Wisconsin Horticulture Update Summary, June 19, 2015

Table of Contents

WI WEATHER REVIEW

Showery, unsettled weather throughout the week maintained adequate to surplus soil moisture for summer crop growth. Overcast skies and mild temperatures prevailed, while repeated rounds of showers and thunderstorms created very wet soil conditions across the northern and western areas. High temperatures were near normal for mid-June and ranged from the 70s to lower 80s. Lows were in the mid-40s to mid-60s. The persistent showers interrupted post-emergence herbicide applications, codling moth treatments, and late alfalfa harvesting, but there were enough days suitable for fieldwork to proceed between rains. Crops are faring very well despite excess June precipitation, and recent warmer temperatures have spurred plant growth statewide. The most advanced corn has reached the eight-leaf (V8) growth stage and soybeans are likely to enter the initial reproductive stages (R1) before the end of the month. (Issue No.9 of Wisconsin Pest Bulletin)

Average soil temperatures at 2" as of June 19, 2015: Hancock 74.3, Arlington 74.9 (http://agwx.soils.wisc.edu/uwex_agwx/awon/awon_seven_day)

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 489 to 959. Following is a list of DD as of June 21, 2015 for the following cities: Appleton-723; Bayfield-489; Beloit-959; Big Flats-831; Cumberland-697; Crandon-574; Crivitz-583; Eau Claire-812; Fond du Lac-718; Green Bay-635; Hancock-831; Hartford-702; Juneau-792; LaCrosse-942; Lone Rock-914; Madison-889; Medford-645; Milwaukee-636; Port Edward-796; Racine- 627; Sullivan-702; Waukesha-702; Wausau-675. To determine the GDD of any location in Wisconsin, use the degree day calculator at the UW Extension Ag Weather webpage:

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

To put it in perspective, following is an abbreviated list of plant and insect phenological stages in relation to GDD accumulations at which events occur (Ohio State BYGL and http://www.entomology.umn.edu/cues/Web/049DegreeDays.pdf): doublefile viburnum, full bloom, 444; black locust, first bloom, 467; common ninebark, first bloom, 478; **oystershell scale, egg hatch, 497**; and smokebush, first bloom, 501; catawba rhododendron, full bloom, 503; white fringe tree, full bloom, 517; arrowwood viburnum, first bloom, 534; American yellowwood, first bloom, 546; **bronze birch borer, adult emergence, 547**; multiflora rose, first bloom, 548; black locust, full bloom, 548; and **emerald ash borer, adult emergence, 550**. American yellowwood, full bloom, 599; 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**; **rhododendron borer, adult emergence, 815**; northern catalpa, full bloom, 816; mountain laurel, full bloom, 822; **dogwood borer, adult emergence, 830**; oakleaf hydrangea, first bloom, 835; **cottony maple scale, egg hatch, 851**; panicle hydrangea, first bloom, 856; **fall webworm, egg hatch (first generation), 867**; **mimosa webworm, egg hatch (first generation), 874**; fuzzy deutzia, full bloom, 884; **winged euonymus scale, egg hatch, 892**; **spruce budscale, egg hatch, 894**; winterberry holly, full bloom, 897; **squash vine borer adult emergence, 900;** panicled goldenraintree, first bloom, 924; June bride littleleaf linden, first bloom, 953; azalea bark scale, egg hatch, 957; **Japanese beetle, adult emergence, 970**; rosebay rhododendron, first bloom, 1,010; June bride littleleaf linden, full bloom, 1,115; bottlebrush buckeye, first bloom, 1,158.

WI CROP PROGRESS AND CONDITION

Copy and paste the following link into your browser to find weather review and reports from around the state.

http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Crop_Progress_&_Condition/2015/WI_06_21_15.pdf

INTRODUCTION

The host for today's WHU was George Koepp from Columbia County; PDDC Director Brian Hudelson and PJ Leisch, Manager of the Insect Diagnostic Lab, were the specialist participants. Jason Fischbach, UW-Ashland/Bayfield Extension was the special guest giving a presentation "Hazelnuts". Participants in today's discussions were representatives from the following counties: Ashland/Bayfield (Jason Fischbach), Brown (Vijai Pandian), Columbia (George Koepp), Dane (Lisa Johnson), Marquette (Lyssa Seefeldt), Outagamie (Ann Donnellan), Pierce (Diana Alfuth), Portage (Walt), Racine (Patti Nagai), Rock (Christy Marsden), Washburn/Sawyer/Burnett/ (Kevin Schoessow), Waukesha (Kristin Krokowski).

