Wisconsin Horticulture Update Summary, August 29, 2014

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WI WEATHER REVIEW

Heat and humidity yielded to cooler conditions across Wisconsin during the last days of August. Afternoon high temperatures climbed to the 80s and low 90s early in the week before moderating into the 70s on Wednesday. Periodic showers and storms continued throughout the state. Rainfall amounts were most significant in the northwest where locally heavy downpours of 1-3 inches occurred on August 25. The rain alleviated soil moisture deficits that began in July and improved yield prospects for corn, soybeans and other summer crops. According to the USDA NASS, topsoil moisture ratings are now adequate or surplus for more than 82% of crop lands, a dramatic recovery from only 55% two weeks ago when supplies had declined to the lowest level of the summer. Although crop conditions have improved with the beneficial rain of late August, considerable heat will be needed in September to accelerate crops toward maturity after a cooler-than-normal growing season. (Wisconsin Pest Bulletin, Vol. 59, No. 17, Aug 28, 2014)

Growing Degree Days (GDD)

Growing degree days is an accumulation of maximum and minimum temperatures as directly related to insect and plant development. As of August 13, in Wisconsin, the GDDmod 50 ranged from 1334 to 2390: Appleton-1904; Bayfield-1334; Beloit-2360; Big Flats-2049; Crandon-1521; Crivitz-1678; Cumberland-1821; Eau Claire-2089; Fond du Lac-1917; Green Bay-1787; Hancock-2049; Hartfield-1912; Juneau-2033; LaCrosse-2312; Lone Rock-2326; Madison-2204; Medford-1665; Milwaukee-1862; Port Edward-1976; Racine-1883; Sullivan-1912; Waukesha-1912; Wausau-1733 (WI Pest Bulletin Volume 59 Number 17 August 28, 2014). To determine the Degree Days of any city in Wisconsin, use the Degree Day calculator at

http://agwx.soils.wisc.edu/uwex_agwx/thermal_models/many_degree_days_for_date

The following phenological information gives a perspective on how GDD accumulation relates to some plant and insect development (http://www.entomology.umn.edu/cues/Web/049DegreeDays.pdf and http://www.ipm.msu.edu/agriculture/christmas_trees/gdd_of_landscape_insects): Northern pine weevil-2nd adults active-1200; Pales weevil-2nd adults active-1200; Pine root collar weevil-2nd adults active-1200; White pine weevil-2nd adults active-1200;Fall webworm caterpillars feeding-1200; Beech scale-egg hatch, 1st crawlers-1250; Panicled Goldenraintree-first bloom-1251; Pine needle scale-2nd generation egg hatch-1250; Elm leaf beetle-2nd generation-1300; Rose-of Sharon-firstbloom-1347; American plum borer-2nd generation-1375; Pine needle scale-2nd generation-hyaline stage (control target)-1500; Cooley spruce gall adelgid-2nd adults active (control target)-1500; Eastern spruce gall adelgid-2nd adults active (control target)-1500; Walnut caterpillar egg hatch, caterpillars-1600; Zimmerman pine moth-adult flight1700; Arborvitae leafminer-3rd generation-1700; Banded ash clearwing borer-adult emergence-1800-2200;Fall webworm-tents become apparent-1850; Euonymus scale-egg hatch - 2nd generation-1900; Magnolia scale egg hatch-1925.

INTRODUCTION

Today's WHU host was Pierce County horticulture educator Diana Alfuth. The specialists were Insect Diagnostic Lab Manager P.J. Leisch and PDDC director Brian Hudelson. The special guest this week was Tony Summers of the UW-Extension (Dept. of Agronomy) discussing the Wisconsin First Detector Network. Other discussion participants were representatives of the following counties: Brown (Vijai); Kenosha (Barb); Marinette (Scott); Marquette (Lyssa); St. Croix (Heidi); Portage (Walt); Rock (Christy); Winnebago (Kimberly); Waukesha (Kristin).

Hort's Shorts

County agents reported similar issues across the state.

