ecological systems. Surveys conducted through the CAPS program represent a second line of defense against harmful plant pests and weeds. These surveys not only target high-risk hosts and commodities, but also gather information about pests that were recently introduced to establish better baseline data. These activities are accomplished primarily under USDA funding that is provided through cooperative agreements with state departments of agriculture, universities, and other entities.

***Surveys targeting high risk hosts and commodities.*** Over the past years, the CAPS program has shifted its strategy from being solely "pest-specific," to a format for surveying for several pests based on commodities, taxons, environments and habitats, industries and businesses, and pest introduction pathways. Each state, with input from federal and state CAPS partners, industry partners, university representatives, and others meets to discuss potential survey targets each year. These stakeholders help set survey priorities based on a prioritized PPQ pest list (based on risk of introduction and regulatory concern) and each state's resources, hosts, climates, and other factors.

***Gathering data on recently introduced pests.*** Information gathered during

surveys is summarized and entered into the National Agricultural Pest Information System (NAPIS) database. The NAPIS database stores and manages pest survey data that is collected by CAPS and other USDA-APHIS-PPQ programs. Maps are summarized and made available to the public through the NAPIS Pest Tracker Website. The Pest Tracker Website provides maps detailing surveys conducted around the U.S. for different invasive species as well as sharing links to pest news and information for the different states.

Currently, the Illinois CAPS program is finishing up its 2012 survey season. Our focus this last summer was on invasive pests of fruit trees in Illinois. Insect traps were deployed across the state for the False Codling Moth, Plum Fruit Moth, and Summer Fruit Tortrix Moth. All three of these moths have an extremely large host range that could impact several fruit commodities grown in Illinois. A second part of this survey looked for two state pests of concern – the brown marmorated stink bug and spotted wing drosophila. To date, we have confirmed spotted wing drosophila in several Illinois counties. We are also in our second year of surveying for thousand cankers disease (TCD) in Illinois. It was our first year in utilizing a newly released lindgren funnel trap and pheromone combination that attracts the vector of TCD, the walnut twig beetle. While samples are still being processed from this past summer, we are looking forward to getting these traps out again in 2013.

Also in 2013, we will be starting a new survey targeting oak pests. Over 53% of the forest cover in Illinois consists of oak and hickory-- and this doesn't include any oaks planted in urban areas. There

are several invasive oak pests that if established in Illinois, would not only threaten the diversity of our natural areas, but dramatically impact our forest product industry and nursery trade. Pheromone traps will be placed targeting the oak ambrosia beetle, Egyptian cottonworm moth, rosy gypsy moth, and golden tortrix moth. We are also excited to be utilizing a new biosurveillance survey technique that monitors *Cerceris* wasp colonies. This buprestid-hunting wasp offers another approach to monitor for not only emerald ash borer, but also the oak splendour beetle, goldspotted oak borer, and European oak borer.

*Kelly Estes is the State Survey Coordinator for the Illinois CAPS program. Please check out the CAPS blog and website to keep up to date on invasive species information in Illinois. Feel free to contact her with questions or suspect invasive species.*

### **A Review of the 2012 Season at the University of Illinois Plant Clinic**

The University of Illinois is now open year-round, but we are starting to reflect upon the 2012 growing season. Our Plant Clinic sample load has nearly tripled in the last several years. I was very thankful that we invited Travis Cleveland, U of I PSEP Specialist, to help in tree diagnosis this year during the growing season. In 2012, most of our plant samples were received from Piatt, Champaign, Effingham, Cook, Livingston, McLean, Clinton, Kankakee, and Vermilion Counties in Illinois.

When looking back to the 2011 growing season at the Plant Clinic, it was the year

of spruce problems (cultural, environmental, disease, insects and spider mites). This prompted additional education outreach in 2012, such as spruce diagnostic workshops <http://universityofillinoisplantclinic.blogspot.com/2012/04/spruce-diagnostic-workshop.html> and the recent completion of a Spruce Problem (Cultural and Pests) Fact Sheet, which will be available soon.