HORTS' SHORTS

Agents report the following issues to be of interest this week:

Ashland/Bayfield: We are having issues with fruit (particularly apple and pear) tree dieback due to winter injury, followed by black rot. Both commercial orchards and homeowners are seeing problems.

Brown County: Rose chafers are eating many things, including linden. We are still dealing with tree decline, either not leafing out or having only small leaves. Half of those were about pH issues and also stress. Sawfly activity is declining now, while leaf galls are really up this year. We have had questions on gypsy moths and weed ID.

Columbia County: Lawns are green. We had poor attendance at our EAB meetings, even though EAB signs are up. Maybe people haven't noticed, don't care, or it hasn't affected them yet. We have had questions on tree decline.

Dane County: We have had pockets of gypsy moth infestation and rose chafers are active. Questions have been random about tree dieback and vegetables. We got a nice picture of a rarely found 3-lined potato beetle on tomatillo showing the habit of larvae piling excrement on themselves.

Marquette County: We had a question about a raspberry with orange rust, something I hadn't seen before. Other questions have been about insect ID, veggies not doing well, and fungal diseases.

Outagamie County: We are also having questions on tree dieback due to stress, but also plant ID. I found scales on plants. One client was worried about having bed bugs or lice, but it turns out it was black vine weevil brought in on a plant.

Pierce County: We have had lots of rain which has led to fungal diseases. The wet weather has also prevented gardeners from planting. Wild parsnip is everywhere and starting to bloom and catalpa is in full bloom. Questions have been on tree issues such as dieback, oak wilt, and pruning. We wouldn't mind a week long drought.

Portage County: We have been busy this week with questions about dead and dying trees due mainly to environmental issues the last few years. One client had a half dozen from a number of species that had died or were dying, including Amur and red maples, lilac and dogwood. It is possible it is some kind of chemical issue but don't have evidence of that yet so more investigation. I have 4 spireas, of which one has tiny leaves and is growing poorly. That plant is among the rest which are healthy and it doesn't appear to have any brooming. The affected plant was healthy last year. *Comment from Brian: You might look for root issues on that plant. Maybe something wrong in the root system made it more susceptible to cold injury.* We have had numerous chipmunks and maybe they did some damage.

Racine: We are seeing very lush weed growth with horsetail doing very well in the teaching garden (I wonder if it could be a lawn substitute because it is very soft). Our native wildflowers such as Baptisia are in bloom. Questions have been about dead spots in lawns, tree dieback on birches, tree lilacs and maples, and weed ID.

Rock County: The ground is still wet, but we haven't had any additional rain. We are also seeing rose chafer activity so it must be all over the state. We are getting EAB questions. I saw a picture of an EAB emerging from a D-shaped hole, something I hadn't seen before.

Walworth County (from Chrissy, relayed by Brian): Birdsfoot trefoil, penstemon, reed canary grass, wild parsnip, yellow sweet clover, weigela, and roses are in bloom. I put a perennial plant up on Plant Doc for help in identification. There are lots of insects out and we are getting EAB calls. Here is a shout out to PJ for his help in ID. One client called about something eating her oak tree leaves, but she hasn't been able to find any culprits. Could it

be tatters? *Comment: I have seen this before. Go out at night with a flashlight and check for June beetles eating the foliage. You won't see them during the day. Remember the beetles fly toward the light at night!*

Washburn/Sawyer/Burnett County (Spooner Ag Station): Our intern Brent, from River Falls is here listening in. We are similar to Pierce County. It has been cool with lots of moisture making tough haying conditions. We are about 2 weeks behind in heat units. We are seeing blight on tomatoes, decreasing sawfly activity, and increasing cutworm (climbing and non-climbing) activity. Mosquitos are out. The most common questions have been about tree dieback (by far), especially apple and pear. Our snowbirds are bringing in insects from their cabins as they open them up for the season. Some people are still trying to get plants in due to the weather.

Waukesha: It is lush and green here. The most interesting thing this week was a lawn being taken over by mossy stonecrop. The homeowner may have to kill the whole lawn and start over.

SPECIALIST REPORT: Insect Diagnostic Lab Update

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

It was a good suggestion to look for June beetles at night with a flashlight since these bugs hide out on the ground during the day. I did get a report from the LaCrosse are regarding some heavy feeding on by June beetles.

