

Wisconsin Horticulture Update Summary August 16, 2013

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WI WEATHER REVIEW

For the week ending August 11, 2013, Wisconsin experienced a third week of below-average temperatures and scattered precipitation. Severe storms blew through the north, with straight-line winds and hail reportedly causing damage in some areas. Producers were reportedly glad to see the rain, but some areas in need of precipitation were missed. The continued below-average temperatures prompted concern for crop development. Heat is needed to help late-planted crops achieve maturity.

Across the reporting stations, average temperatures last week were 2° to 6° below normal. Average high temperatures ranged from 77° to 79°, while average low temperatures ranged from 53° to 61°. Precipitation totals ranged from 0.0" in Milwaukee to 0.73" in Green Bay. (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 1121.1 to 2066.2. Following is a list of GDD as of Aug. 16, 2013 for the following cities: Bayfield 1121.1, Beloit 2066.2, Crandon 1345.4, Cumberland 1520.7, Dubuque 1941.4, Eau Claire 1719.3, Fond du Lac 1655.0, Green Bay 1559.2, La Crosse 1840.8, Madison 1881.2, Milwaukee 1630.0, Wausau 1468.6. 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

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 233; 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**; **greater peach tree borer adult emergence 775**; northern catalpa full bloom 816; **cottony maple scale egg hatch 851**; panicle hydrangea first bloom 856; **fall webworm egg hatch 867**; fuzzy deutzia full bloom 884; **winged euonymus scale egg hatch 892**; chickory full bloom, **squash vine borer adult emergence 900**; **Japanese beetle first emergence 970**; littleleaf linden full bloom 1117; Rose-of-Sharon first bloom 1347; **pine needle scale egg hatch, 2nd gen. 1923**; **magnolia scale egg hatch 1938**; **banded ash clearwing borer adult emergence 2195**.

INTRODUCTION

The host for today's WHU was Fond du Lac Crops and Soils educator Mike Rankin. PDDC Director Brian Hudelson, Insect Diagnostic Lab Director Phil Pellitteri and UWEX Fruit and Vegetable Production Specialist Brian Smith were special guests. Participants in today's discussions were representatives from the following counties: Brown (Vijai Pandian), Columbia (George Koepf), Fond du Lac (Mike Rankin), Marinette (Scott Reuss), Portage (Sophie Demchik), St. Croix (Heidi Doering), and Winnebago (Kim Miller).

HORTS' SHORTS

Agents report the following issues to be of interest this week: Precipitation has been lacking in most of the state except for a storm reported along the Fox Valley area. Nighttime temperatures have been exceptionally cool, in the low 50°s in Brown Co. to the 30°s along the northern bay areas. The reporting offices suggest it has been rather quiet this week, with questions on weed identification, leaf diseases, continued problems with tomatoes, and poor maturation of vegetables. Late blight was confirmed in Brown Co. Emerald ash borer was confirmed in Superior, placing Douglas Co. in quarantine, and more municipalities had confirmations in Winnebago Co.

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

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

Plant Disease Clinic Report

Trees and Shrubs

This week in the lab, testing indicates vascular wilts are still quite active. More *Verticillium* was found on ash and magnolia.

Oak wilts continued to test positive in samples from Dane, Jefferson and Walworth Counties.

A variety of leaf diseases on oak was seen.

A sugar maple sample was submitted with **Steganosporium canker**, an opportunistic canker disease. Affecting trees under stress, the canker is quite visible, with huge fruiting bodies that are very powdery and dark brown spores that can be rubbed off. While not a primary problem of the tree, it is quite noticeable.

Fruit Crops

Root and crown rots were seen on apple and raspberry; those are typical for those crops.

On grapes, **powdery and downy mildew** were found. There is quite a bit of downy mildew going on this season.

Vegetable Crops

From the southwest part of the state, Vernon Co. submitted quite a few vegetable samples. Chards had **Cercospora leaf spot**. A sample presented with very discreet lesions that had light colored centers and dark borders. This leaf spot is one of the many foliar fungi that will attack vegetable crops. **Alternaria leaf spot** was found on kale and okra. Black rot was found on kale. On tomato, **late blight, early blight** and **Septoria leaf spot** were detected. After all that, it was not surprising to see **blossom end rot** on peppers.

From northern Illinois, a sample of potato had **late blight**.

