

Wisconsin Horticulture Update Summary, August 22, 2014

Table of Contents

WI WEATHER REVIEW	2
Growing Degree Days	2
INTRODUCTION	2
HORTS' SHORTS	3
SPECIALIST REPORT: Insect Diagnostic Lab Update	3
Goldenrod Soldier Beetle	4
Ambush Bugs	4
Crab Spiders.....	4
Ground Nesting Wasps/Hornets/Yellow Jackets	4
Slugs.....	4
Lily Leaf Beetle (Scarlet Lily Beetle).....	4
Questions/Comments	4
<i>Will the lily leaf beetle be your career contribution starting right out of the gate?</i>	4
<i>What damage does the lily leaf beetle do to the lily?</i>	4
<i>What is the best way to control slugs?</i>	4
<i>Do fishing spiders bite humans?</i>	5
<i>Can you comment on some aberrant behavior we saw with a monarch butterfly hatch?</i>	5
<i>Do you want to comment on anything you saw at the garden tour at the Spooner Ag Station?</i>	5
<i>Are there more insect issues with drier weather?</i>	5
SPECIALIST REPORT: Plant Diagnostic Disease Clinic	5
Cercosporoid Leaf Spot on Dill.....	5
Tubercularia, Powdery Mildew, and Anthracnose on Magnolia	5
Questions/Comments	6
<i>Can verticillium collapse a Japanese maple in a short period?</i>	6
SPECIAL TOPIC: Mushroom/Conk ID	6
Introduction.....	6
Mushroom Identification Resources	6
Submitting a Mushroom Specimen for Identification.....	6
Mushroom Cultivation	7
Questions/Comments for Dan Lindner	7
<i>Are you the go to person at UW for mushroom ID?</i>	7
<i>Do you think we could get a fact sheet on mushroom ID?</i>	7
<i>We get questions from people asking how to get rid of mushrooms?</i>	7
<i>Mushroom ID, in terms of consumption, is something we should shy away from</i>	8
ANNOUNCEMENTS	8
FINAL NOTES	8
UW LINKS	8
WHU "OFF THE AIR"	8

VEGETABLE CROP UPDATE.....	8
PDDC UPDATE.....	9

WI WEATHER REVIEW

Significant early-week rainfall across much of Wisconsin improved moisture conditions for summer crops in the latter stages of development. An approaching low pressure system brought widespread showers and storms on August 18 and 19, with many locations reporting heavy rain of 1-2 inches. The precipitation helped reverse the trend of below-normal rainfall that began in July, although the moisture was unevenly distributed and pockets of abnormal dryness persist in some portions of the state. Rainfall deficits are most acute in the southwest and northeast regions where topsoil moisture ratings declined 4-11 points in the previous week to 76-77% very short or short. Statewide topsoil moisture shortages were an average of 45% short or very short prior to Monday and Tuesday's showers. The July-August dryness is adversely affecting most forage, field and vegetable crops, and yield reductions are probable if the dry weather trend continues in September. (Wisconsin Pest Bulletin, Vol. 59, No. 16, Aug 20, 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 1229 to 2178: Appleton-1749; Bayfield-1229; Beloit-2178; Big Flats-1882; Cumberland-1693; Crandon-1406; Crivitz-1540; Eau Claire-1936; Fond du Lac-1761; Green Bay-1637; Hancock-1882; Hartfield-1758; Juneau-1871; LaCrosse-2135; Lone Rock-2141; Madison-2030 ;Medford-1544; Milwaukee-1706; Port Edwards-1823; Racine-1718; Sullivan-1758; Waukesha-1758; Wausau-1601 (WI Pest Bulletin Volume 59 Number 16 August 20, 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; Panicked 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 Washburn/Burnett/ Sawyer County agriculture development agent Kevin Schoessow. The specialists were Insect Diagnostic Lab Manager P.J. Leisch and PDDC director Brian Hudelson. The special guest this week was Dan Lindner of the USDA Forest Service/ Forest Products Laboratory. Other discussion participants were representatives of the following counties: Brown (Vijai); Columbia (George); Eau Claire (Erin); LaCrosse (Steve); Portage (Walt); Kevin (Sawyer/Burnett/Washburn); Christy (Rock).

HORTS' SHORTS

County agents reported similar issues across the state.