Eastern and forest tent caterpillars are done feeding for the year in the southern; gypsy moth caterpillars have been very active but are about 1.25 in long here in greater Madison so won't be feeding much longer. The euonymus caterpillars are now pupating in my yard. European pine sawfly, rose slug sawfly, and rose sawfly have all pupated now in the southern part of the state. We did have much sawfly activity and which species can usually be identified by the host plant. Rose chafers are active; the grubs of this species prefer a sandy soil. There is also a beetle called the Goldsmith beetle which is similar to a June beetle but is gold or pale colored. EAB adults are now active, but I also had a report of our native ash borer. A number of cutworm species are active now and feeding on vegetables and other plants and we are seeing galls on oaks. We had a report of an unusual insect called the Boxelder leaf roller which had completely web-covered and defoliated a boxelder in a woodlot. I have also heard about eyed click beetles and we had another viburnum leaf beetle sighting. With the big rain we had last week, I am expecting our flood water mosquitos

Goldsmith Beetle

I have had a number of reports of this somewhat uncommon beetle (and had some last year at this time).
http://bugguide.net/node/view/4293

Eyed Click Beetle

These large 1.5 to 2 inch beetles are all black with two white spots on their wing covers live under decaying wood and prey on other insects.
http://bugguide.net/node/view/458

Viburnum Leaf Beetle

We had another report of this invasive pest this year, which makes 2 in the last week. One was reported in Glendale, WI last year and the two this year were found about two miles from last year's sighting, forming a triangle of observations. DATCP should be investigating this.

http://ohioline.osu.edu/sc195/013.html

Native Ash Borer (Agrilus subcinctus)

This is the time for EAB adults to be emerging but I had a sighting of native ash borer on the west side of the Madison campus. This beetle is closely related to EAB and historically has been rather rare as it only attacked stressed trees. I would expect it to become more common as EAB stresses and kills the ash trees.

http://bugguide.net/node/view/225737

Questions

Sawfly Life Cycle

What is the sawfly life cycle? Are they done eating our roses?

It depends on the species. European pine and rose slug sawflies have one generation per year and most plants recover. Rose slug sawflies are done for the year in Madison; I haven't seen larvae in a week. Their damage makes the leaves look like they have cellophane patches. They are pretty easy to kill using contact insecticides or insecticidal soap. They aren't true caterpillars so Bt doesn't work on them.

Some other species may have more than one generation per year and as mentioned, you can usually determine the species by knowing the host plant.

Oak with Scales and Galls

Racine: We received a large oak sample that had new growth covered with scale as well as white galls all over the underside of the leaf. The leaves looked healthy on top otherwise. Do you know what this was without seeing it and can anything be done for it?

Oaks are notorious for galls. There is something called the jumping oak gall with the gall being 0.125 to 0.25 in across. It is caused by a cynipidae wasp which is about 2 mm long and not much can be done about once the gall starts to form. Since most oaks have these things, just monitor it especially if the leaves look healthy otherwise.

http://bugguide.net/node/view/14878

http://msue.anr.msu.edu/news/jumping_oak_gall_causing_damage_to_white_oak

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

It has been hopping here this week. My summary is short, but we have had a lot of samples. We had a bur oak with oak wilt, out of Iowa County and numerous canker diseases on woody plants. We had an arborvitae with winter burn with a lot of tip dieback. Septoria leaf spot is active. The coolest sample we got was an elderberry with elderberry rust. One of my graduate students brought in a black locust with a rust, but I haven't identified the species yet.

Septoria Leaf Spot on Tomato

This fungal disease showed up early this year. The sample we got had lesions all over it and was sporulating like crazy. The symptoms are 0.25 inch spots with a bleached center surrounded by a dark halo.

Elderberry Rust (Puccinia bolleyana)

One of the symptoms of this disease is bright yellow banana slug-like powdery growths. This is an alternating host disease, with the alternate host the sedges (Carex species).

http://plantpathology.uark.edu/Number_15-2010.pdf (Scroll down to pages 2-3)

Questions

Management of Elderberry Rust

Thank you for talking about the elderberry rust as we received an eMail about it here in Dane County. I knew the plant, but not the disease. What can be done?

The disease shows up as spots on the leaves, but is most spectacular when it causes the yellow galls on the young herbaceous stems. The spores from these galls will not reinfect the plant. The stems with the galls can be pruned for aesthetic reasons. If you want to prevent it, the alternate host of sedges, should be removed from the vicinity.