The 2012 growing season consisted of a late frost <http://hyg.ipm.illinois.edu/article.php?id=340>, DROUGHT <http://hyg.ipm.illinois.edu/article.php?id=341> or DECLINE <http://universityofillinoisplantclinic.blogspot.com/2012/07/why-did-my-maple-die-so-suddenly.html>, and oak problems. Many in Illinois requested testing for diseases such as oak wilt <http://hyg.ipm.illinois.edu/article.php?id=394>, bacterial leaf scorch <http://hyg.ipm.illinois.edu/article.php?id=406>, and Burr oak blight (BOB) <http://hyg.ipm.illinois.edu/article.php?id=420>. In fact, we had our first confirmation of burr oak blight (BOB) at the U of I Plant Clinic in 2012. I will quickly add that another unique disease find, in 2012, was Spruce Needle Rust (*Chrysomyxa* spp.) <http://hyg.ipm.illinois.edu/article.php?id=356>.

Now, when looking at our U of I Plant Clinic fruit and veggie samples, I would say that 2012 growing season consisted of abiotic issues. Some examples that come to mind are sunscald of pepper <http://universityofillinoisplantclinic.blogspot.com/2012/09/pepper-which-came-first-sunscald-or.html> as well as sunscald, fruit cracks, blossom end rot,

catface, or zippering of tomato  
<http://universityofillinoisplantclinic.blogspot.com/2012/08/a-few-abiotic-problems-on-tomato.html>.

The most common disease of 2012 was Bacterial Blight or Blast of ornamental pear (*Pseudomonas syringae*)  
<http://hyg.ipm.illinois.edu/article.php?id=362>. We received questions about this disease throughout the season!

Some of the more challenging plant samples at the U of I Plant Clinic, for me personally, in 2012 was a palm tree problem

<http://universityofillinoisplantclinic.blogspot.com/2012/01/double-coconut-palm-problem-in-illinois.html>. I was very fortunate to have received help from University of Florida- IFAS, Fort Lauderdale Research and Education Center experts such as Monica L. Elliott, Ph.D. and Timothy Broschat, Ph.D. I will never forget how Dr. Elliott told me, *an Illinois farm girl*, not to worry, "a palm tree is just like a corn plant on steroids." I also struggled with an African violet sample

<http://universityofillinoisplantclinic.blogspot.com/2012/06/sick-african-violet-plant-sample.html> early in the season. This plant sample is an example of a problem in which I was not able to pinpoint an exact diagnosis without further information--*which drives me crazy*. My most involved and complex plant sample of 2012 goes to an "out-of-state" sample, which consisted of declining oaks. All I will say is that most of our U of I Plant Clinic diagnosis reports consist of one page and this particular plant sample diagnosis report consisted of seven pages.

In 2012, we were constantly on the "look out" for a new disease called Boxwood Blight (*Cylindrocladium pseudonaviculatum*)  
[http://universityofillinoisplantclinic.blogspot.com/2012/02/boxwood-blight-information-not-found-in\\_15.html](http://universityofillinoisplantclinic.blogspot.com/2012/02/boxwood-blight-information-not-found-in_15.html).

Luckily, we have not confirmed this devastating boxwood disease in Illinois. But, we did have a higher sample load of boxwoods this year, and diagnosed many other environmental, disease, and insect issues such as: *Macrophoma* leaf spot, *Verticillium* wilt, *Volutella* blight, *Fusarium* blight, boxwood leafminer, cold damage, and winter injury.

Downy Mildew of impatiens  
<http://hyg.ipm.illinois.edu/article.php?id=424>, another devastating disease, unfortunately did make a return to Illinois in 2012 and may be here to stay.

My favorite as well as problematic sample of 2012 arrived on my birthday! This plant sample was that of sweet basil  
<http://universityofillinoisplantclinic.blogspot.com/2012/01/dear-sweet-basil-you-have.html>. This tricky sample had cultural, environmental, viral, and insect issues! A sample like this is a dream for a Plant Clinic diagnostician, but a nightmare for a grower!

To conclude, I would like to thank all the U of I Plant Clinic team, which includes staff, students, volunteers, and U of I Specialists for helping to diagnose or identify the many plant samples received at the U of I Plant Clinic.

I hope that you will allow the U of I Plant Clinic to help you with your plant problems in 2013. (*Stephanie Porter*)

## **Index 2012**

Following is an index to the pests and other topics addressed in the 2012 issues of the Home, Yard, and Garden Pest Newsletter. Following each item is the issue number where each topic is located.

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