Brown: We finally got some rain so lawns have greened back up and trees are looking better. We have had samples of Japanese red maples that are suddenly collapsing; squash bugs and squash vine borers causing

damage; people are wondering what to do with wasp nests; impatiens downy mildew possibility in a greenhouse grower; apple flea beetle infestation which P.J.'s research showed was first noticed in early 1900.

Portage County: I measured 4.25 inches of rain Plover Monday through Wednesday morning. Few blossoms, green tomatoes and delayed ripening of tomatoes is common due to cool weather. Lawns are growing great and we can hardly mow them fast enough. Mark Renz helped ID an American cancer root plant in someone's oak forest. It is a parasitic plant, but doesn't really harm the oak. We have also seen maples collapsing as a residual effect of the winter stress injury. We also ID'ed a safflower, which is a grain crop farther south. We thought it might have come from a birdseed mix. Otherwise, things have been quiet. Farm Tech days were a great success.

American cancer root: http://www.fs.fed.us/wildflowers/plant-of-the-week/conopholis_americana.shtml

Rock County: We had a lot of rain yesterday and it is really humid today. We have still had tree issues and weed ID questions. Warm weather appears to have jump started the tomato ripening. People were asking about wasps and it seemed like last year I started getting questions around this time too. I will be bringing an impatiens sample possibly infected with impatiens downy mildew to Brian.

Columbia County: We have had some timely rains and lawns look good and mowing has not stopped all summer. Tomatoes are really struggling with blights. Northern corn leaf blight in sweet corn showed up. Sweet corn harvest will be okay, but I am worried about field corn. We are still seeing issues with trees due to cold weather and drought of the past years and we see maple trees with dying branches. My hops are doing great and I am hoping to harvest some next week.

La Crosse County: Tree issues dominated this week and we are seeing early senescence and fall coloring of maples. We have had weed control questions, especially thistle, Burdock and creeping Charlie. A couple of questions on reseeding turf came in. Insects have not dominated questions. We have also had timely rains and things are green. EAB is very active.

Eau Claire: Lots of rain on and off and it's very humid. Tomatoes are finally starting to ripen. General tree decline questions are still coming in. We had a magnolia sample that we sent to Brian for diagnosis as I had never seen the symptoms it exhibited. We had some mushroom calls yesterday. We had a Polygala, or blood milkwort, ID'ed here but it currently isn't in the UW-Stevens Point herbarium as being in Eau Claire County. I have never seen it in Eau Claire County and I need to learn how to add it to the county herbarium list.

<http://www.minnesotawildflowers.info/flower/blood-milkwort>

Washburn/Burnett/Sawyer Counties (Spooner Ag Station): Even though we did have a dry spell, our moisture is adequate and the average is where it should be. We are seeing tomato blights due to weather patterns and trees continue to show winter decline. We too are getting wasp and hornet questions and I stepped in a ground hornet nest in our display gardens. I got a report of Japanese beetles from Cumberland in Barron County; we fortunately haven't had it in the three counties that I represent. Aphids are starting up in soybeans. Poor pollination on some crops, especially peppers, due to the cool weather. Grasses were getting brown but with some of the rain they have greened up. There was early fruit set, but not much after that. We need more heat to ripen our crops as we are about two weeks behind in our heat units. We are hoping for a late frost. We had a call on an issue I have never received which was about an eagle's nest on a homeowner's lakefront property. Since eagles are protected, the tree can't be taken down without involvement from APHIS and the DNR.

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

P.J. Liesch reported that he knows it is late in the season by both the decrease in the volume of calls and eMails and the type of invertebrates he is seeing.

Goldenrod Soldier Beetle

This insect is yellow with black streaks on its soft wing covers. It is very prevalent on yellow flowers, but may be seen on other colors of flowers. The insect eats the pollen and is not damaging to the plant.

<http://www4.uwm.edu/fieldstation/naturalhistory/bugoftheweek/paleatherwing.cfm>

Ambush Bugs

These predatory insects are related to assassin bugs. They hang out on flowers and wait for other bugs to snatch.

<http://www.entomology.wisc.edu/mbcn/kyf305.html>

Crab Spiders

It is the time of year for these arachnids, which are common on many flowers.

<http://www.biokids.umich.edu/critters/Thomisidae/>

Ground Nesting Wasps/Hornets/Yellow Jackets

Colonies of these insects build up over the summer. It is amazing how many larvae and pupae that were in the nest at the Spooner Display Gardens. If that nest had been allowed to continue, it would have doubled or tripled the number of workers.

