Wisconsin Horticulture Update, May 23, 2014

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WI WEATHER REVIEW

As of May 22, 2014, sunny skies, light winds and seasonable temperatures improved conditions for planting and emergence. An early-week storm system produced periods of scattered showers and thunderstorms, but the weather was otherwise dry. Daytime high temperatures climbed to the 70°s and upper 80°s, while nightly lows ranged from the 40°s to the lower 60°s. Insect activity also increased in response to the warming trend, making its first substantial appearance during the week. (WI Pest Bulletin #4, May 22, 2014)

As of May 19, 2014, across the reporting stations, average temperatures last week were 1° to 6° below normal. Average high temperatures ranged from 61° to 64°, while average low temperatures ranged from 41° to 46°. Precipitation totals ranged from 0.93" in La Crosse to 1.58" in Milwaukee. (WI Crop Report vol.14, #7)

Average soil temperatures at 2" as of May 22, 2014: Hancock 62.8°, Arlington 74.1°.

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 80.0 to 365.0. Following is a list of GDD as of May 22, 2014 for the following cities: Bayfield 80.0, Beloit 365.0, Crandon 117.0, Cumberland 152.0, Dubuque 342.0, Eau Claire 209.0, Fond du Lac 215.0, Green Bay 154.0, La Crosse 271.0, Madison 291.0, Milwaukee 212.0, Wausau 154.0. To determine the GDD of any location in Wisconsin, use the degree day calculator at the UW Extension Ag Weather webpage
http://www.soils.wisc.edu/uwex_agwx/thermal_models/degree_days

To put it in perspective, following is an abbreviated list of plant and insect phenological stages in relation to GDD accumulations at which the events occur (Ohio State BYGL): Silver maple, first bloom, 34; Corneliancherry dogwood, first bloom, 40; silver maple, full bloom, 42; red maple, first bloom, 44; speckled alder, first bloom, 52; northern lights forsythia, first bloom, 58; Japanese pieris, first bloom, 60; red maple, full bloom, 75; star magnolia, first bloom, 83; border forsythia, first bloom, 86; **eastern tent caterpillar, egg hatch, 92**; Manchu cherry, first bloom, 93; northern lights forsythia, full bloom, 94; Norway maple, first bloom, 116; border forsythia, full bloom, 116; chanticleer callery pear, first bloom, 123; sargent cherry, first bloom, 127; **larch casebearer, egg hatch, 128**; Japanese pieris, full bloom, 129; saucer magnolia, first bloom, 133; common flowering quince, first bloom, 137; Bradford callery pear, first bloom, 142; **European pine sawfly, egg hatch, 144**; weeping Higan cherry, first bloom, 145; P.J.M. rhododendron, first bloom, 147; chanticleer callery pear, full bloom, 149; Norway maple, full bloom, 149**; inkberry leafminer, adult emergence, 150**; sargent cherry, full bloom, 151; star magnolia, full bloom, 151; Allegheny serviceberry, first bloom, 153; Manchu cherry, full bloom, 155; spring snow crabapple, first bloom, 155; apple serviceberry, first bloom, 159; **spruce spider mite, egg hatch, 162**; Bradford callery pear, full bloom, 164; Allegheny serviceberry, full bloom, 169; saucer magnolia, full bloom, 174; P.J.M. rhododendron, full bloom, 178; **boxwood psyllid, egg hatch, 179**; weeping Higan cherry, full bloom, 179; Koreanspice viburnum, first bloom, 185; regent serviceberry, first bloom, 186; Japanese flowering crabapple, first bloom, 189; eastern redbud, first bloom, 191; **gypsy moth, egg hatch, 192**; Koreanspice viburnum, full bloom, 205; **azalea lace bug, egg hatch, 206**; 'Spring Snow' crabapple, full bloom, 209; common flowering quince, full bloom, 214; **birch leafminer, adult emergence, 215**; 'Coralburst' crabapple, first bloom, 217; **elm leafminer, adult emergence, 219**; common chokecherry, full bloom, 221; **alder leafminer, adult emergence, 224**; **honeylocust plant bug, egg hatch, 230**; sargent crabapple, first bloom, 230; common lilac, first bloom, 234; Ohio buckeye, first bloom, 245; common horsechestnut, first bloom, 251; **hawthorn lace bug, adult emergence, 253**; **hawthorn leafminer, adult emergence, 260**; flowering dogwood, first bloom, 263; red buckeye, first bloom, 265; blackhaw viburnum, first bloom, 269; **imported willow leaf beetle, adult emergence, 274**; Sargent crabapple, full bloom, 298; red horsechestnut, first bloom, 304; **pine needle scale, egg hatch - 1st generation, 305**; **cooley spruce gall adelgid, egg hatch, 308**; **eastern spruce gall adelgid, egg hatch, 308;** common lilac, full bloom, 315; 'Pink Princess' weigela, first bloom, 316; blackhaw viburnum, full bloom, 322; redosier dogwood, first bloom, 323; dwarf fothergilla, full bloom, 325; 'Winter King' hawthorn, first bloom, 328; **lilac borer, adult emergence, 330;** slender deutzia, first bloom, 338; Japanese kerria, full bloom, 342; common horsechestnut, full bloom, 344; red chokeberry, full bloom, 351; doublefile viburnum, first bloom, 353; Pagoda dogwood, first bloom, 363; red Java weigela, first bloom, 365; black cherry, first bloom, 368; common sweetshrub, first bloom, 371; **lesser peach tree borer, adult emergence, 372**; Ohio buckeye, full bloom, 374; **holly leafminer, adult emergence, 375**; Vanhoutte spirea, full bloom, 406; **euonymus scale (first generation), egg hatch, 406;** black cherry, full bloom, 419; Miss Kim Manchurian lilac, first bloom, 422; **locust leafminer, adult emergence, 437;** 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.

