

# Wisconsin Horticulture Update Summary May 31, 2013

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## WI WEATHER REVIEW

For the week ending May 28, 2013, most of the state was waterlogged with wet spots in many fields, some ponding and runoff damage. Crops were slow to emerge due to cloudy skies and cool temperatures.

Across the reporting stations, average temperatures last week were normal to 2° above normal. Average high temperatures ranged from 67° to 71°, while average low temperatures ranged from 49° to 54°. Precipitation totals ranged from 0.70" in Green Bay to 3.20" in Eau Claire. (WI Crop Report)

## Growing degree days (GDD)

Growing degree days is an accumulation of maximum and minimum temperature averages as related directly to plant and insect development. This week, the  $GDD_{mod50}$  in Wisconsin ranged from 180.5 to 533.5. Following is a list of GDD as of May 31, 2013 for the following cities: Bayfield 180.5, Beloit, 533.5, Crandon 303.1, Cumberland 307.5, Dubuque 470.8, Eau Claire 352.1, Fond du Lac 358.2, Green Bay 300.9, La Crosse 396.0, Madison 443.3,

Milwaukee 345.5, Wausau 329.2. To determine the GDD of any location in Wisconsin, use the degree day calculator at the UW Extension Ag Weather webpage [http://www.soils.wisc.edu/uwex\\_agwx/thermal\\_models/degree\\_days](http://www.soils.wisc.edu/uwex_agwx/thermal_models/degree_days)

To put it in perspective, following is an abbreviated list of plant and insect phenological stages in relation to GDD accumulations at which the events occur. Common lilac first bloom 207; common flowering quince full bloom 208; Sargent crabapple first bloom 213; wafaring tree viburnum first bloom 227; **elm leafminer adult emergence 228**; Koreanspice viburnum full bloom 33; eastern redbud full bloom 254; common horsechestnut first bloom 260; **pine needle scale egg hatch 1st generation 277**; Sargent crab full bloom 282; **eastern spruce aldehyd egg hatch 283**; wayfaringtree viburnum full bloom 287; blackhaw viburnum first bloom 301; redosier dogwood first bloom 311; common lilac full bloom 323; **lilac borer adult emergence 324**; Vanhoutte spirea first bloom 329; common horsechestnut full bloom 344; **lesser peach tree borer adult emergence 362**; **oystershell scale egg hatch 363**; blackhaw viburnum full bloom 370 pagoda dogwood first bloom 376; redosier dogwood full bloom 408; Vanhoutte spirea full bloom 429; black locust first bloom 455; pagoda dogwood full bloom 486; smokebush, first bloom 501; common ninebark first bloom 507; arrowwood viburnum first bloom 534; **bronze birch borer adult emergence 547**; black locust full bloom 548; **potato leafhopper adult arrival 568**; **juniper scale egg hatch 571**; common ninebark full bloom 596; arrowwood viburnum full bloom 621; multiflora rose full bloom 643; northern catalpa first bloom 675; **black vine weevil first leaf notching due to adult feeding 677**; Washington hawthorn full bloom 731; **calico scale egg hatch 748**.

## INTRODUCTION

The host for today's WHU was Joy Schelble, horticulture educator for Iron County. PDDC Director Brian Hudelson, insect diagnostician Phil Pellitteri and entomologist Art Wagner USDA-APHIS-PPQ Wisconsin were special guests. Participants in today's discussions were representatives from the following counties: Brown (Vijai Pandian), Iron (Joy Schelble), Kenosha (Barb Larsen), Marinette/ Oconto/ Florence (Scott Reuss), Milwaukee (Sharon Morrisey), Pierce/ St. Croix (Diana Alfuth), Portage (Sophie Demchik), Racine (Patti Nagai), Walworth (Chrissy Wen) and Waukesha (Kristin Krowkowski).

