

Wisconsin Horticulture Update Summary, July 31, 2015

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WI WEATHER REVIEW

Scattered early-week showers interrupted an otherwise dry weather pattern across the state. Daytime high temperatures climbed to the upper 80s on July 28, before a cold front brought cooler and less humid air. Minimal rain accompanied the front's arrival, and warmth and dryness persisted over Wisconsin for much of the week. The increasingly hot, dry conditions accelerated alfalfa and small grains harvesting and spurred summer crop growth, but the heat and limited moisture stressed corn progressing through the tassel and silk stages of development. Signs of the two-spotted spider mite, a dry weather opportunist, began appearing in some soybean fields. Dry soils have become most prevalent in the east-central counties where topsoil moisture levels are rated as 45% very short or short for croplands, and more rain will be needed in August to ensure optimal yields. (Issue No.15 of Wisconsin Pest Bulletin)

Average soil temperatures at 2" as of July 31, 2015: Hancock 80.1, Arlington 82.5
(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 1123 to 1767. Following is a list of DD as of July 29, 2015 for the following cities: Appleton-1457 Bayfield-1123; Beloit-1753; Big Flats-1571; Crandon-1191; Crivitz-1272; Cumberland-1423; Eau Claire-1593; Fond du Lac-1427; Green Bay-1353; Hancock-1571; Hartford-1390 Juneau-1520; LaCrosse-1767; Lone Rock-1680; Madison-1653; Medford-1296; Milwaukee-1333; Port Edwards-1521; Racine-1324; Sullivan-1390; Waukesha-1390; Wausau-1342. 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>): panicle 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; Ural falsepirea, first bloom, 1,170; panicle goldenraintree, first bloom, 1251; Rose-of-Sharon first bloom, 1347; **pine needle scale egg hatch-2nd generation, 1349**; **euonymus scale-2nd egg hatch, 1923**.

WI CROP PROGRESS AND CONDITION

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

http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Crop_Progress_&_Condition/2015/WI_08_02_15.pdf

INTRODUCTION

The host for today's WHU was Kevin Schoessow from the Spooner Ag Station; PDDC Director Brian Hudelson was the specialist participant and also gave a synopsis of insect activity for PJ Leisch. Amanda Gevens sent two files and Russ Groves was the special guest giving a late season vegetable update. Participants in today's discussions were representatives from the following counties: Brown (Vijai Pandian), Dane (Lisa Johnson), Douglas (Jane Anklam), Milwaukee (Sharon Morissey), Pierce (Diana Alfuth), Portage (Walt), Rock (Christy Marsden), Walworth (Chrissy Wen), Washburn/Sawyer/Burnett (Kevin Schoessow), Waukesha (Kristin Krokowski and Ann Lies), Winnebago (Kimberly Miller).

HORTS' SHORTS

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

Brown County: We have been pretty dry here for more than two weeks. Trees are under stress, lawns are going dormant and we are seeing scorching on tree leaves as well as spider mite damage on arborvitae and hickories. We did have reports of Japanese beetles and photos of barklice, and SWD is being reported on summer bearing raspberries. We have sent the sample to Christelle Guédot's lab.

Dane County: We have had calls about Japanese beetles, many weed ID questions, bees under siding, as well as a third call about magnolia scale. We also had a call about a cicada killer nest three feet from the sidewalk at a nursing home. Although they aren't harmful, the colony is continuing to grow so something will have to be done. We have had at least 10 gypsy moth calls this season so we make be back in the suppression business next year.

Douglas County: We just sent in a confirmation sample for SWD. We progressed from cool and wet diseases to hot and humid diseases through to hot and dry diseases. We aren't hearing about EAB even though it has been two years since its presence was confirmed here. We thought we would get more calls about it by now.

Eau Claire County: We are similar to Diane in Pierce County. We are seeing powdery mildew on squash, Japanese beetles has just started, and maple tree issues such as fungal diseases, spindle gall, and spider mites.

Jackson County: We are monitoring SWD on commercial raspberry and blueberry farms. Tomatoes have Septoria Leaf Spot and I sent a sample in to confirm that it wasn't late blight. We calls about defoliated trees of different species that looked like caterpillar feeding, but nobody could find any caterpillars and we didn't find any Japanese beetles or rose chafers.