INTRODUCTION

The host for today's WHU was Marinette/Oconto/Florence Cos. agent Scott Reuss. PDDC Director Brian Hudelson and USDA/ARS/UW pollinator specialist Johanne Burnet were special guests. Participants in today's discussions

were representatives from the following counties: Brown (John Nolan), Columbia (George Koepp), Douglas (Jane Anklam), Jackson (Tricia Wagner), Kenosha (Barb Larsen), La Crosse (Steve Huntzicker), Marquette (Lyssa Seefeldt), Milwaukee (Sharon Morissey), Portage (Walt), Racine (Patti Nagai) and Rock (Christy Marsden).

HORTS' SHORTS

As one of the agents commented, this has turned out to be a very compressed spring. Across the state, blooms were popping out, not in a gentle sequence, but all at once. In the southern parts of the state crabapples and lilacs were in bloom, maples were leafing out, garlic mustard was blooming and dandelions were in the puffball stage, ready to rampantly seed. In the north, where soil temperatures were still in the 30°s a few inches below ground, dandelions, forsythia, tulips were in bloom and trees were budding. Ground level vegetation seemed to do exceptionally well, with perennials expanding, maple seeds germinating and dandelion seedlings going overboard. Some low-lying woodies, especially Knock Out roses and dieback shrubs such as Caryopteris and Buddleia, were not doing as well. Blueberry growers in Jackson Co. were expressing concern over winter damage to buds. In the warmer parts of the state, conifers were starting to expand their buds, indicating their ability to outgrow winterburn on needles. Insects were coming out or were being blown in, with asparagus beetle being reported in La Crosse and large populations of ticks in Jackson, Ashland and Marinette Cos. Homeowners were still calling in about browned evergreens, weeds and vole damage.

SPECIALIST REPORT: Insect Diagnostic Lab Update

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

Ticks

Calls about and samples of ticks have been coming in. A common question has been, "Is there a lab that can test a tick for Lyme Disease?" There are five commercial labs in the US that offer these services on a fee-basis (somewhere in the ballpark of $60-$75). These labs can be found on the University of Rhode Island "Tick Encounter" website: http://www.tickencounter.org/tick_testing

Wasps

Calls regarding wasps have started coming in.

Wasp and bee identification (UW): http://www.entomology.wisc.edu/insectid/waspbee.php

Emerald euphoria beetle

The most interesting case for the week was a scarab beetle from the Stevens Point area called the "Emerald Euphoria." This beetle superficially resembles the Japanese beetle but is out earlier in the year, is larger, and isn't a pest.

Euphoria fulgida photo (Bugnet): http://bugguide.net/node/view/5812

Asparagus beetle

Both the asparagus beetle and the twelve-spotted asparagus beetle are out and about.

Asparagus beetle (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Aspargus_Beetle.pdf

Questions:

Is there a prediction for how serious the black cutworm pressure will be this year?

The latest DATCP Pest Bulletin noted they are starting to show up already.