## HORTS' SHORTS

Agents report the following issues to be of interest this week: Weather woes continued for gardeners this week as temperatures fluctuated back and forth from the 40s to 80s, and rainfall continued throughout the state. Homeowners, anxious to begin gardening, have experienced late planting due to wet soils, non-acclimated plants bleached by hot sun and drying winds, seedcorn maggot on bean and pea, and vegetable gardens waiting for heat to get going. Weeds are growing heartily, many needing identification and control advice. Ash leaf fall, an annual phenomenon, has been a common concern to gardeners, along with peach leaf curl and brown evergreens. May beetles/June bugs have hatched this week. Pollinators are still scarce in orchards and gardens. Apple tree flowers are in bloom in the north but have lost their petals in the south. Bridalwreath spirea, a notable phenological indicator plant, is in bloom in the southeast. Morel mushroom are out, at least in Pierce Co.

## SPECIALIST REPORT: Insect Diagnostic Lab Update

Presented by Phil Pellitteri, Distinguished Faculty Associate, UW-Madison Department of Entomology and Director, UW-Extension Insect Diagnostic Lab [pellitte@entomology.wisc.edu](mailto:pellitte@entomology.wisc.edu)

### Seedcorn and Cabbage Maggots

As noted previously, maggots are out, not only on beans and peas but also on cabbage. The way to tell seedcorn maggot, affecting bean and peas, and cabbage maggot apart is by timing. Seedcorn maggot is active earlier in the season by a few weeks. Seedcorn maggot is already in its second generation, as cabbage maggot is just becoming active now. Susceptibility of seeds depends on how long they sit in the ground before germinating.

Cabbage, Onion or Seedcorn Maggot (PSU): <http://extension.psu.edu/plants/vegetable-fruit/news/2012/cabbage-onion-or-seed-corn-maggot>

## Ticks

The press has been obsessed over mosquitoes and ticks lately. This is normally tick season. Wood tick and deer tick numbers seem to be down a bit; however, there can be hot spots in any one year. One of the interesting things going on this year is the increase in lone star tick, a tick seen commonly in Missouri, but only occasionally found here. This year, between my lab and Susan Paskewitz's lab, we have had seven samples submitted. Previously we thought they were coming up on birds and staying around with no evidence of breeding, but as numbers have been increasing we have become suspicious of that. Susan is doing quite a bit of research on this tick, and one of the things we hope to prove is there are breeding populations in the state. We are not too far north of its natural range, so with the lack of very cold weather it would not be surprising that it is living here.

Q. *Are the lone star ticks larger than the wood or deer tick?*

A. They are about the same size of the wood tick. The lone star tick is rounder, where the wood tick has more the shape of a pumpkin seed. The distinctive characteristic, and reason for its name, is a noticeable single white dot on the scutum.

*Amblyomma americanum* (Lone Star Tick) (UW): <http://labs.russell.wisc.edu/wisconsin-ticks/wisconsin-ticks/amblyomma-americanum-lone-star-tick/>

## May Beetles

As the May beetle/June bug adults take flight this season, pay attention to the numbers. The size of the population this year is a forecast of next year's white grub problem. In years where activity is high, the following season will have lots of white grub damage to lawns; conversely when the June bug numbers are low, so will be the white grub damage the following year. There is always a year delay.

June Bugs Prepare to Emerge (Iowa): <http://www.extension.iastate.edu/newsrel/2004/may04/may0436.html>

## Tent Caterpillars

Driving from Madison to Wausau and back this week, it was amazing how few tent caterpillars were evident in trees along the highway, considering how far along in the season it is. There were just a small number, indicating it will be a quiet year for that pest.

Webworms (UWEX): [http://labs.russell.wisc.edu/pddc/files/Fact\\_Sheets/FC\\_PDF/Webworms.pdf](http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Webworms.pdf)

## Ips Beetle

Q. *We have a lot of dying evergreens, and many calls concern beetles that have killed the plants. What beetles or borers would affect white pines killing them from the top down?*

A. The notorious one is ips, a little pine bark beetle, which would be expected to be active after last year's drought stress. If the weather were to remain dry this year, there could be a lot of tree mortality at the end of this summer pointing back to ips having becoming established in 2012; it takes time to do enough damage to kill the tree. If the rainfall continues, the trees will strengthen up enough to fight the beetles off.