Brown: We got some rain. Questions this week were on weed/plant ID and early blight on tomatoes as well as continuing issues with fruit tree and other tree collapse. We also have a possible late blight tomato sample from Oconto County and possibly one from the town of Denmark.

Portage County: We have samples of possible Spotted Wing Drosophila to submit and we are communicating with P.J. and Christelle. We had a possible diagnosis of hollyhock rust. We also have seen previously healthy maples dying back. Those trees were infested with lots of aphids and maybe that is contributing. Our tomatoes are not doing well.

Rock County: More rain today, so we aren't so dry. We have still had tree issues, especially dieback on maples. This warm humid weather should transition to cooler weather Friday.

Kenosha County: Leaf diseases are prevalent due to lots of rain. Ash tree/EAB questions are common. No other trends in issues except people are looking for late season guidance.

Marquette County: We had a dodder find in a riparian area, as well as a question about sandburs in a lawn. Japanese beetles are in full flight and causing damage on fruit trees.
http://www.colostate.edu/Depts/CoopExt/4DMG/Weed/dodder.htm

Marinette County: We have had confirmed cases of late blight, but early blight is doing just as much damage. The inconsistencies in climate, from wet to dry and cold (upper 30's) to hot, are causing problems.

Winnebago County: Questions running the gamut between insects, weeds, vegetables and trees. Our tomatoes are not ripening.

Waukesha County: Leaf diseases and late blight are active due to misty, foggy weather. We are getting lots of rain and expecting up to 2.5 inches in the next five days. We have fielded questions on plant/weed ID. We are seeing different things than usual due to the unusual weather. I found a spotted knapweed that I have been pulling and treating with Round-up, but it keeps coming back.

St. Croix County: We are getting calls about ground hornets/wasps, dying apple trees and some weed ID. We got canning and licensing questions from commercial outfits regarding jams, jellies, and pickles. We got only 0.2 inch of rain, so we need some more. The vegetable harvest is going well, and we are hoping to keep away cucumber mosaic.

Pierce County: We have had spotty rain, with some heavy downpours. We also got three calls about dieback in the side branches of maple, where all three had a branch dead on the south side. No herbicides had been applied. We thought there might have been vascular damage over winter. EAB has not yet been found in our county, but people are worried about it. We also had dodder reports, as well as fungal spots and grape phylloxera.

SPECIALIST REPORT: Insect Diagnostic Lab Update

Presented by P. J. Liesch, Associate Researcher, UW-Madison Department of Entomology, and Manager of the UW-Extension Insect Diagnostic Lab pliesch@wisc.edu

The summer is winding down and submissions are tapering off. P.J. is out of the office Sept. 1 to Sept. 7, and will be back in the lab on Sept. 8. You are welcome to continue submitting samples that will not spoil while he is gone.

Fishing Spiders and Orb Weavers

Fishing spiders are native and although large and imposing, are not dangerous to humans. Orb weavers are also large garden spiders that are white and yellow. The orb weavers eat garden pests.

http://www.extension.umn.edu/garden/insects/find/common-spiders-in-and-around-homes/

Lace Bugs

Lace bugs are sucking insects related to aphids and leafhoppers. They usually hang out on the underside of leaves. If you are seeing enough damage to warrant treatment, make sure that you get good spray coverage under

the leaves. http://www.extension.umn.edu/garden/insects/find/lace-bugs-on-minnesota-trees-and-shrubs/index.html

Arion Family Slug

We did get a submission from Vijai of a rust colored slug in the Arion family. It is unusual in that it is about 3 inches long when it is wandering around.