Black cutworm (WI Pest bulletin May 22, 2014):
http://datcpservices.wisconsin.gov/pb/pests.jsp?categoryid=32&articleid=2241&issueid=220

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 is attached to the end of this summary.

Verticillium wilt

The first confirmed case of Verticillium wilt submitted to the lab this season was on a Japanese maple. Another Japanese maple was also sent in for the same disease, but may not test positive. The winter was hard on Japanese maple, and dieback may be due to weather-related problems rather than disease.

Verticillium wilt (UWEX):
http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Verticillium_Wilt_of_Trees_and_Shrubs.pdf

Fusarium

A rose-of-Sharon came in with interesting orange-red fruiting structures popping up from underneath the bark. The client had spoken with several people who suggested it had nectria canker because of the signs. Under the microscope, the fruiting bodies were from *Fusarium lateritium*, an opportunistic canker organism. It causes cankers and branch dieback on a wide range of woody ornamentals when they are under some type of stress, with water stress a potential stressor. An injury sometimes provides an entry point for the fungus to enter and proliferate.

Fusarium lateritium – photo (Oregon State):
http://science.oregonstate.edu/bpp/Plant_Clinic/images/ash_fusarium_lateritium.htm

Phlox downy mildew

A nursery-grown creeping phlox showed lower leaf browning, with the leaves at the base of the plant turning tannish-brown. Under the microscope, the leaves were loaded with the reproductive structures of the phlox downy mildew organism. The nursery was having a serious problem with that disease since the plants were set out just before a 3-inch rainfall. The plants were very wet, the organism was present, and weather conditions allowed the disease to start.

A management strategy was suggested: cut back the plants, allow them to re-sprout, apply fungicides as a control measure, and keep the foliage dry.

Downy mildew signs & symptoms -- photos (U Maine): http://extension.umaine.edu/ipm/ipddl/plant-disease-images/phlox-downy-mildew-signs-symptoms/

Downy mildew (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Downy_Mildew.pdf

White pine blister rust

The first sample of white pine blister rust of the season came in this week. With this disease, typically there is some type of *Ribes* (currant or gooseberry) present in the vicinity. The white pine blister rust fungus requires two hosts, white pine and *Ribes,* to complete its life cycle.

White pine blister rust (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/White_Pine_Blister_Rust.pdf

Rhizosphaera needle cast

More cases of Rhizosphaera needle cast were seen in the lab this week on blue and Norway spruces. This disease is common this spring.

Rhizospaera needle cast (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Rhizosphaera_Needle_Cast.pdf

Artillery fungus

Two situations of possible artillery fungus were presented. Artillery fungus tends to colonize in organic mulch. The fungi forceably eject tiny grayish-black, pepper-grain sized, very sticky spore packets. The spore packets may shoot out onto house sidings and windows, and are very difficult to remove. We have seen two examples of it this year and expect more to be seen. It tends to come in on newly-spread mulch

Does it come in on certain types of mulches? Could it occur on older mulch?

Potentially you can have it on both old and new mulch, but is seems to be more associated with newly-spread material. Definitely it can be found on some types of organic mulch, whether wood chips, compost or something else organic. Many years ago we had an example of artillery fungus on a car. The client finally realized he always parked next to a mulched island in the parking lot; that was probably where it was coming from.

Will stirring the mulch not help?

It is typically recommended that the mulch be removed if the fungi are causing issues. Unfortunately it is very difficult to remove, and people have tried claiming it on homeowner's insurance. Most companies deny coverage, claiming it as an act of God.

Is there an alternative to bark mulch to reduce the possibility of artillery fungus?

I don't know if there is a difference between different types of bark and other organic mulches. Since it is only found on organic sources, rock mulch could be an alternative, but rock mulches are not recommended around plants. The occurrence of artillery fungus has always been a sporadic thing, and it has been a long time since we last had inquiries on it. This year it is probably due to excessive rain and wet weather, creating perfect environmental conditions for that particular fungus to develop. Expect more questions about it this year. In drier years it is less likely to happen.

Artillery fungus (Cornell): http://plantclinic.cornell.edu/factsheets/artilleryfungus.pdf
Artillery fungus (Clemson): http://www.clemson.edu/extension/hgic/hot_topics/2010/03artillery_fungus.html

Plant dieback and winter burn

Speaking with Laura Jull at a workshop in Green Bay this week, she reported seeing quite a bit of dieback on roses this year, especially Knock Out® roses. Other trees and shrubs are showing dieback, and of course there is a lot of winter burn. The effects of this winter will carry on for a while.