SPECIAL TOPIC: Hazelnuts

Presented by Jason Fischback, UW-Ashland/Bayfield Extension

Jason is the Ashland/Bayfield Extension ag agent and is the food, energy, and woody crop specialist and is trying to develop a hazelnut industry in the Midwest. He is on the steering committee of Upper Midwest Hazelnut Development Initiative, a multi-state collaboration of researchers and growers trying to improve germplasm, growing practices and processing infrastructure. Jason sent three handouts pertaining to his presentation which will be linked to the WHU site.

Background of Midwest Hazelnut Production

Hazelnut Species in the Midwest

Our initiative is developing quickly which is fun to see. When speaking about hazelnuts in Wisconsin and the upper Midwest, three species are usually included.

Beaked hazelnut (Corylus cornuta): This smaller shrub species is found in the understory of our forest canopy, typically under aspen on heavier soils. The nut has a long snout in the involucre.

American hazelnut (Corylus americana): This species occurs on sandier soils. It is usually found in full sun and doesn't tolerate shade well.

European hazelnut (Corylus avellana): This species is not native. The improved varieties are not winter hardy in our climate from a nut production standpoint.

In the upper Midwest, there are currently no commercially viable, nut-producing hardy cultivars. We have crosses between the three species. Private sector and hobby growers have been working on this since the early 1900's, but there has been only sporadic university involvement. Canada and New York were involved for a while. In the late 1980's, Carl Weschke from River Falls carried on research. Then Phil Rutter from Badgersett Research picked up Carl Weschke's material and was the first to try to make a business out of it. He is currently making crosses, saving his seeds and growing them out and selling them. Since then, others have used Phil Rutter's material to develop and market seedlings. The University of Wisconsin and University of Minnesota formally became involved in 2007 to provide assistance. With any new industry, there is a certain amount of hype to overcome so the UW acts as wet blanket to dampen the hype, but also to encourage development of the industry and make hazelnuts a viable crop.

Development of Hazelnut Industry

The Search for Viable Hazelnut Cultivars

In order to have a viable industry, reliable nut producers must be found. We have been doing genetic diversity analysis and discovered that, as expected, there is a lot of genetic diversity in hazelnuts, which is a good thing. When you walk through one of these on farm plantings, ten plants may look very interesting. Ten out of 100 seedlings may produce a nut, 10 of 100 may never produce a nut and the rest are somewhere in between. In a sense, we are growing data, not necessarily nuts. Screening and evaluation started in 2007 to look for higher performing seedlings. In 2010, we started replicated germplasm trials, with two Wisconsin sites and three Minnesota sites. In Wisconsin, there is a site in Bayfield, one in Tomahawk; in Minnesota there are sites in Lamberton, St. Paul, and Lake City. Lake City is known as the Hazelnut Capitol.

We are now propagating some good cultivars from the 2010 germplasm trials and are seeing some rise to the top. We hope to have larger trials by spring or fall 2016.

Processing Capacity Challenges

Besides finding good cultivars, processing capacity must be developed. Three years ago you could grow all the hazelnuts you could and not be able to separate the nuts from the husk. We have worked with growers and some of them are really inventive and have made processing machines in their garages. There are a lot of off the shelf machines but are meant for a very large scale industry in the Pacific Northwest and Europe and are not the appropriate scale for the Midwest. Enough growers have nuts now that they want to get them processed to start building the industry. The search is on for a small scale cracker that will separate the shell fragments from the husk. We have developed an aspirator to separate the kernel from the shell fragments and a roller sizer to facilitate cracking the nuts. With that equipment, growers can process nuts they do have.

We have been working since 2009 with the most committed growers to develop a processing company. That company, the American Hazelnut Company, was launched in November 2014. They put out a press release and are still recruiting growers. Their first production run was in April 2015. We have come a long way since 2009. We have a company that can legally process the nuts since they are a food product.

Market Development

This has been the easiest aspect of the industry development, thanks to Nutella™. Nutella™ takes 40% of the world supply of hazelnuts, of which 90% are grown in Turkey. Ferraro, the parent company of Nutella™ has just built two production facilities one in Brantford, Ontario outside of Toronto and one in Mexico City and is looking for the same market penetration in North America as in Europe. Hazelnuts are to Europe what peanuts are to the US. Their goal is 100, 000 acres of new production. Where will that acreage come from? That is why we are trying to build production east of Colorado.

