

# West Central WI Forest Health Report

December 2011

## Topics covered this month:

### Insects

[Brown marmorated stink bug](#)

[Emerald ash borer traps](#)

[2011 EAB research](#)

### Diseases

**Annosum**

- [Found on spruce in WI](#)
- [New Cellu-Treat label](#)
- [Winter Cellu-Treat use](#)

[Thousand cankers](#)

- [New lure for walnut twig beetle](#)

[Bur oak blight](#)

[Phytophthora](#)

### Invasive Plants

[Amur cork/Japanese Wisteria](#)

### In the News

[New heaviest insect?](#)

[Replacing ash with chestnut?](#)

[EAB branch sampling in MN](#)

## Insects

### Brown Marmorated Stink Bug

Brown Marmorated stink bug will eventually steal the headlines as the most hated insect in Wisconsin. Fortunately, no established populations were discovered in WI this year despite finds of several individual bugs in 2010 and a find in a hotel on the east side of Madison in early 2011. Researchers are currently working on a pheromone + light trap to detect the bugs. Researchers are also evaluating which pesticides are most effective and at what rates. A classical biological control program (bringing in predators from its native range) is underway in New Jersey. BMSB has been confirmed as a forest pest. The bugs were found feeding on the seeds and shoots of white ash, box elder, maple and hackberry. In addition to the severe damage BMSB can cause to fruit and forest trees it is also a home pest like the Multicolored Asian ladybeetle. One homeowner on the east coast counted more than 26,000 in his home last winter.

### Emerald Ash Borer Traps

We have confirmation that communities will be able to purchase purple prism traps for use this coming summer. One trap (with lure) will cost ~\$28 (+ shipping). Communities can also consider purchasing purple or green multifunnel traps for ~\$65 (with lure) (+ shipping) although availability of these traps is limited. The funnel traps can typically be used for many years but new lures (~\$12 currently) would need to be purchased each year. DNR and DATCP will produce a list of suppliers and a document with information about setting up traps, where to locate them, monitoring, etc.

We also encourage communities and landowners to monitor for EAB by collecting and peeling branches during normal pruning or removal of ash trees. The branch survey method is described at ([http://www.oakville.ca/Media\\_Files/forestry/EABbranchsamplingRyall2010.pdf](http://www.oakville.ca/Media_Files/forestry/EABbranchsamplingRyall2010.pdf)).



Figures 1-3. EAB traps available to communities (left to right): purple prism trap, green MultiFunnel trap, purple MultiFunnel trap.

## 2011 Emerald Ash Borer Research

2011 has seen wealth of new EAB publications. The highlights include:

### Trapping

- Light green prism traps (visual cue) baited with an EAB pheromone component and a green leaf volatile (olfactory cues) increase trap catches of male EAB by 45-100%
- Purple or green multifunnel traps work as well or better than prism traps
- Baited purple double-decker traps catch more EAB than prism traps, green double-decker traps or sticky bands on girdled trees
- Branch sampling can be used to effectively detect EAB populations in asymptomatic trees

### Biology

- EAB larvae feed downwards (towards the roots) because they girdle the tree as the feed and would not get as much water or nutrients if they feed above where they girdled
- EAB overwinter as prepupae. They survive the cold by producing antifreeze agents in their body fluids and protecting their skin with waxes

### Ash research

- Manchurian ash that have evolved with EAB in Asia have different levels or entirely different defense compounds than North American ash that are highly susceptible to attack by EAB
- Emamectin benzoate and imidacloprid are effective insecticides to protect trees from EAB attack
- Treat cut ash stumps in EAB infested areas with triclopyr to prevent stump sprouts that EAB can infest. Ash sprouting is reduced by cutting in late spring

# Diseases

## Annosum Discovered on Spruce in Central WI

On a recent visit to a known annosum root rot site in central Wisconsin forest health staff discovered an annosum fruit body on a spruce seedling. This is first known case of annosum infecting spruce in WI. The seedling did not appear to have any symptoms from the infection currently but forest health staff will monitor it in coming years to see if symptoms develop.