Laura explained winter burn very well on the April 25 WHU. In the absence of a UWEX factsheet on winter burn, Michael Yanny, propagator at Johnson Nursery, wrote an excellent newsletter piece on the browning of evergreens, approaching the problem as if it were a crime scene investigation. He discusses weather patterns and how they led to winter burn, and compares the conditions to other years. He presents this winter's injury tally species by species, noting varietal differences. The combination of his piece and Laura's information can be very informative.

Laura did mention that she visited a nursery and saw differences based on cultivars, especially on boxwood. She has been giving presentations on abiotic problems of trees and shrubs in the Responding to Horticultural Inquiries workshop this year. Her presentation has very good notes on a variety of weather-related issues. Laura's presentation is available on the Wisconsin Horticulture Update website. Scroll down to Responding to Horticulture Inquiries to find the color handout from the Madison session. More session notes from the Green Bay program will also be posted there.

What happened to the evergreens (Mike Yanny): http://www.johnsonsnursery.com/plant_talk.cfm
Responding to Horticulture Inquiries 2014 (UWEX – WHU): http://fyi.uwex.edu/wihortupdate/2014/04/19/responding-to-horticulture-inquiries-2014/

SPECIAL TOPIC: Bees and GMOs

Presented by Johanne Brunet, Associate Professor in Entomology, specialist in gene flow, USDA Agricultural Research Service jbrunet@wisc.edu http://labs.russell.wisc.edu/brunet/research/

Having trained in pollination biology and evolutionary biology, my lab specializes in how different bees and insects move pollen around. That directly affects how bees move genetically modified (GM) pollen from a GM field to non-GM fields. A combination of genetics and ecology is used to approach the question. Much of our work concentrates on alfalfa as the model system to study the pattern of movement of the pollen because we can study honeybee, bumblebee and leaf-cutting bee patterns. Comparing those bees gives us a better idea of how the pollen is moved around; the leaf-cutting bee represents the solitary bee, with the other two being social bees. The social bees, especially the honeybee, are most commonly used in agriculture, but the solitary bee group is also an important native pollinator of crops.

How far can bees travel and potentially carry pollen that might be genetically modified? What kinds of threats are posed to someone who is doing organic production? What will potentially be the consequence if an organically grown plant is pollinated with GM pollen?

Answering the last question first, it depends on the ploidy of the crop. Alfalfa is a tetraploid, meaning it has four copies of a gene, or four alleles. In a Roundup Ready® alfalfa crop, when a transgene is inserted, it is just put in one of the alleles. Not all of the pollen grains will have the transgene, therefore not all the pollen grains will be Roundup Ready®. When the plants are crossed, that will increase.

In a diploid plant, one of the two alleles will have a transgene, so half of the pollen grains will be GM. When diploid GM crop pollen is moved by a pollinator to a non-GM crop, most of the seeds produced will be transgenic because the GM transgene tends to be dominant.

The probability of seeds being affected by GM pollen can be calculated by considering the type of crop, the ploidy of the crop, the transgene and how the crop releases pollen. Alfalfa is open pollinated, so the transgene is only put in some plants and they are allowed to cross.

Crops like carrots and corn have a very specific hybrid line, so they will act differently. For each specific crop there is a good sense of the probability of whether the transgene will get into the offspring of the organic plant.

Is there a spreadsheet showing all that crop information?

Not that I know of. It would depend on the crop of concern. Corn, soybean, alfalfa and a few of the fruit crops may be treated with a transgene. Most of the other crops do not have a commercial transgene at this point. Carrot has not been commercialized yet. Corn is a diploid and is wind pollinated. Those are some of the issues.

Of the transgenic crops, which ones are potential sources of problems for organic production?

The likelihood of GM pollen landing on an organic crop depends on a lot of issues. The popular studies on alfalfa compare leaf cutting bees to honeybees to determine the distance crops should be planted away from each other for best management to minimize gene flow. They look at where the bees start and how far they go. For instance, it is believed honeybees go further than leaf cutting bees. Leaf cutting bees, being small and solitary bees, must go back to the nest frequently to deposit eggs and then feed them with pollen and nectar. The further distance they have to fly, the fewer offspring they will have, because it will take them longer to gather provisions, so it is to their advantage to find resources close to their nest.