<http://labs.russell.wisc.edu/insectid/files/2014/03/WaspandBeeControl.pdf>

Slugs

Wet weather is conducive to these night feeding pests. If you are seeing leaf damage and can't find any likely candidates, go out at night with a flashlight and look for slugs.

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

Lily Leaf Beetle (Scarlet Lily Beetle)

We found this new invasive species in Wausau in Marathon County and have started tracking it. Two people came up to me at Farm Tech Days with live samples and they were both from Marathon County, so it has only been reported there so far but I am concerned about it spreading throughout the state. It feeds on true lilies, such as Turk's Cap lily, tiger lilies, Easter lilies, and Asiatic lilies. It does not feed on daylilies. The insect, originally from Europe, was first found in Montreal, Canada in the 1940's and had been confined to the northeast, but it has been reported in Michigan and up through Manitoba. Both the larvae and adults will feed on the leaves and cause a lot of damage.

<http://umaine.edu/publications/2450e/>

Questions/Comments for P.J. Leisch

Will the lily leaf beetle be your career contribution starting right out of the gate?

Phil had well over one hundred new species enter the state, so it will probably be the first of many.

What damage does the lily leaf beetle do to the lily? I had a very nice Michigan lily that turned brown and collapsed, but the leaves did not look like they were being eaten.

Both the adults and larvae feed on the plant. The young larvae feed on the undersides of the leaf so the damage can be hidden at first. As they grow, they can consume the entire leaf. They are foliage feeders. Places like Wausau, Mosinee, and Kronenwetter have reported the beetle.

What is the best way to control slugs?

Traps or bait can be very effective. You can take an empty tuna can or other small container and fill it halfway with beer (and the slugs are not partial to any particular brand). Leave it out at night and the slugs will crawl into the beer and drown. You can also purchase commercial slug baits at the hardware store that typically contain an iron salt or metaldehyde. You must follow the instructions on the container and it may be as effective if it gets wet.

Do fishing spiders bite humans? I have also heard that spiders need a good jump to be able to sink their fangs in skin.

I did see a post on Facebook out of Milwaukee about this spider. They generally will shy away from humans unless you mess with them. They are going after small fish, but can go after other critters as well. They do need a little force to bite humans.

Can you comment on some aberrant behavior we saw with a monarch butterfly hatch? A client was monitoring two monarch chrysalises. One of the monarchs emerged 15 minutes before the other and began to beat the other intact chrysalis with its wings and tear it with its feet, which killed it.

I have never heard of this behavior. They don't have any chewing mouthparts so it couldn't chew through the chrysalis. What kind of container was it in?

It was in a gallon glass jar. The chrysalises were hanging onto a piece of milkweed in the jar.

It might have been the monarch was just trying to be able to grip onto something and the glass was too smooth. I have never heard of a monarch attacking another of its kind and it was quite possibly an accident.

Do you want to comment on anything you saw at the garden tour at the Spooner Ag Station?

Yes. Other than the wasp nest, I didn't see too many pests. This year has been quiet in general, and we haven't seen big outbreaks. We have seen lower populations of Japanese beetles and Gypsy moths. We also saw many pollinators with multiple species of bees including honeybees and native bees. With our pollinators in decline, anything that can be done such as planting a diverse array of flowering species with different bloom times is very beneficial. I was really impressed with the number of pollinators in that garden.

Are there more insect issues with drier weather?

Not necessarily, unless they need moisture like mosquitoes. Sometimes if it is too dry, plants may be suffering and the bugs which feed on them might be hard to come by.

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 16 through August 22 is attached to the end of this summary.

We again saw vascular wilts on oaks and elms. Vijai mentioned dieback on Japanese maples and I would be concerned about verticillium wilt. We are also seeing a fair amount of Tubakia on oak, which is like a late season version of anthracnose. If you are seeing leaf browning, you might suspect that. Root rots are prevalent and we saw that on rhododendron, echinacea, and impatiens. We had another case of white mold on ornamentals. It presents as white fuzzy growth, especially at the bottom of the stem and black sclerotia, which are resting spores, eventually form on the affected tissue. We confirmed Phytophthora capsici on the winter squash sample that Patti submitted.

Cercosporoid Leaf Spot on Dill

This sample was submitted to me at the field day. We thought that it might have been insect damage at first, but it turned out to be a fungal pathogen related to cercospora. This was a brand new pathogen for me.