## New Cellu-Treat Label for Use with Antifreeze

It is now legal to use antifreeze with Cellu-treat for winter stump application if you get a copy of the new product label. The label is not available online yet so please let Todd or I know if you need a copy. The label now states "To prevent the solution from freezing during cold weather, substitute some or all of the water with the appropriate amount of dilute (not concentrate), propylene glycol based antifreeze that is non-toxic to animals". The limited testing to date suggests that a 12-15% propylene glycol solution with 5% Cellu-Treat will stay liquid at 20°F. Ready-to-use RV antifreeze is usually already diluted to 25-30% so mixing it with the same amount of water would provide an appropriate dilution. Please let us know what works best for you and if you have any equipment issues.

## Annosum winter fungicide application guidelines for 2011/2012

Reminder: the annosum winter fungicide application guidelines have been updated for this winter to reflect the Cellu-Treat label change that allows the use of antifreeze (propylene glycol). See the updated guidelines for 2011/2012 (below) sent out by Paul DeLong, Wisconsin DNR Division of Forestry Administrator.

### Interim winter fungicide application guidelines for annosum root rot

#### **Background**

Last year, issues were brought forth pertaining to the mechanized application of Cellu-Treat in cold weather. Cellu-Treat solution freezes and mechanized applications were impossible below freezing temperatures. Temporary guidelines were implemented to remedy the situation. Since then a new Cellu-Treat label has become available that will allow propylene glycol to be added to the chemical to lower the freezing temperature of the solution.

Given this new tool, the Division explored several alternatives in an effort to better balance operational considerations with the risk of spreading annosum. The Division sought input from GLTPA, a few County Forest Administrators and internal staff, to better understand the operational limitations coupled with the need for more data and understanding of how the additive works in the field. Given the feedback, it has been determined not to make any adjustments at this time to the interim policy used last winter.

### **These guidelines apply only to:**

- State DNR timber sales currently under contract or those proposed for sale that have provisions for annosum treatment.
- Timber sales sold with the option of using Cellu-treat **OR** sporax application (Timber sales bid out specifically requiring a hand application of Sporax will still require treatment prescribed in the contract)

### **Application Guideline**

Treatment is **NOT** required this winter if the following conditions can be met:

High temperature on the day of harvest is < 32 degrees Fahrenheit OR snow depth is > 12" in the woods

### **AND**

The forecasted high temperatures for the next 10 days are not predicted to exceed 40 degrees Fahrenheit.

*Note:* Although mechanized applications with propylene glycol have been performed only at a limited scale and further field monitoring is needed to assure the feasibility of the application, we encourage operators use this option and believe it will allow harvesting to occur on more days that otherwise would have had possible without this change. DNR Forest Health staff will continue to work with loggers in late fall/early winter to test the feasibility of mechanized application with the Cellu-treat/propylene glycol mixture under various temperatures.

Thank you.  
Paul

### **Thousand Cankers Disease (By Linda Williams)**

Thousand Cankers Disease, a disease that kills walnut trees, is currently found in 9 western states and 3 eastern states (Virginia, Pennsylvania, and Tennessee). Regulations took effect August 1 to prohibit bringing potentially-infested items into Wisconsin from states known to have Thousand Cankers Disease. Regulated articles include all hardwood firewood, as well as nursery stock, unprocessed lumber and woodchips from *Juglans* species (butternut and black walnut).

Thousand Cankers Disease has not been found in Wisconsin at this time. Its name comes from lesions, or cankers, that develop when many tiny walnut twig beetles tunnel through the bark of the tree, spreading a fungus, *Geosmithia morbidus* which causes cankers. The number of cankers per tree can number in the thousands. The tree's foliage yellows and thins, and eventually the walnut tree dies. There are no known pesticides that will control this disease. It was first observed in New Mexico in the 1990s, and in 2010 was discovered in eastern Tennessee within the natural range of black walnut. For more information about Thousand Canker Disease, visit: <http://www.thousandcankerdisease.com/> If you suspect you have thousand cankers disease please contact your forest health specialist.

## New Lure for Walnut Twig Beetle

As mentioned above, the walnut twig beetle is the insect responsible for spreading the fungus that causes TCD. A new lure will be available in 2012 to detect this beetle species. Forest health plans to utilize this lure to find the beetles so we can determine if TCD is present in WI.