Ground Nesting Wasps/Hornets/Yellow Jackets

Colonies of these insects build up over the summer. If the nest is in an unsafe place like a wall cavity, a dust or powder formulation is more effective for control. The dust gets caught on the hairs on their bodies and legs and is carried deeper into the nest.
http://labs.russell.wisc.edu/insectid/files/2014/03/WaspandBeeControl.pdf

Cluster Flies

No reports yet, but it is getting to be the time of year when these insects may be looking for overwintering sites in your house. If you have had historical infestations, you can spray preventatively on the southern or western side of your house where they usually congregate.
http://www.extension.umn.edu/garden/insects/find/fall-nuisance-flies/

Questions/Comments for P.J. Leisch

Winnebago County: Did you get the fly we sent you?

Yes, I will look at it today before leaving for vacation.

Brown County: How do we handle questions about crazy worms? We have had a positive ID. Is there a hierarchy for reporting? Are any other counties reporting these?

I have been redirecting these samples to Bernie Williams, who is keeping track of crazy worm reports so you can contact her. We have them in Madison, and as yet unconfirmed in Appleton. I don't think it is widespread at this point.

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 PDDC update for August 23 through August 29 is attached to the end of this summary. Brian will be out of the office Aug. 31 through Sept.14. and is working frenetically to get things done.

We have had another very busy week. We again saw vascular wilts on oaks and elms. Anthracnose has been active on numerous hosts such as beech, oak, elm, and magnolia and tubakia is very active on oaks. We also saw more downy mildew on basil and on grape. We diagnosed both late blight and early blight on tomato and potato samples and septoria on tomato.

Brian asked Vijai if he had already sent out the tomato sample with suspected late blight because he had not received it. Vijai had done so two days earlier and the grower also contacted Amanda Gevens regarding the sample.

Brian also wanted everyone to know that his staff will continue to process samples in his absence, but reports may be delayed. Ann can give a preliminary report and a follow-up will be done when he returns. They are waiting on final results for a few oak wilt samples.

Verticillium on Wafer Ash (Ptelea trifoliata)

The sample exhibited classic verticillium symptoms and we were able to culture verticillium. This is a new host for this disease; at least I have not yet been able to find any report of it in the literature. We may need to do Koch's postulates on this sample for verification so we can make a report of this as a host.

Guignardia Leaf Blotch on Horse Chestnut

We had four horse chestnut samples come in that displayed large angular reddish brown necrotic lesions on the leaves. This is the same organism that causes a leaf spot disease on Boston ivy and another species in this genus is also responsible for black rot on grapes.

http://extension.umass.edu/landscape/fact-sheets/guignardia-leaf-blotch

Fireblight on Serviceberry

Serviceberry is a known host for this disease, but I have never seen an infection on this host.

Rupestris Speckle on Grape

This is not caused by a pathogen, but is rather due to a physiological disorder due to the parentage of the grape. Grapes with Vitus rupestris in their genetic lineage sometimes display diffuse spotting on the leaves.

https://www.extension.org/pages/31611/rupestris-speckle#.VAY_C8VdU1M

Tomato Spotted Wilt Virus on Pepper

Pepper was submitted with the classic symptoms of this virus, including the line patterns and distorted leaves.

http://www.longislandhort.cornell.edu/vegpath/photos/pepper_tswv.htm

Northern Corn Leaf Blight on Sweet Corn

This pathogen normally affects field corn, but it is attacking sweet corn this year. It is not difficult to diagnose this disease yourself as the symptoms are very large (2 to 4 inches), oblong lesions with pointed ends. There are not many control options once the fungus infects the leaf. It is usually not a problem in the state as it comes in late.

Cercospora Leaf Blotch on Potato

Yet another pathogen affecting potato, called Cercospora Leaf Blotch, was found while trying to culture for late blight on potato.

Questions/Comments for Brian Hudelson

Is the maple dieback just because of the winter injury? Also, do crabapples just lose their leaves early here?

There could be a variety of things occurring. If you are seeing sectional dieback, that could be verticillium. If you are seeing dieback across the canopy, that could be environmental stress. You could also check for girdling roots and drought stress. For the crabapples, we get a lot of apple scab particularly with all the moisture we got early on as the trees were leafing out. We had a crabapple sample that had a little Septoria leaf spot, so there are other leaf diseases out there. But if you are getting a lot of defoliation it is likely apple scab. You want to check for diffuse blackish areas on the foliage.