What is not being taken into consideration in the distance studies is gene flow where you consider how a pollinator gathers pollen and moves it from flower to flower. In gene flow studies we start observing where the pollinator first starts picking up the GM pollen, and then study their foraging behavior. We try to understand how they spend their energy to get the optimal return. Much will depend on how large a field it is and how many pollinators are in the field. Studies have shown that bumblebees have tendencies for optimal foraging; if there is sufficient amount of food nearby, they will stay in the area, where they will expend the least amount of energy for optimal return, but if there is no food in the vicinity, they will go further for the food they need.

Another consideration is how the fields are laid out, and what is planted in between the fields. Fields can be designed to minimize gene flow to organic production fields. Buffers planted between fields may have the ability to dilute, or cleanse, the amount of GM pollen pollinators will carry. Imagine a pollinator in a GM field. It gathers pollen. Some goes into pollen sacs that will be brought back to the hive, but there will be some remaining pollen on parts of the pollinator's body that will actually touch the stigma of the next plant it visits. Now visualize that the pollinator leaves the GM field and visits non-GM flowers in a buffer area. Every time it visits a non-GM flower, there will be less and less GM pollen distributed, so at some point the GM pollen is gone. We have studied how many flowers it took, on average, to get rid of all of its pollen. For example, if it visited forty flowers in a buffer area but only needed twenty to remove the pollen, then all the GM pollen will not be transferred any further; but if it only visited five flowers in the buffer and flew into an organic field, the potential for the gene flow to be moved into the organic area is greater.

One more thing to consider is flower fidelity. Studies are now being conducted on whether pollinators that start foraging on one species will stay on that species.

We are not sure of the best buffer design. There are two models, one where a GM field is bordered with non-GM plants around it; the other uses a buffer around the organic field planted with non-organic plants. In the first

scenario, the buffer planting would potentially prevent the pollinator from leaving an area so it would get rid of much, if not all, of the GM pollen, decreasing the risk that it carries a lot of GM pollen outside of the designated area. Although we are not sure of the most effective design, trying to modify the behavior of the pollinator to get rid of the pollen before it hits the designated crop needs to be understood.

Will this theory hold for heritage seed saving crops?

It is the same concept for protecting any seed purity: minimize as much of the undesired pollen as possible before the pollinator reaches the target area.

Are there any buffer plants that are more effective in removing the pollen, both attractive to pollinators and "stickier" to collect the extraneous pollen? Is clover a good option?

I don't know if sticky pollen would make a difference.

When it comes to clover, there are many types of clover, some being more attractive as a nectar source than others to different bees. Some are better at attracting bumblebees than honeybees because the honeybees cannot reach the nectar source. The size of the buffer compared to the size of the desired field should also be taken into consideration. Will the bees be likely to change their behavior from collecting clover pollen to pollinating your crop?

In our alfalfa studies, one reason we found honeybees to move pollen further than leaf-cutting bees is due to the alfalfa flower and honeybee behavior. Alfalfa flowers have a tricking mechanism that hits the pollinator when it pollinates. Honeybees don't like that, so they steal nectar from the side of the flower, and don't actually deposit pollen, so they have to visit more flowers before they get rid of their pollen. They may move genes further because they are not pollinating alfalfa flowers. To understand the system, it is important to know both the plants and the bees behave. Focus on your crop and determine what kind of bees visit it in order to find out how to reduce the gene flow into the crop.

How many varieties of pollen will a bee carry? Will bees tend to want to stay on the same crop, so the buffer should be the same as the GM crop? Would they rather visit fifteen different types of flowers in the buffer?

We will be able to tell more next year after one of our studies are completed. The general thought now is that in the wild, pollinators pick the plants they visit because they need something from them. In agriculture, though, we do not give them much choice. Even if honeybees do not like alfalfa, if there are hundreds of acres of it, they are rather forced to forage for resources at hand. If the crop size were smaller and there were more attractive resources nearby, such as rich clover nectar, they would probably leave the alfalfa.

Scent is also another mode of attraction, so that is another way to modify their behavior. It could be used in setting up a system to minimize gene flow.

Whether looking at potential gene movement from the perspective of GM escape or seed purity, it helps to understand bee behavior and the way they forage. In our lab we really emphasize the relationship between bee behavior and gene movement via pollen. We believe the bee will behave differently depending on the landscape, how the fields are planted and what is around the fields. In building a model of gene flow, linking pollinator behavior to gene movement, we follow bees from flower to flower. We will try to simulate the whole process to allow everyone to see how different field types with different plantings around them allow genes to move. This may allow growers to plug in their crop type and optimize their field design, assuming there is collaboration with neighbors on the system. We think it would be helpful to try to understand movement and minimize gene flow patterns we do not want to see.