**Note:** Check out our 2011 walnut survey results in Mark Guthmiller's December forest health update.

## Bur Oak Blight (By Kyoko Scanlon)

Since the 1990s, bur oak blight (BOB) has been reported in Midwestern States including Iowa, Kansas, Minnesota, Nebraska, and Wisconsin. The disease is believed to be caused by a new species of *Tubakia* fungus. *Tubakia dryina* has been known to be the causal agent of Tubakia leaf spot. However, BOB is considered a blight disease, not a leaf disease. In a severe case, all the leaves on a tree will die late in the season. Upon further investigation by Dr. Harrington of Iowa State University, *T. dryina* is now considered a species complex, and one species of *Tubakia*, currently called "BOB *Tubakia*" or "*Tubakia* sp. BOB" is associated with the disease.

Bur oak blight has been confirmed in Dane, Green, Iowa, Kenosha, Rock, Sauk, Walworth, and Waukesha Cos. on bur oak. In 2011, leaf and twig samples were sent from Wisconsin to Iowa State University for the identification of "*Tubakia* sp. BOB". The samples were collected mainly from bur oak trees that were experiencing late season leaf necrosis. Laboratory analysis is in progress.

Bur oak blight symptoms usually start appearing in late July into early August. Infected leaves develop purple-brown lesions along the midvein and major lateral veins on the underside of leaves. Later, chlorosis and necrosis expand on leaves and affected leaves wilt and die. Severely affected trees may die after many years of infection together with other pest issues. Severe symptoms of BOB have been observed only on *Quercus macrocarpa* var. *oliviformis*, a variety of bur oak that produces smaller acorns.

What can we do if a tree is infected with BOB? Dr. Tom Harrington says "Don't panic. BOB is not as bad as it looks". Trees may be able to sustain repeated defoliation because it starts late in the season, though secondary pests may kill trees that are stressed by repeated infection with BOB. Practices to improve overall vigor of infected trees may help reduce the risk of attacks by secondary pests. The use of fungicides has been investigated as a management tool of high-value bur oak trees. In preliminary studies, injections of the fungicide propiconazole in the spring reduced symptom development in late summer/fall and the following year. Further fungicide studies are in progress.

For more information about BOB, a pest alert was recently developed by the USDA Forest Service and is viewed at [http://na.fs.fed.us/pubs/palerts/bur\\_oak\\_blight/bob\\_print.pdf](http://na.fs.fed.us/pubs/palerts/bur_oak_blight/bob_print.pdf).

## Phytophthora root rot (By Todd Lanigan)

In the October 2011 Wisconsin Christmas Tree Producers Association Quarterly Journal an article covered an emerging root rot disease that is being found more and more in Christmas tree plantations here in WI. A new species of Phytophthora Root Rot (*Phytophthora sp. "kelmania"*) was identified from 2010 samples as the cause of the dying fir, Douglas fir, and spruce. This fall, DATCP found two additional species of Phytophthora, *P. sansomeana* and *P. europaea*, affecting Balsam and Fraser Fir trees. DATCP is still trying to determine how widespread the issue is in Wisconsin but so far only Christmas tree plantations have been affected. Look for rapidly declining and dead trees in areas of compacted soil or areas that are prone to flooding, such as low lying areas.

## Invasive Plants

### Amur Cork Tree and Japanese Wisteria (By Courtney LeClair and Tom Boos)

In the past two field seasons, local foresters in Adams and Juneau County have reported populations of two species that were not reported in Wisconsin prior: Amur cork tree (*Phellodendron amurense*) and Japanese wisteria (*Wisteria floribunda*). If you happen to find either of these plants or any other that you cannot identify, please email the Invasive Species Team, [invasive.species@wisconsin.gov](mailto:invasive.species@wisconsin.gov), with location details and pictures if available.

**Amur cork tree** (*Phellodendron amurense*) has been widely planted as an ornamental and street tree throughout much of Wisconsin and the nation due to its' unique, corky bark and its' ability to withstand pollution. In the fall, the opposite, pinnately compound leaves turn bright yellow, while the clusters of drupes on female trees are black. One very unique characteristic that separates it from any look-alike species is presence of very bright yellow innerbark that is revealed after removing the outer layer of bark. This is especially useful on younger trees that have not yet developed the thick corky bark. For more detailed information and some pictures, take a look at the PCA Alien Plant Working Group fact sheet:

<http://www.nps.gov/plants/alien/fact/pham1.htm> and visit Invasive.org for lots of pictures: <http://www.invasive.org/browse/subinfo.cfm?sub=11569>.