If there is sectional dieback, is that more likely to be verticillium?

I would test for verticillium as that is a classic symptom. You definitely want to know if verticillium is there as it will impact what you can use as an ornamental.

I have a pepper plant with holes and some rusty, crusty stuff on the peppers. The leaves look like they have flood damage. The client said that the rusty, crusty stuff preceded the holes.

Please hold that sample refrigerated and send it to P.J. when he gets back because he may have a better idea about what may be causing the holes. It sounds like it may be a slug/insect issue. If he thinks there is a disease, he can bring it to me.

I have gotten some questions on early leaf drop on maples. Is that just general stress? It isn't sectional.

It could be that the cooler night temperatures may be stimulating early leaf drop, particularly if they are stressed. Tar Spot on a Norway maple in my yard is causing some leaf drop because the tree senses that photosynthesis is not efficient on the leaf surface. That could be part of it. You might ask the client whether they have a Norway maple with tar spot.

How concerned are we about winter tree health if leaves are dropping early? Do we want to make sure people are treating that as a stressed tree and make sure they are on top of that next spring?

I would be concerned that the trees have adequate moisture into the fall until they turn their normal fall color. Adequate water for conifers is also critical. Patti McManus expects that a lot of the damage we are seeing on fruit trees will continue into next year. It could be the same for other trees that under a lot of stress. Let's hope for a reasonable winter. The inconsistent environment, from the drought in 2012 to the large flowering and fruit set of 2013 which used a lot of reserves, followed by the very cold winter, caused more stress.

I have an African violet displaying botrytis or water symptoms and purpling on the leaf blades. It looks like the collapse on the crown is progressing to the stem and leaves. The purpling is on the top side of the leaf blade close to the petioles.

Sometimes viruses give one-sided discoloration, but I would have to see the plant. Botrytis or pythium can cause crown collapse, but botrytis is generally opportunistic but can cause damage by itself.

How widespread is cucurbit downy mildew?

Amanda Gevens has not mentioned that she had any reports of it. We have not seen it in our lab even though people have sent in samples to look for it. It is a test we do for free and Amanda's lab will do it in my absence.

SPECIAL TOPIC: Wisconsin First Detector Network

Presented by Tony Summers of the UW-Madison/Extension, Dept. of Agronomy

Introduction

Tony gave a summary of what's been happening with the Wisconsin First Detector Network (WIFDN) this year. A powerpoint presentation including 14 slides was sent out to the eMail list, so folks could use it to follow the presentation. The slides include contact info; the mission of the network; resources, mobile apps and training opportunities available; on-going projects.

Slides 1-14

Slide 1-Tony's contact information (asummers2@wisc.edu) and the WIFDN website (FYI.UWEX.EDU/WIFDN) are on this slide.

Slide 2- The mission of the WIFDN is to build a network of individuals to detect, report, and do outreach so action can be taken on invasive species. Plants, insects, diseases, and eventually animals will be included. Our goal is to have a mini-Extension group to train people and detect invasive species.

Slide 3-This slide highlights some of the resources used to train people and promote activities. There are free pre-recorded videos posted to Youtube or an official fee-based online series. The on-line interactive series is $30 and people are asked to volunteer for 24 hours of service once the online sessions conclude. There are also field trainings and everyone is welcome, but preference is given to those who have completed the online training series.

Slide 4-This slide shows the state coverage of the first class of the First Detector Network training. At present 33 Wisconsin counties are represented by 62 individuals in the network who completed the online series and 18 others who didn't do the online training. We have been trying to meet people from each county. Some of the trained participants are also now giving training.

Slide 5-Twelve educational videos have been produced mostly by Tony, but also in partnership with the DNR and APHIS. They are in a prerecorded format to reach as many people as possible. They are from 3 minutes to 54

minutes in length. You can start and stop the video anytime and view multiple times. The format allows us to build on the curriculum from year to year.