Herbaceous Ornamentals

Black-eyed Susan with brown leaves was sent in with **Septoria leaf spot**. When angular brown lesions are seen on Rudbeckia, definitely suspect Septoria, a variation of the disease occurring on tomato.

Impatiens with downy mildew came in from Kewanee and Clark Counties.

An interesting sample was submitted from northern Illinois. An anemone presented with mosaic symptoms. At first glance it would appear to be viral, but many of the angular spots were starting to turn necrotic. After digging into the tissue, **foliar nematodes** were found. On broadleaf plants that have angular leaf spots with necrosis, where the tissue actually dies, and the spots lack any halo, it may be a foliar nematode problem. On Hosta, dead streaks the length of the leaves may be seen.

Verticillium Wilt (UWEX):

http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Verticillium_Wilt_of_Trees_and_Shrubs.pdf

Oak Wilt (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Oak_Wilt.pdf

Steganosporium Canker (Diseases of Bark – Cornell): <http://maple.dnr.cornell.edu/pubs/diseases/bark.htm>

Root and crown rots (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Root_and_Crown_Rots.pdf
Powdery Mildew (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Powdery_Mildew_Vegetables.pdf
Downy Mildew (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Downy_Mildew.pdf
Cercospora Leaf Spot (U Mass): <http://extension.umass.edu/vegetable/articles/cercospora-leaf-spot-swiss-chard-beets-and-spinach>
Alternaria Leaf spot on Kale (Cornell): http://www.longislandhort.cornell.edu/vegpath/photos/alternaria_kale.htm
Early Blight (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Early_Blight.pdf
Late Blight (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Late_Blight.pdf
Blossom End Rot (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Blossom_End_Rot.pdf
Septoria Leaf Spot (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Septoria_Leaf_Spot.pdf
Impatiens Downy Mildew (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Impatiens_Downy_Mildew.pdf
Foliar Nematode Disease of Ornamentals (UIUC): <http://ipm.illinois.edu/diseases/rpds/1102.pdf>

Plant Disease Questions

Verticillium Wilt

There are two mature ash trees growing next to each other. One is perfectly healthy, but the other one is quickly declining, presumably from Verticillium wilt. Will the affected one come back in any way or will it be completely dead next year? What about the healthy one?

Verticillium wilt is usually fatal long-term, but may kill rather quickly. Rarely we will see some recovery in trees. It is not uncommon to see two trees showing different responses to their growing area. *Verticillium* is found in patches in the soil. It is possible that a particular plant's roots may just happen to grow where there is a patch of the *Verticillium*, while the roots of an adjacent tree do not. There have been situations where a very old tree becomes infected late in life when its roots hit a patch.

Verticillium wilt is not the only cause of **ash decline**. Other causes may be Emerald ash borer or ash yellows, the phytoplasma disease that causes dieback as well.

Verticillium Wilt: http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Verticillium_Wilt_of_Trees_and_Shubs.pdf
Ash Decline (Iowa State): <http://www.ipm.iastate.edu/ipm/info/plant-diseases/ash-decline>

Rose Rosette Disease

A Winnebago Co. client suspects her roses have rose rosette disease. She pruned them back after the first flush of blooms in June. Now the stems are red, almost purple, and the canes are thorny. No witches' brooms are evident. If it is rose rosette is there anything she can do to save them?

With **rose rosette disease**, brooming is usually an important symptom. The canes are thorny, but the thorns are pliant, not very sharp. Red stems are not definitive for the disease. Diagnosis is made by examination of the visual symptoms of broomed, purplish canes.

Rose rosette does cause a decline in the shrub and eventual death. There is no treatment for the disease.

A little eriophyte mite is involved in rose rosette and may come in on grafted material. The mites have been found in the southwest part of the state, but not as far as Winnebago. If it is indeed rose rosette disease, it could have come in on new nursery stock..

Hold off doing anything to the plant at this point. Wait to see if the roses re-bloom and if witches' brooms are evident.

Rose Rosette Disease (Virginia Tech): http://pubs.ext.vt.edu/450/450-620/450-620_pdf.pdf

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

Insect Lab Report

The two big issues this week are home invasions of **strawberry root weevil**, a little, black, slow moving, non-flying insect, and **bird mites**, that have been intense for the past two months.