I have been getting more calls from small rural landowners looking for hives or beekeepers to put a hive on their property. There is a lot of concern about providing good habitats for pollinators. Do you have any suggestions who they should contact and what plants would encourage more pollinators?

The Xerces society has a good website focusing on pollination outreach and conservation. There should be quite a bit of information on plants bees like.

Lately, there has been a movement to attract native pollinators. In the old days, when field sizes were smaller, there was little need to rely on honeybees. Now our fields are extremely large and we have destroyed the native habitat. The monoculture crop will flower for three to four weeks, six weeks if lucky, and then there is no more food

source. If the colony does not have resources for the entire season it will not survive. Flowering plants should be available spring through fall for the honeybees, bumblebees and the thousands of solitary bee species.

There are 20,000 solitary bee species worldwide that pollinate many crops. The species *Osmia* is now being used for fruit production and massive scale almond production. Solitary bees need good nesting grounds and cavities to be encouraged. There is a simple way of putting empty bamboo sticks out for leaf-cutting bees and cavity nesters. Although they are solitary bees, they can aggregate, and this may be used well in agriculture.

Wild bees are good pollinators, and for some crops, they do much better than honeybees. Honeybees are not the ideal pollinator for many crops, but because there are so many more of them they can do well. Honeybees are advantageous because they have huge perennial hives that can be moved, bringing 20,000, 40,000 or 60,000 honeybees to a site without much effort. Bumblebee hives may have 250 workers at a maximum, and being annual bees with only the queen surviving, they are more difficult to manage on a large scale. Solitary bees have a different system, but can be managed for mass production. Depending on the situation, and the field size, with some maintenance wild pollinators will do a great job and save money for farmers if they do not have to rent honeybee hives.

Government grants for farms to maintain native plants around their crops are available.

Transgenic crops: An introduction and resource guide (Colorado State):
http://cls.casa.colostate.edu/transgeniccrops/faqpopup.html
Brunet lab: http://labs.russell.wisc.edu/brunet/research/

ANNOUNCEMENTS

Responding to Horticulture Inquiries

Acquaint UW-Extension agents, educators, office staff and Master Gardener Volunteers with information on UW-Extension diagnostic services, written and web-based horticulture resources, and UW-Extension personnel who can assist in answering horticulture-related questions.

Eau Claire County May 28, 2014, 8:45 AM - 4:45 PM at the Eau Claire County Expo Center , 5530 Fairview Dr., Eau Claire, WI 54701 Eau Claire Program (116 KB, 1 page, PDF)

Please contact Brian Hudelson (608-262-2863) or bdh@plantpath.wisc.edu) to reserve a spot in the Eau Claire County session, or if you have questions.

FINAL NOTES

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 #6 is available at http://www.plantpath.wisc.edu/wivegdis/

Topics covered in the issue include:

Late blight reminders, updates, and a look at Blitecast

Hop downy mildew detected in Portage and Dane Counties

Cucurbit downy mildew-info resources

Vegetable farm field day advertisement (organic and sustainable production)

Responding to Horticulture Inquiries notes

Presentation handouts from the two Responding to Horticulture Inquires workshops have been posted on the WHU website. Scroll down to the bottom of the webpage to find materials.

Responding to Horticulture Inquiries 2014 (UWEX – WHU): http://fyi.uwex.edu/wihortupdate/2014/04/19/responding-to-horticulture-inquiries-2014/

PDDC UPDATE

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

Brian Hudelson, Ann Joy, Erin DeWinter and Joyce Wu, Plant Disease Diagnostics Clinic

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from May 17, 2014 through May 23, 2014.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
BROAD-LEAVED WOODY ORNAMENTALS			
Maple (Japanese)	Verticillium Wilt	*Verticillium* sp.	Dane
Rose of Sharon	Fusarium Canker	*Fusarium lateritium*	Dane
HERBACEOUS ORNAMENTALS			
Phlox (Creeping)	Downy Mildew	*Peronospora phlogina*	Waukesha
NEEDLED WOODY ORNAMENTALS			
Pine (White)	White Pine Blister Rust	*Cronartium ribicola*	Dane
Spruce (Blue)	Rhizosphaera Needle Cast	*Rhizosphaera kalkhoffii*	Washington
Spruce (Norway)	Rhizosphaera Needle Cast	*Rhizosphaera kalkhoffii*	Sauk

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