Milwaukee County: Nothing much to report, other than we are now getting a little dry here. The weather has been pretty good.

Outagamie County: We have been dry and could use some rain. Questions have been about vegetables, and plant and weed ID. We have given a lot of referrals to arborists due to many tree issues. I spent a little time at the county fair. I went to the Turf Grass Field Day and saw lots of different examples; some of the study patches were green and some were not.

Pierce County: We are green and lush due to plenty of rain. Fungal diseases are rampant. We have had questions about tree issues, about apples, and about grapes wilting. SWD is everywhere, but it is mostly homeowners who are calling. Small scale growers have mowed down their raspberries rather than deal with SWD because they didn't want to spray all the time. We have had it here for 4 years. Some people know about it and some don't.

Portage County: SWD is definitely here. We have had weed questions, as well as photos and calls about bark lice. We are also still hearing about tree issues and damage and people are wondering if they have EAB and what they should do about it. Late blight has been confirmed in the county, but not yet confirmed on tomatoes.

St. Croix County: We have SWD pretty bad. One grower is going to alter how he sells to pick your own because he has to use the two bucket method and it's taking too much time. We sent in a sample of San Marzano tomatoes that were "off". They were diagnosed with both TMV and TSWV. We have had calls from people asking how to start a pollinator or monarch habitat. We had calls about fruit tree diseases, and fungal diseases in trees, mildew on cukes and monarda, and fungal diseases on the lower leaves of tomatoes. We had two weed identifications from weeds I had never seen and Mark Renz helped me out. One was Giant Sumpweed which is native, but can be invasive. The other was elecampane. We have had sufficient rain, but could use more now. *Question from Russ: Where was the tomato from that had TMV/TSWV?* It came out of a high tunnel operation.

Walworth County: We are similar to Waukesha County. We have had lots of tree questions.

Washburn/Sawyer/Burnett Counties: I would echo some of the same things as Diane and Heidi. We had a little shot of rain and we are experiencing average rainfall for the year, although we are 4-5 days behind in heat units. Crops look wonderful and we are looking forward to a very good year for commodity crops. I have been working on SWD with growers and did a display at the fair and I don't know if that had an impact, but homeowners are definitely paying attention to SWD. I have a pint jar of berries in my office that were a gift and after a half a day, it is just swimming with larvae. There are maybe 200 larvae from 25 berries. No Japanese beetles so far, but typical cabbage loopers are around. Because of the moisture and humidity, we are starting to see an increase in calls

about fungal diseases on peppers and tomatoes and a little downy mildew on the vine crops. Some people were calling about pollination issues and poor fruit set on vine crops. We haven't had a lot of weed ID calls. I would be interested to know if we have barklice up here. We are pretty normal for weather and disease.

Waukesha County: We are very dry here, under drought conditions. We have received questions on barklice and if you don't know what those are, they are worth looking at. We also had calls on Japanese beetles, and tree issues. One caller wanted to know why River Birch weren't doing well in a parking lot. We did some education for that one. We are expecting really warm temperatures.

Winnebago County: We have been very dry and hot. We are getting calls about general decline in trees, but some of that has to do with improper siting. We have been getting questions about weed ID and "what's wrong with my plant".

SPECIALIST REPORT: Insect Diagnostic Lab Update

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

1) Barklice: groups of small, striped insects found on the bark of trees are almost certainly these insects. They graze on lichens and won't harm the trees at all; I actually like to think of them as "miniature cows". I've had at least half a dozen cases pop up in the last week.

2) Spotted Wing Drosophila: has been popping up, so make sure growers or anyone with a good-sized raspberry patch in their yard is keeping an eye out for them

3) Cicada Killers: large, but harmless wasps. I've been getting quite a few calls about these and the "Great Golden Digger Wasp" digging holes in people's yards. They aren't likely to sting, but can be controlled with a dust or granular type of insecticide if they're really an issue.