Ants are starting to swarm.

Spiders are being seen.

There has been a resurgence of a diverse number of **butterflies and pollinators** lately, so it looks as if there will be a comeback.

Weevils in the Home (UMN): <http://www.extension.umn.edu/yardandgarden/ygbriefs/e606weevils.html>

Bird Mites (PSU): <http://ento.psu.edu/extension/factsheets/bird-mites>

What to Do About Household Ants (UW): <http://www.entomology.wisc.edu/diaglab/pdfs/homepests/householdants.pdf>

Garden Spiders (UW): <http://wimastergardener.org/?q=Spiders>

Common Spiders of the Chicago region (Field Museum): http://fm2.fieldmuseum.org/plantguides/guide_pdfs/390.pdf

SPECIALIST COMMENT: Spotted Wing Drosophila Update

Presented by Christelle Guédot, Assistant Professor, Fruit Crop Entomologist, Extension Specialist quedot@wisc.edu

Spotted wing drosophila (SWD) has just been confirmed in Washburn and Marathon Counties. It had previously been confirmed in Jefferson, Monroe, Grant, Pierce, Lafayette, Racine, Rock, Crawford, Vernon, Iowa, Bayfield, Columbia, Dane, Sauk, Door and Trempealeau Counties.

It is interesting that in some areas where confirmations were made last year, such as Marinette, Winnebago, Brown, Portage, Waupaca, and Richland Counties, sightings have not yet been reported this year.

Keep Cristelle Guedot informed of any new SWD sightings so they can be posted on the website and growers may be notified.

Spotted Wing Drosophila (UW-Madison): <http://labs.russell.wisc.edu/swd/>

SPECIAL TOPIC: Fruit Crops

Brian Smith, Professor of Horticulture UW-River Falls, UW-Extension Fruit and Vegetable Production Specialist, website: <http://www.uwrf.edu/CAFES/Extension/Fruit.cfm> email brian.r.smith@uwrf.edu

WI Fruit Industry

Fruit Production

The Wisconsin fruit industry is very viable. Wisconsin fruit and nut crops are worth about \$228M, representing about 1.9% of the total state agriculture product.

Wisconsin is the leading producer of cranberries, worth \$195M; the 12th largest producer of apples, worth \$12M; the 6th largest producer of strawberries, at \$6.4M; and the tart cherry production is worth \$1.9M. Wisconsin is the 16th largest producer of plums.

Fruit Trends

Bramble and raspberry acreage is small but the markets are good. There is much interest in using high tunnels to extend the season. A few growers are trying some of the University of Arkansas primocane-fruiting blackberries. They are not winter hardy in all of Wisconsin, but with some protection, some crowns may live. If grown in a good area they should survive the winter or be suitable for high tunnel production.

Cranberry acreage is stabilizing and so are the prices. There is more upland marsh production compared to bog locations. New products are coming out all the time

Apple acreage is down 25% since 2007, but the yield per acre is rising. High-density orchards are the trend, with vertical axis, slender spindle, and other high tech training systems contributing to higher production. Winter hardy, dwarf rootstocks such as Mulling 9 and Budagovsky 9 (aka Bud 9) are also important factors. The newer

GENEVA® rootstocks out of Cornell are being trialed in our state to see how far north they will grow. In traditional orchards, 70 trees were planted per acre, producing 300 bushels per year; with dwarf trees and new training systems, 300 to 1500 trees can be planted per acre, yielding up to 1200 bushels per year.

Strawberry acreage and yields are stabilizing. There is more interest in high tunnel production with this crop. There are many new cultivars available, a few being released from Europe by the bigger strawberry nurseries, but they need to be tested before they can be recommended.

There is much interest in growing both highbush and half-highbush blueberries. Half-highs (cross between highbush and lowbush blueberries) should do well in protected locations. Surprisingly, highbush blueberries have been doing amazingly well in protected locations.

There has been a tremendous amount of activity with grape growing. Although Wisconsin does not have a good climate for growing grapes, Michigan State University has developed new cultivars that are doing extremely well here. Major wineries are being started up in Wisconsin, both wholesale and/or retail.