Ips Bark Beetle (UWEX): [http://labs.russell.wisc.edu/pddc/files/Fact\\_Sheets/FC\\_PDF/Ips\\_Bark\\_Beetle.pdf](http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Ips_Bark_Beetle.pdf)

## Gypsy Moth Update

Q. *What is the status of gypsy moth this year?*

A. DATCP and WDNR have had concerns in the Ashland and Bayfield areas where catches were higher. In other areas of the state, catches indicated numbers to remain neutral or declining. If the weather remains wet for the gypsy moth hatch, it is quite possible the larvae will be killed off by the *Entomophaga* fungus.

Gypsy Moth (UWEX): <http://hort.uwex.edu/sites/default/files/Gypsy%20Moth.pdf>

# SPECIALIST REPORT: Plant Diagnostic Disease Clinic

Presented by Brian Hudelson, Sr. Outreach Specialist, UW-Plant Pathology and Director of the UW-Extension Plant Disease Diagnostics Clinic (PDDC) [bdh@plantpath.wisc.edu](mailto:bdh@plantpath.wisc.edu)

The PDDC update is attached to the end of this summary.

## Environmental Problems

This week, there were samples of drought stress on spruce, larch and arborvitae showing browning and branch dieback. Two of the spruce samples came in with lateral buds starting to sprout on branches that had died back, so there was some recovery occurring on them.

Reiterating Patti's comment on acclimation issues of greenhouse grown plants, a sample of sunburned tomato was submitted to the Clinic.

Recognizing Drought Injury Symptoms on Plants (colostate): <http://www.coopext.colostate.edu/4dmg/Garden/drought6.htm>  
Acclimating Plants Outdoors (UI): [http://urbanext.illinois.edu/gardenerscorner/issue\\_05/spring\\_03\\_05.cfm](http://urbanext.illinois.edu/gardenerscorner/issue_05/spring_03_05.cfm)

## Powdery Mildew on Ninebark

Three samples of ninebark came in this week, each with powdery mildew. Ninebark is the most common woody plant on which we see the disease. Two of the samples were showing the typical white powdery growth associated with powdery mildew. The third sample looked like a torch had been taken to the tips of the branches; they were blackened. The blackening is actually a solid layer of the sexually reproductive structures of the powdery mildew fungus. Under a hand lens or microscope, spherical structures in a solid mass on the surface of the tissue can be seen. On ninebark, powdery mildew can cause some branch dieback. It is quite commonly seen on Diablo ninebark but it is becoming more frequent on other varieties as well.

Powdery Mildew (UWEX):

[http://labs.russell.wisc.edu/pddc/files/Fact\\_Sheets/FC\\_PDF/Powdery\\_Mildew\\_Woody\\_Ornamentals.pdf](http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Powdery_Mildew_Woody_Ornamentals.pdf)

Ninebark with Powdery Mildew (photos) (Oregon state):

[http://www.science.oregonstate.edu/bpp/Plant\\_Clinic/images/ninebark\\_sphaerotheca.htm](http://www.science.oregonstate.edu/bpp/Plant_Clinic/images/ninebark_sphaerotheca.htm)

## Edema

*Q. Someone brought in a tomato plant. She had a long tale of woe having grown seedlings all of which got blistering on the stems. She got rid of the seedlings and bought some plants, and they too developed blistering on the stems. She was convinced it was her fault. There was a period when the plants were outdoors and got too cold so she warmed them up by pouring hot water on the soil. Checking the internet, she determined they had edema. I have not seen edema before but this plant does not look like it has an insect or disease problem.*

*A. It is likely that the plant has edema. It has been seen on tomatoes and potatoes this year. Initially it appears like a crystalline material that is blistery. It may start out clear or green with masses of the material growing on stems or leaves. Eventually it will dry out and turn to a buff-brown crust. Often what causes edema is when the plant is watered excessively and it is not transpiring actively. With an excessive intake of water the plant makes cells on the surface of the leaves to retain water.*

*Comment: there has been a lot of this in our greenhouses this year. When it was hot, we watered; the next day it would be in the 50s and overcast, after which edema occurred. The weather is responsible for much of this.*

The hot water treatment may have contributed to it, but probably not caused the edema to occur. Edema has been somewhat common this year, especially because of the hot and cold weather patterns. It has been seen on ornamental sweet potato vine where little masses of cells form on the surface of the leaves, and when the environmental conditions change they may be absorbed into the leaves, leaving no indication there ever was a problem. The good news this is not a lethal problem and the plants should recover well.