Slide 6 -The live, online interactive sessions provide additional content. Training is held every other week from March to May for 1.5 hours each time, with guest speakers. Some of the additional topics include invasion biology, impacts of invasive species, identification and reporting basics, identification of target species, and volunteer opportunities.

Slide 7-This slide shows some of the guest speakers with different expertise who participated, including Amanda Gevens, P.J., Brian, Mike Maddox, Art Wagner and Jennifer Feyerherm.

Slide 8-Data is shown on the number of views each video has had, as well as the time spent viewing each video. For the pre-recorded videos, we had 3000 views, and 776 unique devices accessing the video. For the online sessions, at least 25 people participated in each session.

Slide 9-Information is given regarding the five training sessions provided around the state in the summer of 2014. They tried to provide training in numerous locations around the state to provide opportunities to as many people as possible. Four training sessions were for the Cerceris bipennis project and one training session covered recognizing EAB symptoms and how to use the smart phone app.

Slide 10-Two projects were done this summer: Using the smart phone app and web based reporting to map invasive plants and the Cerceris wasp baseball diamond survey. Cerceris bipennis is a native parasitoid wasp that preys on buprestid beetles, which includes EAB. To survey for the wasp, we monitored baseball diamonds for the wasp nest and picked up all the beetles. The slide shows C. bipennis, a stingless parasitoid wasp with some of its EAB prey by the entrance to its nest.

Slide 11-This slide gives the website for the invasive plant reporting app and some of its features, including being able to provide a photo, GPS coordinates, and that the data can be stored prior to submission. The slide also indicates that EDDMaps signup (which is free) is required. Tony will help you use the app and verify submissions. There is some oversight.

Slide 12-Shows how the report looks and notes that small or large populations can be mapped using polygon borders on the site map.

Slide 13- This slide is an appeal to engage trained reporters who want to teach others or volunteer groups how to use some of the tools and some of the benefits.

Slide 14-This slide summarizes the presentation and also the efforts of the projects this summer. We will send out an eMail to sign people up in January or February for training starting in March. The field events are winding down, but there may be a few left. If you are interested in partnering, contact me. We also will be sending out a survey each month for people to log their hours. One goal this winter is to evaluate the program, build on the success, and discuss ways to improve. The website covers a lot of the information I have given.

Questions/Comments for Tony Summers

Are you available to speak to master gardeners to see if we can recruit volunteers with that point of view?

Yes, the only issue is scheduling.

This is a great program going on as we are frequently hearing about new invasive species.

We are hoping to get some eyes on the ground around the state to make an impact on invasive species.

ANNOUNCEMENTS

Walt (Portage County): Portage County Fair is on now through September 1.

FINAL NOTES

The next meeting is September 5. Diana Alfuth will be moderating for Brian Hudelson. Chrissy Wen of Walworth County will be hosting and Mark Dwyer of the Rotary Gardens in Janesville will be presenting “Spring bulbs for color.”

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 Diagnostic Lab http://labs.russell.wisc.edu/tdl/

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 https://fyi.uwex.edu/weedsci/

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 UPDATE

Vegetable Crop Update Newsletter #20 is available at http://www.plantpath.wisc.edu/wivegdis/

Topics covered in the issue #20 include:

New storage research manager hired at the Hancock ARS
Late blight updates
P-Days and DSVs for early/late blight disease forecasting
Cucurbit downy mildew updates - Green Lake Co. confirmation
Plant Disease Diagnostic upates
Cost share funding opportunity for certified organic growers in WI

PDDC UPDATE

UW-Extension/Madison Plant Disease Diagnostic Clinic (PDDC) Update
Brian Hudelson, Ann Joy, Joyce Wu, Tom Hinsenkamp, and Catherine Wendt,
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 23, 2014 through August 29, 2014.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
BROAD-LEAVED WOODY ORNAMENTALS			
Ash (Unspecified)	Verticillium Wilt	*Verticillium* sp.	Trempealeau
Beech	Anthracnose	*Gloeosporium* sp.	Milwaukee