Aronia (black chokeberry) berry is a small pome fruit native to the Great Lakes area. UW-River Falls is doing research breeding on *Aronia*. The Aronia berry is a commercial crop in Poland and Germany. At one time, there may have been some interspecific, intergeneric hybridization to make the fruit larger. Now *Aronia* cultivars 'Viking' and 'Nero' are being planted in large acreages in Wisconsin, with one grower planting 40 acres of the fruit and requiring commercial mechanical blueberry harvesters to harvest.

Industry Fruit Trends

There is more interest in transgenics in fruit crops. The first transgenic apples, the Arctic® series from Okanagan Specialty Fruits, takes standard apple varieties and silences the polyphenol oxidase gene (PPO) that prevents browning. Arctic® Granny and Arctic® Golden are two of their first apples. Since the browning trait is not so important, there has not been much excitement over this.

Many new cultivars have come out of traditional breeding programs. EverCrisp from the Midwest Apple Improvement Association is a crispier type of Fuji. Royal Red, is an exciting new red sport of Honeycrisp to be distributed by Willow Drive Nursery. WineCrisp™ ('Co-op 31') is a late season scab-resistant apple from University of Illinois, ripening two weeks later than 'Delicious' and for that reason may not work for WI. CrimsonCrisp™ ('Co-op 39') is a scab-immune apple coming from the Purdue Research Foundation. It is also a fairly late apple.

Research at UW-River Falls

UW-River Falls is the only campus actively engaged in fruit breeding and has been doing so for the last 26 years. Some of the main objectives are developing new strawberry cultivars and also testing commercial cultivars. 70 genotypes are being tested in a replicated trial. Recommendations are then made to commercial growers based on the trial data. Most of the results compare with what the growers see across the state.

Plum and apricot breeding through interspecific hybridization is another specialized program. Plumcots (50% plum, 50% apricot), apriums (75% apricot, 25% plum), and pluots (75% plum, 25% apricot) are being developed.

Eastern sand cherry and western sand cherry are native fruits that can handle our hard winters at temperatures as low as -40° to -50° and with 10" of annual rainfall. Last summer and this summer are good tests for these trees. Planted in pure sand soil, they have not been watered this year and have a good crop of fruit on them.

Beach plums are a cottage industry on the east coast that are being tested in Wisconsin. Not as winter-hardy as expected, once they become established they do quite well. They currently have a full crop of fruit and will not be ripe for another month. The beach plums and sand cherries may have a place in Wisconsin agriculture because of the extreme growing conditions we have been facing. Jams, jellies, syrup, and wine can be made with these crops.

Desert grapes are also being researched, with the first seedlings started 3 years ago.

At UW-River Falls there are 1.5 acres of strawberry seedlings, 2500 seedlings from 60 different parental crosses; 3 acres of plum/apricot seedlings; 1.5 acres of sand cherries; and 354 *Aronia* seedlings. The *Aronia* breeding research is the first in the Midwest, and only the second in the country.

There is cooperative research taking place with Canada; and Iowa State and University of Minnesota are evaluating various fruit selections from the UW-RF breeding program.

Fruit Update

Grapes

Grapes are not responding well to the cool season this year, because they need heat for development. Leaf-pulling should just about be finished, taking place before veraison, or berry color-up. Leaf-pulling is done on the shaded side of the vines to increase air movement and spray penetration. It also helps increase fruit coloring and sugar content in red wine grapes.

There is concern about spotted wing drosophila in grape crops. It appears that Danitol, Delegate and Entrust are some of the better insecticide controls against this pest.

Scouting should be taking place for the multi-colored Asian lady beetles (MALB). If they contaminate the harvest they give an off taste to wine and everything has to be thrown out. Since it affects quality of the harvest, scouting must take place before the grapes ripen and some grapes around the state are already at the veraison stage. MALB cannot penetrate the fruit of sound grapes, but are able to feed on previously damaged fruit. Fruit may be damaged by bird activity, cracking due to temperature fluctuations, or other environmental factors. Some of the commercial insecticides available to control MALB on grapes are Scorpion, and Venom.

Aronia

Harvest of Aronia berries will be a little late this year because of the lack of growing heat units. They are turning color, with some already turning black right now. More and more growers are looking at co-op harvesting, buying one harvester and sharing among 3 or four growers.

Apples

ReTain is one of the effective commercial chemical products used to prevent premature drop on fruit, that should go on approximately 4 weeks ahead of anticipated harvest. A silicone sticker such as Silwet L-77 improves coverage. Apple harvest date is dependent on the weather. Apples that tend to fall before they are ready for harvest, such as McIntosh, will definitely need ReTain.