Edema (UWEX): [http://labs.russell.wisc.edu/pddc/files/Fact\\_Sheets/FC\\_PDF/Edema.pdf](http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Edema.pdf)

## Leaf Diseases

Q. A client brought in a hydrangea leaf with lesions on the edges and between the veins. Could this be anthracnose, considering the weather this year?

A. Almost any plant can get anthracnose except conifers. It is a very general term of fungal leaf diseases caused by a fungus that produces a particular reproductive structure called an acervulus. As there are many foliar fungi producing acervuli, there can be many different anthracnose diseases. The wet weather this season suggests there will be a lot of different types of leaf diseases this summer.

Leaves infected with anthracnose tend to have random, not distinct, lesion patterns. If the symptoms on the hydrangea were marginal and interveinal it could possibly be some type of issue with plants not getting sufficient water, like root rot, which limits water uptake. To know which organism is affecting the plant, send a sample to the Clinic.

Anthracnose (UWEX): [http://labs.russell.wisc.edu/pddc/files/Fact\\_Sheets/FC\\_PDF/Anthracnose.pdf](http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Anthracnose.pdf)

Root Rots in the Garden (UWEX): [http://labs.russell.wisc.edu/pddc/files/Fact\\_Sheets/FC\\_PDF/Root\\_Rots\\_in\\_the\\_Garden.pdf](http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Root_Rots_in_the_Garden.pdf)

## SPECIALIST REPORT: Using *Cerceris* as a Tool for Detecting Buprestids

Art Wagner, USDA APHIS. Art Wagner is working as an entomologist for the USDA, based out of Madison, surveying for exotic insects in the state. [Arthur.C.Wagner@aphis.usda.gov](mailto:Arthur.C.Wagner@aphis.usda.gov)

This discussion accompanied a powerpoint presentation found on the WHU webpage:

<http://fyi.uwex.edu/wihortupdate/2013/06/01/may-31-2013-using-cerceris-wasps-to-monitor-for-exotic-boring-insects/>

Exotic wood boring insects, such as emerald ash borer (EAB), are well adapted to entering the United States in wood packing material and crates and causing substantial financial damage. The USDA is interested in looking for a variety of such insects that may yet be undetected, especially buprestids, a group of woodborers of particular concern.

As a federal program, there are a number of targeted buprestids that are on the official woodborer list that are a threat to US agriculture and the environment: *Agilus planipennis* (emerald ash borer), *Agilus biguttatus* (oak splendor beetle), and *Agilus coxalis* (gold-spotted oak borer).

There is a relatively new process utilizing a native ground nesting wasp, *Cerceris fumipennis*, in the biosurveillance of exotic woodborers and bark beetles. The process, initiated in Canada, has been so successful it is now making its way around the U.S., and has been used on the northeast coast with volunteers.

Recently, in Illinois, it has been tried as a replacement for the standard exotic woodborer and bark beetle survey that uses traps with a variety of lures to try to find the insects of concern. The trapping process is very time consuming and expensive, requiring regular maintenance of messy, wet traps. The *Cerceris* method is an elegant process of surveying the presence of wood boring insects.

*Cerceris fumipennis* is a native parasitoid wasp, slightly smaller than some of our common wasps. Native to North America, the female makes a solitary ground nest in disturbed, slightly compacted, sandy soil. Although the nests are solitary, they do aggregate in loose colonies. The females target buprestids and other boring insects, capture them, sting them in a leg joint (a weak point in their armor), and poison them with a long term paralytic chemical. The chemical is quite different than that found in normal wasp stings, which are meant to cause pain. The beetle reaction to the paralytic is to fold up in an aerodynamic shape; the wasp grabs it and carries it off to the nest.