Tubercularia, Powdery Mildew, and Anthracnose on Magnolia

For the magnolia sample Erin submitted, we saw powdery mildew on the leaves that was bad enough to cause necrosis as well as a spot on one leaf that had an anthracnose like pathogen. Finally, we saw black fruiting bodies that we diagnosed as tubercularia spores in the branches causing some of the dieback. Tubercularia is the asexual stage of nectria canker, so technically the magnolia has nectria canker.

Questions/Comments for Brian Hudelson

Can verticillium collapse a Japanese maple in a short period? We have had three different clients bring in samples of afflicted Japanese maples that had collapsed in the last two weeks. Can I bring a sample to you from our trial gardens?

Yes, particularly with that host, it can be quick. We have had a fair amount of verticillium wilt on Japanese maples recently. You can send the sample in and we will culture it.

SPECIAL TOPIC: Mushroom/Conk ID

Presented by Dan Lindner of the USDA Forest Products Lab

Introduction

Kevin's comments: Mushroom ID is one of the most challenging topics we see. Folks will bring in a bag of mushrooms and want to know which ones they can eat, but we don't want to touch that issue with a 10-foot pole. Back in the day, we had a wild edible mushroom expert but no longer do. Even though I have taken mycology and mushroom hunting courses, it requires a lot of study to be able to recommend edible mushrooms with confidence. Even if most people don't have a problem with a certain mushroom there can be individual sensitivities to it. One of the issues we hope Dan addresses is how to direct people to be safe with mushrooms.

Dan is located in the Center for Forest Mycology Research and their focus has been mostly fungi that impact trees for good or bad. Recently, though, they have been working on the white nose syndrome fungus that is killing our bats. The reason he has pursued this career is because he loves mushroom identification. His group has put on public mushroom ID workshops and events, although not regularly recently. He doesn't want to discourage people from studying mushrooms, but there is an enormous number of species so it can be daunting. That shouldn't dissuade people from familiarizing themselves with the locally common species. They regularly receive questions about edibility and poisoning, especially if pets have suspected ingestion or if their trees are being killed.

Mushroom Identification Resources

If someone asks you about edibility, it is safest not to answer! However, there are many resources available to help educate people about mushrooms.

Wisconsin Mycological Society (WMS): www.wisconsinmycologicalsociety.org

This group is specific to Wisconsin. They have forays and get-to-togethers around the state. Even with guidebooks and on-line information, it is invaluable to go out with someone who knows what they are doing to look at the specimen in your hand and tell you about it.

North American Mycological Association (NAMA): www.namyco.org

This group operates on the national level and they have a great website. There is an entire page on pet poisonings and the most likely mushrooms involved. They have information on mushrooms in lawns and the most common species people are likely to encounter in an urban setting.

www.MushroomExpert.com

This Michael Kuo site has lots of pictures and very reliable information on species normally seen in Wisconsin from slime molds to stinkhorns to conks to mushrooms.

Submitting a Mushroom Specimen for Identification

If you suspect a mushroom has caused a problem, especially if a child or pet has consumed it, it is important to keep the specimen to identify it. Short of learning the species yourself, the easiest way nowadays is to take digital pictures.

Mushroom/conk identification depends on many characteristics of the fungus like spore color and gill attachment to the stem. There are many more that I won't go into in the interest of time.

To facilitate identification, you can never have too many pictures and they are worth a thousand words. Take pictures from every angle, above and underneath the cap, and of the surrounding area to show any collections around it. This may not give a definitive ID, but it is usually a good first pass to see if the mushroom is potentially a problem.

If you are going to submit the actual mushroom, it is important to collect the entire mushroom, not just the cap. An important piece of information is whether the base of the mushroom has a cup or a ring and how it is attached to the substrate. Take notes on the environment and what tree species are present (i.e. oak vs. white pine). Some mushrooms are only associated with certain trees, so that helps us narrow down the species.

Mushroom Cultivation

Besides identification questions, we also get cultivation questions. There is a business out of Peshtigo called Field and Forest Products that focuses on mushroom cultivation. Their website is www.FieldForest.net. I like to encourage local enterprises, but there is also one in the Olympia, Washington called Fungi Perfecti and their website is www.fungi.com.

Questions/Comments for Dan Lindner

Are you the go to person at UW for mushroom ID?