Hazelnuts are a multi-tiered market. Folks will first go after the high end market at farmer's markets, direct selling $10-15/lb shelled nuts. They likely won't sell in-shell nuts, because no one wants in shell nuts in general. There will be a push for value added products. Nutella will blaze the trail and create more consumer awareness for the chocolate hazelnut spread. Already, Smuckers and Jif have spreadable chocolate hazelnut products. We see smaller growers going the way of the wine industry, creating a locally differentiated product with better flavor and better nutritional value. The spread market should segue into a market for hazelnut oils, hazelnut flour and other hazelnut products. We are seeing interest from cranberry growers, because cranberries, chocolate and hazelnuts go well together and they are looking to use their off-production areas. If you go up to cranberry country in Wisconsin, you will see hazelnuts planted on the perimeters of the bogs because they are native to that sandier soil.

Hazelnuts could be our first perennial oilseed crop with roughly twice the oil production of soybeans, with a third more oil than sunflowers or canola. That oil market may even pave the way for oilseed meal and biodiesel markets.

Things are snowballing and we now have researchers in Iowa and Illinois who have joined us. Everyone is waiting for the cultivar development.

Questions/Comments

Cultivar Development Cycle

Northwest Wisconsin is ideal for hazelnut production. If we are trying to advise growers about this, how long before a commercial potential is developed-5, 10, or 20 years out?

It typically takes 17 years to develop a cultivar in the Pacific Northwest and we won't be any different. We did get kind of a jump start because growers unknowingly set out a mass selection for us by planting hundreds of thousands of seedlings. We are currently in year 12 of that cycle and the plant material we have selected from those germplasm trials will go in the ground next year We want a good three years of production data so that would put us around 2018 or 2019 before anything is released. Sometimes it is a stroke of luck. We may get some C. americana selections right from the woods that are good, like some blueberries came right out of the woods in the mass selections. Those may come in three or four years.

Private growers are doing their own trials and not all of them have allowed us to look at what they have. Some are doing some micropropagation.

There are growers offering material and people want to know which one to buy. The number one question that should be asked is: Where is your data about how that selection was made? Sometimes an individual seedling plant is grown for a couple of years and looks good so it is propagated. You really don't know much about a variety until it is grown in replicated trials in a variety of conditions. That hasn't really happened on the private side. But someone could get lucky and propagate one that does do well across a range of conditions and then it would take less time to develop it than a 17 year cycle.

Hazelnut Cracking Tool

I am assuming that those $10-15/lb nuts are cracked and shelled. Are there tools being used on a small scale basis, like the old cornshellers we had?

There are two pieces of equipment people use. One is a small hand sheller called the Davebilt cracker which is set up to crack just about anything and works okay and the other is the drill cracker. The latter is being used by the American Hazelnut Company and was originally developed for hazelnuts, then modified for walnuts and modified again to be even better for hazelnuts. It costs about $500 and works with any drill. It is a compression cracker and has to be calibrated for nut size. You can make things more efficient by doing a pre-sort, which is why we have the roller sizers. Information about the processing equipment is on the Midwesthazelnuts.org site and we will be updating about available processing equipment.

Profit Potential/Acre of Hazelnuts

Can you give an estimate of the profit potential per acre of hazelnuts?

It is a great question but I intentionally say I don't know. One of the mailings that went out today was a document for setting yield goals and in there is a series of enterprise budgets with all of the assumptions that go into setting that goal. We don't know because we don't have plant material. If you were to buy off the shelf plants today, the average yield is 250 lb of kernel per acre. No one makes money off of that yield so until we have improved germplasm we can't really set an enterprise budget. I encourage you to look at the document. There is also a template on the Midwesthazelnuts.org site for an enterprise budget that allows growers to put in their own details about their plantings.

Hazelnut Cultural Preferences

Where I grew up in western Wisconsin, hazelnuts were almost weedy but I don't see too many here in Pierce County. What kind of soil do they prefer, what pH?

We do tend to see them on sandier, saturated soil with a pH of about 5. We don't usually see them on heavier soils because other trees outcompete them. European hazelnuts, which are in the parentage of our hybrids, grow on clay loams in the Willamette region of Oregon. They also grow on clay loams here, so they seem to do well on a range of soils and pH values. We don't really know what the optimal conditions are yet and won't know until we have the clonal genetics to work with.

FINAL NOTES and ANNOUNCEMENTS

Next week, the host will be Vijai Pandian from Brown County and the special topic will be on beneficial insects, presented by PJ Liesch, director of the Insect Diagnostic Lab.