Soil moisture is low throughout the state right now. It is important to irrigate. Apple and other fruit crops need to be watered to retain nutrition availability, ripen crops, and to provide good conditioning before going into the winter. So many trees are lost due to lack of water during the growing season, because they go into winter in a weakened condition.

Wondering if apple ID can be done? It can, and is being done, by Brian Smith at UW-River Falls, where he teaches a lab on the subject. There are many characteristics to look at when trying to identify apple trees, such as bark color, bud size and bud pubescens, leaf shape and leaf serrations, bloom time, winter hardiness, fruit use, age of the tree, cropping history, rootstock and fruit taste. Leaves and stems alone cannot determine apple identification. If the trees are purchased at big-box stores they are even more difficult to identify, because the retailers purchase general varieties for all their stores.

Strawberries

June-bearing strawberries are now making their flower buds for next year's crop. The longer the weather is cool and mild, the better it is for the crop. Strawberries need to be fertilized between mid-August and when temps drop to below 45° in fall. Fertilize with nitrogen in form of ammonium sulfate, ammonium nitrate or urea formaldehyde (45-0-0). On heavier soils, fertilize once around Aug 20-25. On sandier soils, split the fertilizer with the first application around Aug 20, and the second application around September 20.

Apply herbicides now to prevent the late fall flush of annual winter weeds in strawberry fields.

Raspberries

Raspberries can be plagued with diseases now, a few of which are orange rust, raspberry leaf spot and Septoria leaf spot. These diseases take a huge toll on production, weakening them with winter injuries. Orange rust can be suppressed in commercial fields with Cabrio, Orbit and Pristine.

It is important to monitor for spotted wing drosophila in the fall crop.

UW-Extension Fruit Team: <http://fruit.wisc.edu>

Wisconsin Berry Growers: <http://www.wiberries.org>

North American Strawberry Growers: <http://www.nasga.org>
North American Bramble Growers: <http://www.raspberryblackberry.com>
Wisconsin Apple Growers Assn: <http://www.waga.org>
Wisconsin Cranberry Assn: <http://www.waga.org>

ANNOUNCEMENTS

August 20: Annual Twilight Garden Tour, Spooner Agriculture Research Station. Demonstrations, music, and speakers including Erin Silva, and Brian Smith. <http://ars.wisc.edu/spooner/Programs.php?ID=63624&PAGE=>

August 20 - 22: Diagnosing Tree/Shrub Diseases & Pests Workshops sponsored by Winnebago, Outagamie and Brown Co. UW-Extensions. http://winnebago.uwex.edu/files/2010/05/2013-Insect_Disease-Brochure.pdf

FINAL NOTES

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

On August 23, Chrissy Wen will host the Wisconsin Horticulture Update program and vegetable pathologist Amanda Gevens will discuss harvest and post-harvest issues.

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

The following updates and supplements may be found at <http://www.plantpath.wisc.edu/wivegdis/>

Supplement #7

8/9/13 Supplement 7 provides some clarity on label allowances of chlorothalonil and mefenoxam/metalaxyl fungicides for potato disease control in conventional systems.

Vegetable Crop Update #16

8/12/13 Vegetable Crop Update #16 includes the following topics:

- Late blight updates
- DSVs and Blitecast for late blight management
- PDays for early blight management
- Cucurbit downy mildew updates and management

Supplement #8

8/13/13 Supplement 8 provides update on downy mildew of cucurbits for Wisconsin. A first visual diagnosis was made today on melon and winter squash foliage from Jefferson County.

EAB Update

Douglas Co. to be Quarantined

Aug. 15, 2013 DATCP announced Douglas Co. to be quarantined

EAB Found in Superior; Douglas County to be Quarantined

Contact: Donna Gilson, 608-224-5130, donna.gilson@wi.gov Jim Dick, Communications Director, 608-224-5020, jim.dick@wi.gov

MADISON – Emerald ash borer has been found in the city of Superior, the most northern location in Wisconsin to date. Douglas County, in which Superior is located, will be quarantined.