Dan: Brian is the go to person. He does a pre-screen first and if it isn't obvious he sends them along to me. Submitting the samples through Brian helps with sample tracking.

Brian: Send the samples through the clinic first. I am not that comfortable doing mushroom or conk ID and only do a limited number. Dan is very responsive to queries, live samples and photograph submissions. I would like to reinforce what Dan said about taking a lot of pictures and how helpful that is for not only mushrooms, but diseased samples in general.

Do you think we could get a fact sheet on mushroom ID with a list of the resources or even one about morels?

That would be good idea, I just didn't have time to do that. Morels are huge and this year was really prolific. We had a lot of questions about morels in the spring. Now some of the chanterelle logs are going insane and people are asking about them. In fall, it diversifies into a bunch of other things including hen of the woods and chicken of the woods. I could put a list of contact info including Wisconsin Mycological Society website and NAMA website, as well as places to go for mushroom ID and suggested literature, although that changes all the time with new books. NAMA has a great page on poisoning as well as case reports. It would require many caveats on not eating anything without absolute verified ID certainty. It's one thing if the mushroom is killing a plant, quite different to eat it. There is a lot of liability associated with that.

Comment from Brian: Even if a mushroom is technically edible, some people may have an ind reaction to it. It is a liability issue.

Even fact sheets on things like raspberries, shrimp, almonds, peanut butter can be difficult. People may have idiosyncratic reactions to known edible species, or they may have collected them on a golf course that has been sprayed with different chemicals but the excitement of finding them sometimes overrules common sense.

Comment from Brian: We do have a fact sheet on huitlacoche now.

We get questions from people asking how to get rid of mushrooms, thinking they can just spray them with something. Sometimes it is difficult to convince them that mushrooms are different than weeds and it would be nice to have a fact sheet that addressed control. They don't understand the role of mushrooms.

That is a question we also get and that goes for lichens as well. Reassure people that mushrooms are natural and healthy for the environment and it means they have shade and beautiful oak trees. The fact sheet could also mention that children should be taught not to put things from the yard in their mouths and both pets and children should be supervised so that they don't accidentally ingest anything. Also, short of cutting down their trees and paving their lawns, it would be difficult to get rid of them. I come from a long line of mushroom stompers who thought that would keep kids from eating them. The process of stomping them and spraying them with a hose is just about the best thing you can do to spread them. There isn't anything I know of that you can spray to get rid of them. You can also try saying that oaks, pines, and birches require symbiotic fungi for their roots or they will die. Those symbiotic fungi often produce mushrooms above ground. Beneficial fungi form protective barriers from pathogenic fungi and other pests to prevent disease, as well as help with nutrient uptake. Killing the fungi in your yard may kill your trees. Fact sheets may be helpful for these issues and I can work with Brian to develop them.

The bottom line is that mushroom ID, in terms of consumption, is something we should shy away from. I have consumed both chicken of the woods and morels. Someone brought in a morel and I was very sure of the identity. I knew the person, who was an MG V, and I felt comfortable saying he should enjoy it, but that person did get an upset stomach from consuming it since he did have an individual sensitivity. We need to keep in mind that this is a sensitive topic and be aware that it is up to the individual to make their own choice. I am always looking for mycologists who are out there giving out information, but as the extension we need to be careful. Maybe this is a topic to address in a hort team meeting so we can give input regarding what we need to communicate to the public in terms of resources.

Chicken of the woods and morels are classic edible mushrooms, but people need to keep in mind that they must be cooked. Eating them raw will cause stomach upset even if you do not have a sensitivity; they should not be chopped up raw and put in a salad.

ANNOUNCEMENTS

Christy (Rock County): P.J. will be giving a fall lecture on something insect related to our MGVs on Sept. 17, 2104.

FINAL NOTES

The next meeting is August 29. George Koepp from Columbia County will be hosting and the special topic will be First Detector Network presented by Tony Summers and Mark Renz of UW-Madison/Extension (Dept. of Agronomy).