Inside the underground nest is a brood chamber where the wasp stores several of the paralyzed beetles to become food for her brood. When she has enough food in the chamber, she lays an egg on the chests of the beetles, and seals off the chamber to prevent other insects from stealing her young. She will make another brood chamber and continue the process, making up to twenty-four different chambers. The nests are filled mostly with buprestids along with some other genera of wood boring beetles and other insect families.

The *Cerceris* wasp uses the paralytic injections as part of the hunter-gatherer process, not for defense. Since the wasp does not sting defensively, it can be safely handled without concerns of being stung.

*Cerceris fumipennis* is a small wasp, black with smoky-grey wings, a yellow stripe on the abdomen and three yellow dots on the face that make identification easy. There are some wasp look-alikes, one being the bee wolf, a much larger wasp that will often nest in the same area; the bee wolf nest has different characteristics, making it quite easy to tell apart from the *Cerceris* nest.

The ground nest of *Cerceris* has a hole just slightly larger than a pencil. Dirt is often pushed up from the hole producing little mounds with the hole in the center. Since the nests are found in compacted sandy soils, some of the easiest places to look for them are baseball diamonds, making it an extremely convenient biosurveillance tool. People using the baseball diamonds usually are not at all aware of the nests because the wasps do not sting.

There are two methods to collect buprestids from this interesting wasp. The first is called stealing. It entails taking the prey from the wasp, and there are two methods to steal. As the wasps fly to their nests, they can be caught in a butterfly net; the wasps will drop the beetle in the net and the wasp can be easily coaxed out. Another method of stealing requires the placement of a standard-sized hole-punched card stock over the nest with the hole positioned over the nest entrance; the cardstock is in place with a golf tee. When the wasp comes back with her prey, only she can enter through the hole so the beetle is abandoned outside the nest. The problem with steals is if too many insects are taken from the wasps it could have a negative impact on their ability to provide food for the larvae.

The other way to collect beetle, called drops, is easier and has less impact on the wasps. For some reason that has not been clearly defined, a certain number of the beetles the wasps bring back are abandoned around the entrance to their nests. From research done on *Cerceris*, once the female wasp drops a beetle, she will not take it back in. These drops can be safely collected with impacting the viability of the nest.

In Illinois, collections have been done since 2011 in the northeastern part of the state in Cook, DuPage, Kane, Kendall, Lake and McHenry Counties. In 2011 at 23 sites, 26 different buprestid samples were collected; 11% of them included EAB. While this was not intended to be just an EAB detection technique, it was successful in that regard.

In 2012, at 92 different sites, 113 different samples were collected; nearly 600 buprestid specimens and 2 cerambycids, long-horned wood boring beetles, were found. Compared to a typical year using standard wood boring survey traps, last year in Wisconsin, there were 35 to 45 sites with three traps per site containing different lures to be checked every two weeks over a period of three months during the summer; only 4 to 6 buprestids were collected. With standard traps, the lures are not particularly effective, so any catch is almost incidental. With the *Cerceris* method, Illinois collected 600 buprestids, 100 times the normal catch of the standard method. In 2012, 83% of the Illinois catches were drops, not steals. At this point they are almost exclusively using drops because they are such an efficient way to collect the beetles. Quite interesting, there does not seem to be a species difference between the beetles dropped and the ones collected by stealing.

Reviewing the Illinois data, in 2011, 44% of the baseball sites surveyed had colonies of *Cerceris* and over 27% of those sites yielded samples. 27% is actually a good number considering samples are not found with every *Cerceris* nest. In 2012, 41% of the sites had *Cerceris* but 47% yielded samples. As their survey methods progressed they improved their collections.

At a training site in Libertyville, Illinois there was a small village park with three baseball diamonds, a little parking lot with some ash trees, and a wooded area close to the park. There were numerous little wasp mounds and wasps flying everywhere. In 45 minutes, a good number of beetles were caught, with at least nine different taxonomic groups in that short period of the time. The wasps did all the work, and all it took was walking around the ballpark and picking up the discards the wasps were not interested in. The wasps are very easy to work with, allowing people to scoot them out of nests, and even to hold so they can be tagged with paint. The wasps used for this process do not sting.

In 2012, there was an initial collection trial in Wisconsin. Using aerial surveys to look for ball fields along highways, surveys were taken of 335 sites in 17 counties. Ballparks were identified and checked for nest in the infields. Nests were categorized, locations noted, and determined if any *Cerceris* populations were present. 317 of the 335

sites had no nests; 18 did have nests, yielding 5% finds, compared to Illinois where 40% had nests. The Wisconsin trial had no collections which was very surprising and frustrating.

Determining what went wrong with the WI survey in 2012 came down to a few factors. First, timing was late. Due to budget clarifications, preparation for the survey was delayed, leaving three days to prepare, and getting to nesting areas later than desired.

Next, it was determined that the ball diamond material makes a difference in finding *Cerceris* nests. In many of the ball fields examined, the material was predominantly a white crushed stone, heavier and larger than the sand the wasp might prefer. Another issue is how well groomed the diamonds were. Wasps will reopen their nest with a bit of disturbance it seems, but will not tolerate continued grooming during the week that is found typically at a high school or other well-maintained ball field.

Another observation is the wasp needs a good source for food, and for *Cerceris* that means heavily wooded sites with good beetle populations. One of the ball fields visited in Clifton, WI was an example of a good site, with a ball diamond in a state of poor maintenance, with weeds encroaching the field. Woodlands were nearby and an aerial view shows dense woods close by. In Illinois it was observed that the proximity of a ballpark to a contiguous forested landscape was beneficial for wasp habitat. In Waunakee, WI, there were ball fields everywhere but no nests in the 20 ball fields visited; those fields were in farmland with only a few residential trees. In Wyeville, WI, the ball field visited was in the city with woods surrounding it; at that location, 125 colonies were found because of the environment. In Clifton, woods were also located near the ballpark, with meandering belts of trees, forming a good solid habitat for the insects. In Stone Bank Okauchee, none of the fields had large populations of nests but every ball field had at least one population; in that area east of Madison, where there were lakes and greenbelts with a high population of trees, there were higher populations of *Cerceris*.

Another issue considered that may explain poor nesting finds was if sandy soils naturally predominated in an area the sandy ball fields would not be attractive. Reviewing GIS maps, however, indicated soil types made no difference.

For 2013, some new strategies were considered to increase surveillance. First, change the timing: start earlier, in the late spring about the third week of June, to catch the wasps pulling in beetles.

Hiring two full time surveyors for the state was desired but not possible with budget constraints. Instead of surveying the whole state, limit the focus to the southeastern areas, closest to the Illinois surveys, using available staff. This may help determine if there is a difference in wasp habitat from south to north.

It was hoped this surveying method could be a potential volunteer partnering opportunity with the UW-Extension, Master Gardeners and the general public, to increase the number of sites monitored. Identifying ball fields requires a twenty-minute training. Once identified, a local volunteer could stop by the site once a week to collect dead insects off the ground and put them in a jar and send them off to be identified. It is a unique survey method with no environmental impact, no traps, no chemicals and nothing to be tampered with. It is an ideal way for getting individuals throughout the state to participate over a broad general area. In the northeastern part of the U.S., this is how they are carrying out their buprestid surveys and it is very successful.

In 2013 the original plan was to have some full time employees systematically survey 800 ball fields identified in southeast Wisconsin, not only to check the fields but also to collect complete data that would help get insight into exactly why wasps choose the ball fields they do. The ability to detect new colonies would be much more efficient. That is no longer possible because of the budget, but in partnering with DATCP and using their GIS capability to run criteria through 800 fields, to find grade school fields (they tend to be less manicured), in proximity to woods and extended woodlands, 118 fields were found. Those will be checked this summer by USDA staff.

For 2014, a project request has been put in to the Wisconsin State Master Gardener Association to have this designated as an approved Master Gardener project. If approved, Master Gardeners will be able to participate in helping to establish a volunteer survey program using the biosurveillance method.

Q. *When did you actually start the survey in 2012?*

A. It was mid-July by the time any surveying started. Wasps were still active and seen flying around, but there were no discarded beetles. It is not known if it was too late, or if the drought affected the drops. It was not known if they were still maintaining nest but beyond the foraging stage, or possibly the drought decreased populations of wood boring insects. Focusing on a localized area in southeast Wisconsin may help determine what went wrong last year. The USDA colleague in Illinois will inform us when their nests are active to give us a start.

*Q. Is the purpose of the surveillance to find effectiveness of a natural beetle enemy to manage pests, or to monitor the presence of beetles?*

A. Definitely to monitor; an exotic wood boring and bark beetle survey is conducted every year. Despite everything that is done to intercept solid wood packing material infested with wood boring insects at the border, the percentage of material intercepted is miniscule. It is just not possible to inspect everything that comes in. So it is an accepted fact that some wood boring insects are getting through.

The first line of defense is the international standards that should eliminate many insects because wood used for international shipments is supposed to go through a treatment process in which resident insects would not survive. The second line of defense is to stop as much at the border as possible. After that, the USDA is tasked to survey domestically within the U.S. to try to find populations of foreign invasive insects that have gotten through and started to establish, before it is too late. A classic example is EAB; by the time damage was found and identified it had spread over counties and it was too late to stop. The point of surveying is to find populations of insects in their infancy of their establishment. At that time they can be investigated to see if they are a real threat and whether actions must be taken to stop them.

If anyone wants to learn more about *Cerceris* as a biosurveillance tool for buprestids, there is user friendly Canadian website that serves as a clearinghouse for *Cerceris* information such as the uses of the wasp, its biology, and its potential: [www.cerceris.info](http://www.cerceris.info) While USDA biologists are using *Cerceris* surveys and have a protocol written up, there is not a website for this yet.

*Q. Are the wood borer insect life cycles similar so there are beetles available for a long time, or do they vary so some beetles are around and then other species come out later?*

A. It varies from species to species. This has been explored for the detection of EAB and it does work. The difficulty is the wasp life cycle and the EAB life cycle are not in sync, with the EAB coming out earlier and the *Cerceris* wasp later. While it can be used for EAB detection, it not ideal; if the wasp would be foraging when the EAB were emerging, that would be better. There are numerous species of the buprestid and they are present through the course of the season.

*Q. When did you plan to start this season?*

A. We are planning the third or fourth week of June. Illinois should be able to give us a week lead time.

*Q. Do you have plans to coordinate the volunteer force yet?*

A. We have not had a lot of experience working with volunteers and are interested in learning more. Mike Maddox says because Master Gardeners are so highly sought after, we have to apply for a project, which is what we are doing now. So this year, as a one-day event, we might consider offering a training class, asking Master Gardeners to train instead of surveying, so they might do surveys on their own or join us next year if the project is approved by UW-Extension. If there were trained volunteers in any county that could be centralized and send the beetles to me, it seems this project would not need to be over-managed. This year if someone finds *Cerceris* sites, send me the location information; it will be good to have leads and DATCP will follow up. After speaking with colleagues on the east coast where volunteers are doing surveys, we hope to glean some ideas from their knowledge and experience.

*Comment: This is Brandon Panke. I am working with Mark Renz on developing a first detector network similar to Minnesota's, offering advanced Master Gardener training to organize a volunteer program. It will be up and running next year. It seems that this biosurveillance project would be a perfect fit.*

*Q. Is *Cerceris* being used to help reduce populations of buprestids?*

A. Not that I am aware of. A few years ago the DNR was looking at *Cerceris* as a detection tool, trying to get colonies established in areas to look for EAB, but it did not work. The biosurveillance is mainly used as an exotic

insect detection tool. We will consider the ball fields as “sentinel sites,” monitoring them for exotic buprestids year after year because the larger colonies tend to stay put.

Cerceris Info (Canada): [www.cerceris.info](http://www.cerceris.info)

Cerceris Wasp Survey Protocol (USDA APHIS): [http://caps.ceris.purdue.edu/webfm\\_send/1738](http://caps.ceris.purdue.edu/webfm_send/1738)

Working with the Smoky winged Beetle Bandit (Canada): [http://www.cerceris.info/pdf/esc\\_bulletin\\_%20careless&marshall.pdf](http://www.cerceris.info/pdf/esc_bulletin_%20careless&marshall.pdf)

CercerisVolunteers (Maine): [www.maine.gov/cerceris](http://www.maine.gov/cerceris)

First Detection of *Agrilus planipennis* in Connecticut Made by Monitoring *Cerceris fumipennis* Colonies (J. of Hymenoptera, Ap.24, 2013) [www.pensoft.net/journals/jhr/article/4865/](http://www.pensoft.net/journals/jhr/article/4865/)

Qualitative Analysis of Wasp Watchers (USDA, USFS): [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2181538](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2181538)

## ANNOUNCEMENTS

The next WHU will be held June 7, at 9:30 AM, hosted by Barb Larsen with featured guest, Mark Renz, speaking on invasive plants and weeds.

## FINAL NOTES

The full audio podcast of today's and archived WHU conferences can be found at <http://fyi.uwex.edu/wihortupdate/>

## UW links

Wisconsin Horticulture webpage <http://hort.uwex.edu>

UW Plant Disease Diagnostics webpage <http://labs.russell.wisc.edu/pddc/>

UW Insect Diagnostic Lab <http://www.entomology.wisc.edu/diaglab/>

UW Turfgrass Science <http://turf.wisc.edu/>

UW Vegetable Pathology Webpage <http://www.plantpath.wisc.edu/wivegdis/>

UW Vegetable Entomology Webpage <http://www.entomology.wisc.edu/vegento/people/groves.html#>

UW-Extension Weed Science <http://turf.wisc.edu/>

UW-Extension Learning Store <http://learningstore.uwex.edu>

UW Garden Facts <http://labs.russell.wisc.edu/pddc/fact-sheet-listing/>

## WHU “OFF THE AIR”

During this past week specialists have commented on these issues off the air:

### Vegetable Crop Updates

Vegetable Crop Update #6 is available at <http://www.plantpath.wisc.edu/wivegdis/>

Topics include:

- Update on Bravo Section 24c registrations
- High tunnel tomato updates and grower survey
- Disease severity values/ blitecast for late blight management

# PDDC Update

## UW-Extension/Madison Plant Disease Diagnostic Clinic (PDDC) Update

Brian Hudelson, Ann Joy, and Andrew Pape, Plant Disease Diagnostics Clinic

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from May 25, 2013 through May 31, 2013.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
<b>BROAD-LEAVED WOODY ORNAMENTALS</b>			
Lilac	<a href="#">Growth Regulator Herbicide Damage</a>	None	La Crosse
Ninebark ('Center Glow')	<a href="#">Powdery Mildew</a>	<i>Oidium</i> sp.	Dane
Ninebark (Unidentified)	<a href="#">Powdery Mildew</a>	<i>Oidium</i> sp.	La Crosse
Viburnum (Cranberrybush)	<a href="#">Root/Crown Rot</a>	<i>Rhizoctonia</i> sp.	Dodge
<b>FRUIT CROPS</b>			
Apple ('Winesap')	Cytospora Canker	<i>Cytospora</i> sp.	Iowa
<b>NEEDED WOODY ORNAMENTALS</b>			
Arborvitae ('Emerald Green')	Water Stress	None	Milwaukee
Larch (Weeping)	Water Stress	None	La Crosse
Spruce (Unidentified)	<a href="#">Root Rot</a>	<i>Fusarium</i> sp., <i>Cylindrocarpon</i> sp.	Dane
	Water Stress	None	Fond du Lac
<b>VEGETABLES</b>			
Lettuce	<a href="#">Powdery Mildew</a>	<i>Oidium</i> sp.	Ozaukee
Tomato	Unidentified Virus Disease	Not determined	Buffalo
	Sunburn	None	Buffalo

For additional information on plant diseases and their control, visit the PDDC website at [pddc.wisc.edu](http://pddc.wisc.edu).