4) Yellowjackets and relatives: we're getting to that time of the year when the yellowjackets and paper wasp calls are starting to trickle in. I've had roughly a dozen or so reports in the last week or two of large (and sometimes aggressive) nests in the ground, in wall voids, and aerial nests

5) Giant Slugs: believe it or not, we actually have several species of "giant" slugs in the state (they can reach 6+ inches long). Mike Ballweg from Sheboygan County sent me an image of two giant slugs crawling across someone's window. I usually get 2-3 reports a year of big slugs but have had two in the past week or two. The giant slugs aren't native, but are so uncommon that they don't seem to be much of an issue. If you ever run across any, the Milwaukee Public Museum has a webpage that can help identify the exact species:

<http://www.mpm.edu/research-collections/invertebrate-zoology/collections/slugs-wisconsin/identification>.

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 busy, but mostly things we have seen before. We have diagnosed vascular wilts with verticillium wilt on smoke tree and Japanese tree lilac and oak wilt. We have also seen a fair amount of crown and root rots. We received a kale sample with bacterial soft rot. We received a sample of snap beans from a homeowner garden that was afflicted with white mold on the stems and pods. We also diagnosed tomato with bacterial speck and bacterial spot, and septoria leaf spot. The clinic also had its first official sample of late blight on tomato.

Bacterial Soft Rot on Kale

This sample of kale came in with an awesome case of bacterial soft rot. It typically comes in after black rot, but we could find no black rot. Black rot is a disease that is specific to brassicas. The symptoms are angular or wedge shaped necrotic areas with yellow haloes in the leaves. The bacterial soft rot enters through the compromised tissue. In this case, the sample was already pretty slimified and stinky.

Late Blight on Tomato

Downy mildew can be quite destructive to onions with damage occurring quickly. Purple blotch is an *Alternaria* disease which is visually quite distinctive, causing purple necrotic spots on onion leaves. *Stemphylium* causes significant dieback and damage.

<http://www.ext.colostate.edu/pubs/crops/02941.html>

Questions

Late Blight Sample Location

Where was the tomato late blight sample from?

It was from Wood County. This is just for me. We've been looking at samples all summer

Was it a homeowner sample?

Yes. Terry Lessig sent the sample in. The homeowner had two plants and rogued out both of them, bagged them and got rid of them.

Fly speck on Grape

We had a call from a grower who said he had fly speck on his grapes. Would something for downy mildew work?

I have never heard of fly speck on grapes, it is usually on apples. That person may be making the wrong diagnosis. You really need to identify the pathogen before treating it. Could you get more information from the client?

SPECIAL TOPIC: Late Season Vegetable Update

Presented by Russ Groves, Dept. of Entomology UW-Extension

Amanda sent a file to Brian to post to the WHU site. Russ gave an update on insect pest activity in the state.

Insect Pest Update

Vegetable insect activity has been average to below average for the state this year. As our moisture patterns changed from wet and cool to dry, some pest activity has changed.

- Slugs: We were getting slug reports, but there are not many now.
- Army worms: We have had sporadic reports.
- Long distance migrants like leafhoppers: Numbers are pretty average.
- Cucumber beetle: These are around, but numbers are not extreme.
- Squash bug: We are still coping with impact of the 2012 weather. We had more squash bug than Wisconsin had ever seen that year and that is still influencing populations.

Woody ornamental pests are typical for this time of year. The transition to dry weather is conducive to insects such as thrips and spider mites. Our black light and pheromone traps are not yet detecting ear worm, corn borer and western bean cutworm, which typically migrate into the state in August. We should be watching for those in our sweet corn.

Vegetable Disease Update

I am assuming most people get Amanda's report, which can be found at www.plantpath.wisc.edu/. If you are getting the newsletter, I am sure she will be happy to add you to the list.

Some of the issues in the latest report are:

- Late blight has now been found in 7 counties. *We definitely want homeowners to help us monitor and prevent the spread of this disease.*
- Downy mildew in onion: *The report gives some information on the pathogen and its life cycle.*
- Downy mildew in cucurbits: *The first report this year of this disease in the state was July 20.*
- Downy mildew in basil: *The report shows some pictures of the disease on basil host.*

The information in Amanda's report is geared toward commercial growers, but still can be useful for homeowners.

Comment from Russ: It is noteworthy that the late blight is so politically charged. It is all over the central sands area in significant amounts and creeping eastward, but growers just don't report it any more. This is a challenge for market gardeners. Just because it isn't reported doesn't mean it isn't in the area. People need to reasonably vigilant about this disease.

Comment from Kevin: I think there are some fungicides that might work, but some are difficult to control depending on the genotype.