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

Topics covered in the issue #19 include:

Late blight updates (confirmed reports in Portage, Milwaukee, Racine, Adams, and Waushara Counties)
Blitecast and P-Days for late/early blight management
Cucurbit Downy Mildew updates

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 16, 2014 through August 22, 2014.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
BROAD-LEAVED WOODY ORNAMENTALS			
Ash (Unspecified)	Phomopsis Canker	<i>Phomopsis</i> sp.	La Crosse
Boxwood	Verticillium Wilt	<i>Verticillium</i> sp.	Ozaukee
Cherry	Bacteriosis	<i>Xanthomonas</i> sp.	Dane
Crabapple	Apple Scab	<i>Venturia inaequalis</i>	Waukesha
Elm (American)	Dutch Elm Disease	<i>Ophiostoma ulmi</i>	Dane
Ivy	Anthracnose	<i>Colletotrichum</i> sp.	Ozaukee
Lilac (Japanese)	Herbicide Damage	None	Waukesha
	Septoria Leaf Spot	<i>Septoria</i> sp.	Waukesha
Maple (Sugar)	Verticillium Wilt	<i>Verticillium</i> sp.	Dane
Oak (Black)	Oak Wilt	<i>Ceratocystis fagacearum</i>	Dane, Marathon
Oak (Bur)	Tubakia Leaf Spot	<i>Tubakia</i> sp.	Dane
Oak (Red)	Oak Wilt	<i>Ceratocystis fagacearum</i>	La Crosse
Oak (White)	Cytospora Canker	<i>Cytospora</i> sp.	Rock
	Monochaetia Leaf Spot	<i>Monochaetia</i> sp.	Rock
	Tubakia Leaf Spot	<i>Tubakia</i> sp.	Grant, Rock
Oak (Unspecified)	Oak Wilt	<i>Ceratocystis fagacearum</i>	Dane
	Tatters	None	Dane
	Tubakia Leaf Spot	<i>Tubakia</i> sp.	Dane, St. Croix
Rhododendron	Root/Crown Rot	<i>Pythium</i> sp.	Dane
FRUIT CROPS			
Apple	Cytospora Canker	<i>Cytospora</i> sp.	Florence
Cranberry	Early Rot	<i>Phyllosticta vaccinii</i>	Wood
Raspberry	Cane Blight	<i>Coniothyrium fuckelii</i>	Racine
Strawberry	Root Rot	<i>Rhizoctonia solani</i> , <i>Pythium</i> sp., <i>Fusarium</i> spp.	Waupaca
HERBACEOUS ORNAMENTALS			
Echinacea	Root Rot	<i>Pythium</i> sp.	Lake (IL)
Gallardia	White Mold	<i>Sclerotinia sclerotiorum</i>	Washburn
Impatiens	Root Rot	<i>Pythium</i> sp., <i>Rhizoctonia solani</i>	Washburn
Salvia	White Mold	<i>Sclerotinia sclerotiorum</i>	Washburn
Zinnia	White Mold	<i>Sclerotinia sclerotiorum</i>	Washburn
NEEDED WOODY ORNAMENTALS			

Juniper	Phomopsis Tip Blight	<i>Phomopsis juniperovora</i>	Sawyer
	Root Rot	<i>Fusarium</i> sp., <i>Cylindrocarpon</i> sp.	Sawyer
Spruce (Blue)	Phomopsis Canker	<i>Phomopsis</i> sp.	Racine
	Rhizosphaera Needle Cast	<i>Rhizosphaera kalkhoffii</i>	Racine
Spruce (Unspecified)	Phomopsis Canker	<i>Phomopsis</i> sp.	Dane, Milwaukee, Waukesha
	Rhizosphaera Needle Cast	<i>Rhizosphaera kalkhoffii</i>	Dane
	Sirococcus Tip Blight	<i>Sirococcus</i> sp.	Milwaukee
VEGETABLES			
Basil	Downy Mildew	<i>Peronospora belbahrii</i>	Washington
Dill	Cercosporoid Leaf Blight	<i>Passalora punctum</i>	Barron
Pepper	Bacterial Spot	<i>Xanthomonas</i> sp.	Shawano
Squash (Winter)	Phytophthora Crown and Root Rot	<i>Phytophthora capsici</i>	Racine
Tomato	Black Dot Root Rot	<i>Colletotrichum</i> sp.	Dane
	Bacterial Canker	<i>Clavibacter michiganensis</i> ps. <i>michiganensis</i>	Racine
	Dagger Nematode*	<i>Xiphinema</i> sp.	Dane
	Septoria Leaf Spot	<i>Septoria lycopersici</i>	Portage, Racine, Shawano

*Diagnosis performed by the UW-Madison Nematode Diagnostic Lab

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