Jason Fischbach: The 106th annual Northern Nut Growers Association meeting will be held in LaCrosse this year at the end of July. This conference moves around the country and last year it was in Oregon. It is a 4-day meeting, with two days of technical sessions on all things about nut production with a full half day on just hazelnuts. There was an email from Diane Mayerfeld about the event and we will send out a reminder.

http://www.northernnutgrowers.org/meetinfo.htm

Lynn Adams: I just want to let you know what us Range Master Gardeners are working on.

The Range Master Gardener Volunteer Association is pleased to have Will Allen of "Growing Power" give a free program at the Ironwood Theatre.

We certainly hope that you will have representatives attend this program and *learn how to grow gardeners and future farmers and fight hunger and obesity in your community.*

Will Allen of "Growing Power" will be speaking at the Historic Ironwood Theatre in Ironwood, MI on Sunday, June 28th From 1-3 p.m. Check-in time starts at 12 noon.

"Growing Power" is an urban agriculture organization headquartered in Milwaukee, Wisconsin .Growing Power was started by Will Allen who bought the Milwaukee farm in 1993.- Allen, a former professional basketball player, grew up on a farm in Maryland. In 2008, he was awarded a MacArthur Foundation "Genius Grant" for his work on urban farming, sustainable food production and with Growing Power. In 2010, Allen, founder of the "Growing Power" farm and training center on Milwaukee's north side, was listed in "Time 100: The World's Most Influential People.

Instead of us charging a fee, please donate three items or a monetary donation to our local food pantries.

For reservations: https://rangemastergardenervolunteers1.shutterfly.com and
to sign up or U-W Extension Iron County 715-561-2695 or call Lynn Adams 906-932-3509 or email her at xiaxia@sbcglobal.net or Zona Wick 715-561-3009 or email her at viczona@centurytel.net

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: None

Vegetable Crop Update

Vegetable Crop Update Newsletters #14 and #15 are available at http://www.plantpath.wisc.edu/wivegdis/

Topics in issue #14 (June 13, 2015) include:

Disease forecast updates (PDays and DSVs)
National late blight updates

Topics in issue #15 (June 17, 2015) include:

Disease forecast updates - all regions and plantings of potatoes in WI (but for late planted in Antigo area) have exceeded DSV18 threshold
Late blight updates
Considerations for shortage of chlorothalonil in 2015

Downy mildew updates for cucurbits, basil, and onion, (and I should have included hops.....more on this in next newsletter.....)

Unfortunately, it's a water-mold-favorable kind of a year so far.

PDDC UPDATE

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

Brian Hudelson, Sean Toporek, Catherine Wendt, Claire Wisniewski and Ann Joy

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 June 13, 2015 through June 19, 2015.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
DECIDUOUS WOODY ORNAMENTALS			
Oak (Bur)	*Oak Wilt*	*Ceratocystis fagacearum*	*Iowa*
Willow (Japanese Dappled)	*Cytospora Canker*	*Cytospora sp.*	*Dane*
FRUIT CROPS			
Blueberry	*Sphaeropsis Canker*	*Sphaeropsis sp.*	*Jefferson*
HERBACEOUS ORNAMENTALS			
Elderberry	*Elderberry Rust*	*Puccinia bolleyana*	*Crawford*
NEEDLED WOODY ORNAMENTALS			
Arborvitae	*Phyllosticta Needle Blight* *Winter Burn*	*Phyllosticta sp.* *None*	*Lincoln* *Lincoln*
Fir (Unspecified)	*Root Rot*	*Pythium sp.*	*Lafayette*
Pine (Austrian)	*Black Spot* *Dothistroma Needle Blight*	*Septoria sp.* *Dothistroma pini*	*Ozaukee* *Ozaukee*
Spruce (Unspecified)	*Rhizosphaera Needle Cast* *Spruce Needle Drop*	*Rhizosphaera kalkhoffii* *Setomelanomma holmii*	*Dane* *Dane*
VEGETABLES			
Cucumber	*Unspecified Potyvirus Disease*	*Unspecified potyvirus*	*Columbia*
Onion	*Seedling Blight* *Stemphylium Leaf Blight*	*Pythium sp., Fusarium sp.* *Stemphylium sp.*	*Columbia* *Columbia*
Tomato	*Root Rot* *Septoria Leaf Spot*	*Pythium sp., Fusarium sp.* *Septoria lycopersici*	*Dane* *Sauk*

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