Chlorothalonil can be used as a preventative when conditions are right and late blight isn't present. Once the organism has been detected and you want to limp along, there are some curative treatments, but they are expensive and may not be available (like Prevacure). You better be sitting down when you price it. Our newsletter has links to information about treatments. A general protectant is a better way to manage the disease.

Comment from Brian: It is much better to apply treatments prophylactically, before any symptoms are seen. Chlorothalonil is one treatment. Copper containing treatments are good for organic growers. For the curative treatments the window for treatment is small and we shouldn't give people false hope that they can cure the disease. Growers should be managing for this disease long before it gets to that point.

Comment from Walt: What was the curative product?

Comment from Russ: Prevacure is one.

Comment from Brian: You would have to check with Amanda. I don't usually recommend curatives to homeowners because of availability and the cost is more than anyone is going to want to pay. Those are more useful for commercial production and you should check with Amanda for options.

Questions/Comments

Squash Bug Eggs on Top and Bottom of Leaf

We had a caller asking whether or not she had squash bug eggs because she found them on the top of the leaf. I thought they stayed on the underside.

Squash bug eggs can be found on both surfaces, but the majority will be on the underside.

SWD Riding Wind Currents?

If SWD doesn't overwinter here, do they come in on wind currents?

The jury is still out on migration vs. localized overwintering populations. We are still figuring out the kinds of things they are developing on in late spring and early summer. We probably do have some blow in events, but not long distance events for things like leafhoppers. There doesn't appear to be any obligate migratory times like there is with soybean aphids in late July. It is kind of a mix. There may be some local movement events up to tens of miles. I think a lot of it is a local population.

Foreign Pest Invasions

Using your vast knowledge of population dynamics, is there likely to be any change in the impact that invasive species will have by either more predators exerting control or the invasive pests completely consuming their hosts? These invaders are just devastating. Is it always going to be this problematic, especially for our commercial growers?

That depends on the life history of the bug and whether there is host switching. For something like Japanese beetle where the larvae eat grass and then the adults feed on a variety of things, they go through an episodic phase for 2-6 years before some of the generalist predators learn they are prey. Maybe some of their local natural enemies such as entomopathogenic pathogens or fungal pathogens that work on the grubs can build up. After several years, populations usually decrease and equilibrate at a lower level. European earwig was that way for awhile and gypsy moth now is on the upswing or downswing. For SWD, we are still in the episodic state and maybe generalist natural enemies are starting to whittle away at the population. Christelle would probably have a better and more informed answer. SWD does have the interesting phenology where it is off the crop for the first half of the year and then jumps on the crop. We haven't had to really deal with brown marmorated stink bug even though it is in the state, but it does something similar. It is up in the trees and jumps down to the crop in the middle of the summer. It is hard for the natural enemies to make that timely jump; they aren't going to be patiently waiting on the berries for SWD or brown marmorated stink bug to show up. We have to continue monitoring and surveillance, knowing when they are going to show up and be prepared to get control using complementary strategies like stripping the crop and controlling the pest with a 1-2-3-4 punch. The exotics pulse through, but their legacy stays in certain crops by host switching.

I guess we will have to the elevator speech ready. People get attached to their backyard fruits and are not prepared to acknowledge the worms when they share them with others.

Entrust® or Spinosad for Cranberry Flea Beetle

I know that Entrust or spinosad is recommended for SWD and is a broad spectrum insecticide. We have an organic cranberry grower here who has a problem with cranberry flea beetle and Pyganic is not working. Is Entrust listed for cranberry?

I can't answer the question specifically about cranberry. Blackhawk, SpinTor, Capt. Jack's, Monterrey, and Entrust all have a spinosad label, but Entrust is specific for organic culture. It is critical to identify the beetle and make sure you are treating the right one. For instance, crucifer flea beetle is controlled by spinosad or the souped up spinoteram called Radiant, but corn flea beetle is not. Not all flea beetles respond to the same thing. I don't believe that cranberry flea beetle does not respond too well to spinosad. If it did, there would be much more applied in the cranberry growing areas like Wood County and Warrens. Unfortunately, mostly neonicotinoids and pyrethroids are used for control. The response is crop specific and species specific.

I did tell him to look at the label and told him that Entrust was something to consider but to see if cranberry flea beetle was listed on the label.

Also, if the label says it offers suppression that means it has lukewarm efficacy on that target.

Should he do a test run on a limited basis before spraying everything?

He could try that, but check the label to see if the pest is listed. Small market or organic growers may not completely understand the use of Pyganic. A formulation of either 1.4 lb/gal or 5 lb/gal of pyganic is available so that makes a difference. You want to spray using the full rate of 5 lb. He should also check the pH of the water in his tank mix. Because of our karst topography, most water is a little alkaline in Wisconsin and if the pH of the water is around 7, Pyganic only lasts about 30 minutes before degrading. Acidic tank conditions are critical for Pyganic to work. If you mix and spray immediately you are probably fine. Pyganic is also photosensitive, degrading in about 40 minutes in light. The grower should spray in low light conditions. On a bluebird day, don't spray in the morning spray at 8:30 at night. For Pyganic, the rate range is huge and for a difficult pest like flea beetle you want to be in the upper 2/3 to full rate to get control. So, tank conditions, pH, timing of applications to low light, and rate are critical for success.

Xerces Society and Natural Resources Conservation Service (NRCS) Online Resources

Both of these organizations have a lot of online resources for pollinator seed mixes to establish, maintain or construct easements. NRCS is mostly in the context of entering an agreement through EQIP (Environmental

Quality Incentives Program) or WHIP (Wildlife Habitat Incentives Program) will provide grants and they raise the priority for the grant if it involves pollinators.

Comment from Chrissy(?): I have talked with NRCS about the pollinator programs and those programs are specifically for agricultural lands such as hayfields. If your land is in turf, it doesn't qualify for the programs.

That's true. Their pollinator program is specifically for land zoned as agricultural. But the information is there for the blends. There is very bee specific information about polylectic or oligolectic bees on their website. For instance, if you want to help lasioglossum or megachilids, plant this or that.

www.xerces.org

file:///C:/Users/David/Downloads/14_R1_PLT15_Pollinator_andor_beneficial_insect_habitat.pdf

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_020421.pdf

Comment from Heidi: We are trying to encourage small (less than ½ acre) growers to plant pollinator friendly landscapes.

FINAL NOTES and ANNOUNCEMENTS

- On August 7, Lyssa Seefeldt from Marquette County will host and the special topic will be a Weed/Invasive Plant update, presented by Mark Renz of the UW-Madison/Extension Department of Agronomy.
- Heidi in St. Croix County: Does anyone have any idea on how to price pumpkins? What is the appropriate per pound cost? Send your answer to Heidi.
- Heidi in St. Croix County: Our summer intern has organized a Farm Pedal on August 8. It is a 35 mile bike tour of 4 different growers where we will stop, sample and tour the farm. It ends with a pizza dinner at one of the farms. The cost is \$45/person if you bike, and \$25/person if you just attend the dinner. There is more information on the St. Croix County extension website. The limit is 50 people and 30 have already signed up.
- Vijai: On August 12, we will hold a half-day Garden Field Day at the Brown County Extension. We will have 5 state specialists here. Details can be found on the Brown County Extension website.
- Lisa: On October 4-6, the Cut Flower Growers will hold a conference in Madison at the Sheraton Hotel. Roy Klehm, Brian, and PJ among others, will be on hand. There will also be a tour. You can find out about it at www.ascfg.org/
- The annual WIMGA conference was held in LaCrosse July31-Aug.2.
- Kevin: There is a twilight garden walk at the Spooner Ag Station on Aug. 18.
- Walt: Ken Schroeder is doing veggie garden walks of home vegetable gardens in Portage County. If anyone is interested, email the extension in Portage County for a schedule.
- Hort team meeting follows immediately after this conference.

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 #24 is available at <http://www.plantpath.wisc.edu/wivegdis/>

Topics in issue #25 (July 31, 2015) include:

- Early blight updates
- Late blight DSVs and updates (still - all late blight tested is US-23 in WI)
- Cucurbit downy mildew updates
- Basil downy mildew detected in WI
- Report from the UWEX Plant Disease Diagnostic Clinic

PDDC UPDATE

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

*Brian Hudelson, Sean Toporek, Catherine Wendt, Claire Wisniewski,
Jessica Bouchard 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 July 25, 2015 through July 31, 2015.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
DECIDUOUS WOODY ORNAMENTALS			
<i>Buckthorn (Fine Leaf)</i>	<i>Root/Crown Rot</i> <i>Tuberularia/Nectria Canker</i>	<i>Pythium sp.</i> <i>Tuberularia sp.</i>	<i>Brown</i> <i>Brown</i>
<i>Crabapple</i>	<i>Phomopsis Canker</i> <i>Sphaeropsis Canker</i>	<i>Phomopsis sp.</i> <i>Sphaeropsis sp.</i>	<i>Dane</i> <i>Dane</i>
<i>Lilac (Japanese Tree)</i>	<i>Verticillium Wilt</i>	<i>Verticillium sp.</i>	<i>Brown, Waukesha</i>
<i>Maple (Variegated)</i>	<i>Purple-Bordered Leaf Spot</i> <i>Scorch</i>	<i>Phyllosticta minima</i> <i>None</i>	<i>Chippewa</i> <i>Chippewa</i>
<i>Maple (Unspecified)</i>	<i>Chlorosis</i>	<i>None</i>	<i>Racine</i>
<i>Oak (Bur)</i>	<i>Cytospora Canker</i> <i>Powdery Mildew</i>	<i>Cytospora sp.</i> <i>Oidium sp.</i>	<i>Portage</i> <i>Portage</i>

	Tubakia Leaf Spot	<u>Tubakia sp.</u>	Portage
Oak (White)	Oak Wilt	<u>Ceratocystis fagacearum</u>	Dane
Oak (Unspecified)	Herbicide Damage	None	Rock
	Oak Wilt	<u>Ceratocystis fagacearum</u>	Dane
Smoke Tree	Verticillium Wilt	<u>Verticillium sp.</u>	Dane
Willow	Cytospora Canker	<u>Cytospora sp.</u>	Dane
	Diplodia Twig Blight	<u>Diplodia sp.</u>	Racine
	Ramularia Leaf Spot	<u>Ramularia sp.</u>	Racine
	Root/Crown Rot	<u>Pythium sp.</u>	Dane
FIELD CROPS			
Corn	Red Root Rot	<u>Phoma terrestris</u>	Dunn
	Yellow Leaf Blight	<u>Phyllosticta maydis</u>	Dunn
Wheat	Fusarium Head Blight (Scab)	<u>Fusarium graminearum</u>	Fond du Lac
	Weathering	Miscellaneous fungi	Fond du Lac
FORAGE CROPS			
Alfalfa	Common Leaf Spot	<u>Pseudopeziza medicaginis</u>	Columbia
	Downy Mildew	<u>Peronospora trifoliorum</u>	Columbia
	Stemphylium Leaf Spot	<u>Stemphylium sp.</u>	Columbia
HERBACEOUS ORNAMENTALS			
Begonia	Powdery Mildew	<u>Oidium sp.</u>	Dane
Hosta	Root/Crown Rot	<u>Fusarium sp.</u>	La Crosse
Stipa	Root/Crown Rot	<u>Pythium sp.</u>	Rock
NEEDED WOODY ORNAMENTALS			
Juniper	Root/Crown Rot	<u>Pythium sp.</u>	Clark
VEGETABLES			
Kale	Bacterial Soft Rot	<u>Pectobacterium carotovorum</u>	Dane
Potato	Stem/Root Rot	<u>Rhizoctonia sp.</u> , <u>Pythium sp.</u>	Washburn
Snap Beans	White Mold	<u>Sclerotinia sclerotiorum</u>	Dane
Tomato	Bacterial Speck	<u>Pseudomonas syringae pv. tomato</u>	Brown, Dane, Sauk
	Bacterial Spot	<u>Xanthomonas sp.</u>	Dane
	Late Blight	<u>Phytophthora infestans</u>	Wood
	Septoria Leaf Spot	<u>Septoria lycopersici</u>	Green, Washburn
SOIL			
Alfalfa Soil	Aphanomyces Seedling Blight	<u>Aphanomyces euteiches</u> race 2	Waupaca
Soybean Soil	Soybean Cyst Nematode	<u>Heterodera glycines</u>	Dunn, Eau Claire, Juneau, Outagamie, Trempealeau

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