"While it's disappointing to have found EAB in a new location so far from other infestations, and in close proximity to our North Woods, it is not surprising, given the ease with which this pest can hitchhike with the help of humans," said Brian Kuhn, director of the Bureau of Plant Industry in the Wisconsin Department of Agriculture, Trade and Consumer Protection.

Trempealeau County is the next nearest Wisconsin county where EAB has been found. The other nearest infestations are in St. Paul, Minn., and in Michigan's Upper Peninsula.

Kuhn said, "Along with the U.S. Department of Agriculture and the Department of Natural Resources, we set about 1,000 traps in Wisconsin this summer. Almost all of them were set in places where we have not found EAB previously, and the majority are in the northern half of the state. The EAB's flight period is just about over for this season, so we'll be taking those traps down in the next couple of months. When we see what we find in that survey, we'll decide on our next steps."

Members of a Superior city tree crew were removing a dead tree from a boulevard on Aug. 8 when they found telltale D-shaped exit holes and S-shaped tunnels under the bark -- signs of emerald ash borer infestation. The next day, city employees collected photos and samples of the insects, which were sent to the Wisconsin Department of Agriculture, Trade and Consumer Protection for initial identification and to the U.S. Department of Agriculture for confirmation. That confirmation arrived Tuesday, Aug. 13.

The quarantine will apply to all of Douglas County. It prohibits ash wood products and hardwood firewood from being moved out of the county to areas that are not infested.

For private citizens, this means that they cannot take firewood from Douglas County to non-quarantined counties. For businesses handling wood products that could carry EAB, it means that they must work with DATCP to assure that their products are pest-free before shipping.

The quarantine will be put in place temporarily by a Wisconsin emergency rule, until the U.S. Department of Agriculture completes the process to put a federal quarantine in place.

DATCP recommends that property owners who have ash trees in quarantined counties:

- Keep a close watch on ash trees for signs of possible EAB infestation: Thinning in the canopy, D-shaped holes in the bark, new branches sprouting low on the trunk, cracked bark, and woodpeckers pulling at the bark to get to insect larvae beneath it.
- Consider preventive treatments if your property is within 15 miles of a known infestation. Whether to treat depends on the age, size and number of ash trees. Treatment costs vary depending on size of the tree and whether you do the treatments yourself or hire a professional.
- Consider planting different species of trees that are not susceptible to EAB.

- Call a professional arborist for expert advice, and visit emeraldashborer.wi.gov for detailed information. Emerald ash borer is native to China and probably entered the United States on packing material, showing up first in Michigan about 10 years ago. It was first found in Wisconsin in 2008 in Washington County. Douglas County will join 19 others under quarantine in Wisconsin: Brown, Crawford, Dodge, Fond du Lac, Jefferson, Kenosha, La Crosse, Milwaukee, Ozaukee, Racine, Rock, Sauk, Sheboygan, Trempealeau, Vernon, Walworth, Washington, Waukesha and Winnebago counties.

EAB adults lay eggs on the bark of ash trees in mid- to late summer. When the eggs hatch a week or two later, the larvae burrow under the bark for the winter and eat the wood, forming the characteristic S-shaped tunnels and destroying the tree's ability to take up nutrients and water. In summer, the adults emerge through D-shaped holes in the bark.

The Wisconsin Emerald Ash Borer Program includes partners from the following agencies: Wisconsin Department of Agriculture, Trade and Consumer Protection; Wisconsin Department of Natural Resources; University of Wisconsin – Madison; UW-Extension; United States Department of Agriculture- Forest Service and Animal and Plant Health Inspection Service

New EAB Communities Added

Aug. 16, 2013 Communities newly added are:

- Douglas County - City of Superior
- Walworth County - Town of Lafayette
- Winnebago County - Town of Black Wolf, Town of Nekimi

Walworth County was previously under quarantine, and the Town of Lafayette is a new find within the county.

Winnebago County was placed under quarantine since the last update, when EAB was found in the Town of Black Wolf. Since that announcement, it has also been found in the Town of Nekimi.

Douglas County will be added to the quarantine list after the announcement yesterday that EAB had been found in Superior.

We expect to continue finding new locations within these counties. We will continue to issue press releases when we first find EAB in a county and quarantine it. Subsequent findings in quarantined counties will be announced here rather than by press release.