Birch	Cytospora Canker	*Cytospora* sp.	Dane
Burning Bush	Root Rot	*Pythium* sp.	Sawyer
Elm (Unspecified)	Anthracnose	*Gloeosporium ulmicola*	Kenosha
	Blackspot	*Gloeosporium ulmeum*	Kenosha
Horse Chestnut	Guignardia Blotch	*Guignardia aesculi*	Dane, La Crosse, Milwaukee
Magnolia	Anthracnose	*Gloeosporium* sp.	Eau Claire
	Powdery Mildew	*Oidium* sp.	Eau Claire
	Tubercularia/Nectria Canker	*Tubercularia* sp./*Nectria* sp.	Eau Claire
Maple (Japanese)	Verticillium Wilt	*Verticillium* sp.	Dane
Oak (Pin)	Tubakia Leaf Spot	*Tubakia* sp.	Dane
Oak (White)	Anthracnose	*Discula* sp.	Dane
	Oak Wilt	*Ceratocystis fagacearum*	Marathon
	Tubakia Leaf Spot	*Tubakia* sp.	Dane
Oak (Unspecified)	Anthracnose	*Discula* sp.	Dane
	Monochaetia Leaf Spot	*Monochaetia* sp.	Kenosha
	Oak Wilt	*Ceratocystis fagacearum*	Jackson
	Powdery Mildew	*Oidium* sp.	Dane
	Sphaeropsis Canker	*Sphaeropsis* sp.	Dane
	Tubakia Leaf Spot	*Tubakia* sp.	Dane, Jefferson, Kenosha
Pear	Sphaeropsis Canker	*Sphaeropsis* sp.	Dane
Wafer Ash	Verticillium Wilt	*Verticillium* sp.	Dane
Serviceberry	Fire Blight	*Erwinia amylovora*	Waukesha
	Sphaeropsis Canker	*Sphaeropsis* sp.	Waukesha
FRUIT CROPS			
Apple	Sphaeropsis Canker	*Sphaeropsis* sp.	Lincoln
Blackberry	Septoria Leaf Spot	*Septoria rubi*	Vernon
Cranberry	Bitter Rot	*Colletotrichum acutatum, Colletotrichum gloeosporioides*	Jackson
	Blotch Rot	*Physalospora vaccinii*	Jackson
	Early Rot	*Phyllosticta vacinii*	Wood
	Tobacco Streak	*Tobacco streak virus*	Wood
Grape	Downy Mildew	*Plasmopara viticola*	Milwaukee
	Rupestris Speckle	None	Dane
Pear	Sphaeropsis Canker	*Sphaeropsis* sp.	Racine
HERBACEOUS ORNAMENTALS			
Impatiens	Downy Mildew	*Plasmopara obducens*	Rock
NEEDLED WOODY ORNAMENTALS			
Spruce (Blue)	Phomopsis Canker	*Phomopsis* sp.	Racine
	Spruce Needle Drop	*Setomelanomma holmii*	Racine
Spruce (Unspecified)	Phomopsis Canker	*Phomopsis* sp.	Milwaukee
VEGETABLES			
Pepper	Tomato Spotted Wilt	*Tomato spotted wilt virus*	Columbia
Squash (Acorn)	Root Rot	*Pythium*	Monroe
Sweet Corn	Northern Corn Leaf Blight	*Exserohilum turcicum*	Columbia

Potato	Cercospora Leaf Blotch	*Cercospora* sp.	Columbia
	Early Blight	*Alternaria solanit*	Columbia
	Late Blight	*Phytophthora infestans*	Portage
Tomato	Early Blight	*Alternaria solanit*	Columbia
	Late Blight	*Phytophthora infestans*	Marinette, Waukesha
	Septoria Leaf Spot	*Septoria lycopersici*	Columbia, Dane
	Sour Rot	*Geotrichum* sp.	Dane

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