**Japanese wisteria** (*Wisteria floribunda*) is a woody vine that is a very popular ornamental in the Southern United States, with long drooping, fragrant clusters of flowers and vigorous growth. It is not nearly as common as its close relative, Chinese wisteria (*Wisteria sinensis*) due to the long



period of time it takes for Japanese wisteria to start producing flowers (~5 years). At the site in Juneau County, vegetative growth is the primary means of spreading. It moves across the ground and also up trees, girdling them with time. Two distinguishing characteristic of Japanese wisteria are the number of leaflets being 13-19, most commonly 15-17, and the clockwise (considered counter-clockwise by some) twining of the vine as it climbs upwards. Chinese wisteria, native American wisteria, and our native trumpet creeper climb the opposite direction.

Japanese Wisteria Links:

PCA Alien Plant Working Group fact sheet: <http://www.nps.gov/plants/alien/fact/wifl1.htm>

University of Connecticut Horticulture: <http://www.hort.uconn.edu/plants/w/wisflo/wisflo1.html>

## In the News

### New Heaviest Insect?

If you like large insects or just want to scare someone who hates them check out the pictures of the giant weta, a cricket-like insect, recently found in New Zealand!

<http://www.dailymail.co.uk/sciencetech/article-2068547/Weta-insect-Heaviest-world-weighs-3-times-mouse.html>

### Replacing Ash with Chestnut?

Chestnut Blight killed most of the chestnut trees in the eastern U.S. in the early 20<sup>th</sup> century. As cities in the Midwest look to replace ash trees in the wake of emerald ash borer a Minnesota researcher is testing gravel bed systems for growing chestnut in hopes of bringing blight resistant chestnut back to the landscape.

<http://kstp.com/article/stories/s2394031.shtml>

### EAB Branch Sampling in MN

The Minnesota Department of Agriculture, U.S. Forest Service and University of Minnesota are preparing to test the branch sampling method for emerald ash borer in the Minneapolis area from 2012 to 2014. They will collect 1800 branches from 300 trees to try to determine the extent of the infestation and to look for evidence of the parasitoid wasps released to control EAB.

<http://www.echopress.com/event/article/id/90359/group/News/>

**For general forest health and municipal level urban forest health issues contact:**



<http://new.dnr.wi.gov/Default.aspx?Page=4e114a1b-6bc4-4fd7-9e0b-755e7d11dd22>

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**Statewide reporting systems:**

Report EAB:

by phone 1-800-462-2803  
by email [DATCPEmeraldAshBorer@wisconsin.gov](mailto:DATCPEmeraldAshBorer@wisconsin.gov)  
visit the website <http://emeraldashborer.wi.gov/>

Report Gypsy Moth:

by phone at 1-800-642-6684  
by email [dnrfrgypsymoth@wisconsin.gov](mailto:dnrfrgypsymoth@wisconsin.gov)  
visit the website <http://gypsymoth.wi.gov/>

For additional information visit the Forest Health web site: <http://dnr.wi.gov/forestry/fh>

Note: This report covers forest health issues occurring in the West Central Region of Wisconsin. The purpose is to provide up-to-date information on forest health issues to foresters, forest landowners, and anyone else interested. We welcome your comments/suggestions on this newsletter as well as reports on forest health problems in your area. If you would like to subscribe to this newsletter, please contact Mike Hillstrom at [Michael.hillstrom@wisconsin.gov](mailto:Michael.hillstrom@wisconsin.gov). Previous issues of this update and regional forest health updates from NER, NOR and SOR, are available from the WI DNR Forestry website at <http://dnr.wi.gov/forestry/FH/intheNews/>. Articles written by Mike Hillstrom unless otherwise noted.

Pesticide use: Pesticide recommendations contained in this newsletter are provided only as a guide. You, the applicator, are responsible for using pesticides according to the manufacturer's current label directions. Read and follow label directions and be aware of any state or local laws regarding pesticide use.