PDDC UPDATE

UW-Extension/Madison Plant Disease Diagnostic Clinic (PDDC) Update
 Brian Hudelson, Ann Joy, Erin DeWinter and Joyce Wu, 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 August 10, 2013 through August 16, 2013.

| PLANT/SAMPLE TYPE | DISEASE/DISORDER | PATHOGEN | COUNTY |
|---------------------------------------|-----------------------------------|--|---------------------------|
| BROAD-LEAVED WOODY ORNAMENTALS | | | |
| Ash (Green) | Cytospora Canker | <i>Cytospora</i> sp. | Dane |
| | Sphaeropsis Canker | <i>Sphaeropsis</i> sp. | Dane |
| | Verticillium Wilt | <i>Verticillium</i> sp. | Dane |
| Crabapple | Sphaeropsis Canker | <i>Sphaeropsis</i> sp. | Waukesha |
| Magnolia | Verticillium Wilt | <i>Verticillium</i> sp. | Waukesha |
| Maple (Sugar) | Steganosporium Canker | <i>Steganosporium</i> sp. | Grant |
| Maple (Unidentified) | Cytospora Canker | <i>Cytospora</i> sp. | Dane |
| Oak (Bur) | Anthracnose | <i>Discula</i> sp. | Waukesha |
| | Bur Oak Blight | <i>Tubakia iowensis</i> | Walworth, Waukesha |
| | Tubakia Leaf Spot | <i>Tubakia</i> sp. | Walworth, Waukesha |
| Oak (Unidentified) | Anthracnose | <i>Discula</i> sp. | Dane |
| | Chlorosis | None | Dane |
| | Oak Wilt | <i>Ceratocystis fagacearum</i> | Dane, Jefferson, Walworth |
| | Sphaeropsis Canker | <i>Sphaeropsis</i> sp. | Dane |
| | Tubakia Leaf Spot | <i>Tubakia</i> sp. | Dane |
| FRUIT CROPS | | | |
| Apple | Root/Crown Rot | <i>Phytophthora</i> sp. | Pierce |
| Grape | Downy Mildew | <i>Plasmopara viticola</i> | Dane |
| | Powdery Mildew | <i>Oidium</i> sp. | Dane |
| Raspberry | Root/Crown Rot | <i>Pythium</i> sp., <i>Rhizoctonia</i> sp., <i>Fusarium</i> sp., <i>Cylindrocarpon</i> sp. | Lincoln, Rusk |
| HERBACEOUS ORNAMENTALS | | | |
| Anemone | Foliar Nematode | <i>Aphelenchoides</i> sp. | McHenry (IL) |
| Black-Eyed Susan | Septoria Leaf Spot | <i>Septoria</i> sp. | Eau Claire |
| Coreopsis | Root Rot | <i>Pythium</i> sp. | Dane |
| Impatiens | Downy Mildew | <i>Plasmopara obducens</i> | Clark, Kewaunee |
| NEEDED WOODY ORNAMENTALS | | | |
| Juniper | Root Rot | <i>Pythium</i> sp., <i>Phytophthora</i> sp. | Dane |

| VEGETABLES | | | |
|------------------------|------------------------------------|---|--------------|
| Chard (Green) | Cercospora Leaf Spot | <i>Cercospora</i> sp. | Vernon |
| Chard (Red) | Cercospora Leaf Spot | <i>Cercospora</i> sp. | Vernon |
| Kale (Green) | Alternaria Leaf Spot | <i>Alternaria brassicicola</i> | Vernon |
| | Black Rot | <i>Xanthomonas campestris</i> pv. <i>campestris</i> | Vernon |
| Okra | Alternaria Leaf Spot | <i>Alternaria</i> sp. | Vernon |
| Pepper | Blossom End Rot | None | Vernon |
| Potato | Late Blight | <i>Phytophthora infestans</i> | Carroll (IL) |
| Tomato | Bacterial Speck | <i>Pseudomonas syringae</i> pv. <i>tomato</i> | Vernon |
| | Early Blight | <i>Alternaria solani</i> | Vernon |
| | Late Blight | <i>Phytophthora infestans</i> | Vernon |
| | Septoria Leaf Spot | <i>Septoria lycopersici</i> | Vernon |
| | Sunscald | None | Sauk |
| SPECIALTY CROPS | | | |
| Hop | Hop Latent Virus | Hop latent virus | Monroe |

For additional information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu.