Wisconsin Horticulture Update July 26, 2013

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WI WEATHER REVIEW

For the week ending July 22, 2013, heat indices were above normal. Minimal precipitation saw areas drying out, although soil moisture had been excessive less than one month ago. Topsoil moistures were 41% short to very short this week, compared to 16% last week.

Across the reporting stations, average temperatures last week were 7° to 10° above normal. Average high temperatures ranged from 89° to 94°, while average low temperatures ranged from 68° to 74°. Precipitation totals ranged from 0.00" in Madison and Milwaukee to 0.68" in Green Bay. (WI Crop Report)

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 898.1 to 1699.6. Following is a list of GDD as of July 26, 2013 for the following cities: Bayfield 898.1, Beloit 1699.6, Crandon 1129.6, Cumberland 1262.2, Dubuque 1600.8, Eau Claire 1413.4, Fond du Lac 1358.8, Green Bay 1272.2, La Crosse 1515.0, Madison 1546.1, Milwaukee 1326.6, Wausau 1226.4. 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. Common lilac first bloom 207; common flowering quince full bloom 208; Sargent crabapple first bloom 213; wafaring tree viburnum first bloom 227; **elm leafminer adult emergence 228**; Koreanspice viburnum full bloom 33; eastern redbud full bloom 254; common horsechestnut first bloom 260; **pine needle scale egg hatch 1st generation 277**; Sargent crab full bloom 282; **eastern spruce aldegid egg hatch 283**; wayfaringtree viburnum full bloom 287; blackhaw viburnum first bloom 301; redosier dogwood first bloom 311; common lilac full bloom 323; **lilac borer adult emergence 324**; Vanhoutte spirea first bloom 329; common horsechestnut full bloom 344; **lesser peach tree borer adult emergence 362**; **oystershell scale egg hatch 363**; blackhaw viburnum full bloom 370 pagoda dogwood first bloom 376; redosier dogwood full bloom 408; Vanhoutte spirea full bloom 429; black locust first bloom 455; pagoda dogwood full bloom 486; smokebush, first bloom 501; common ninebark first bloom 507; arrowwood viburnum first bloom 534; **bronze birch borer adult emergence 547;** black locust full bloom 548; **potato leafhopper adult arrival 568; juniper scale egg hatch 571;** common ninebark full bloom 596**;** arrowwood viburnum full bloom 621; multiflora rose full bloom 643; northern catalpa first bloom 675; **black vine weevil first leaf notching due to adult feeding 677;** Washington hawthorn full bloom 731**; calico scale egg hatch 748; greater peach tree borer adult emergence 775**; northern catalpa full bloom 816; **cottony maple scale egg hatch 851**; panicle hydrangea first bloom 856; **fall webworm egg hatch, first generation 867**; **winged euonymus scale egg hatch 892; spruce budscale egg hatch 894**; winterberry holly full bloom 897; European pine shoot moth adult emergence 900; Fletcher scale crawlers 900; littleleaf linden first bloom 953; **Japanese beetle adult emergence 970**; littleleaf linden full bloom 1115; bottlebrush buckeye first bloom 1158; Ural false spirea first bloom 1170.

INTRODUCTION

The host for today's WHU was Horticulture Educator Diana Alfuth. PDDC Director Brian Hudelson, Insect Diagnostic Lab Director Phil Pellitteri and Fruit Entomologist Christelle Guédot were special guests. Participants in today's discussions were representatives from the following counties: Brown (Vijai Pandian), Kenosha (Barb Larsen), Marinette (Scott Reuss), Marquette (Lyssa Seefeldt), Outagamie (Jill Botvinik), Pierce (Diana Alfuth) Portage (Sophie Demchik), Rock (Christy Marsden), St. Croix (Heidi Doering), Waukesha (Ann Weid), and Winnebago (Kim Miller).

HORTS' SHORTS

Agents report the following issues to be of interest this week: During the past week temperatures have been cool and precipitation has been spotty, again leaving some areas in near-droughty conditions while other areas have remained wet. Fruit issues have been the biggest concern, especially on harvest-ready raspberries that have suspected or confirmed cases of spotted wing drosophila, cane borer and cane blight. Powdery mildew on watermelon and problems with grapes were also noted. Vegetables have been coming in with diverse problems including end rots due to blossom end rot or poor pollination, wilts, potato beetle, squash vine borer and squash bug. Trees have had a variety of concerns from leaf spots, rust, dieback, maple tar spot, maple and ash decline, wooly aphids, spider mites, and emerald ash borer (EAB). In Kenosha Co. EAB was confirmed in the town of Somers; almost every community in that county has now had a confirmed detection. Herbaceous problems include hollyhock rust and other foliar spots. Fungi were growing on mulch.

Black flies have been on the increase in Pierce Co., Japanese beetle populations are up in La Crosse and Brown Counties, and yellow jackets have been showing up in many areas. Phenological indicators and plants in bloom mentioned this week: Monarda, lead plant, rough-leaf sunflower in Portage Co., Monarda, chickory, Queen Anne's lace, purple prairie clover, Turk's Cap lily, bergamont, gray-headed coneflowers, sweet clovers and chickory in Walworth Co.

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.

Tree Diseases

Verticillium wilt is active. One more confirmed sample on Catalpa from Brown Co. was diagnosed.

Some common leaf diseases have been found on oak during moist summers: **anthracnose**, **Monochaetia leaf spot** and **Tubakia leaf spot**. Less common, **leaf blister**, caused by Taphrina, appears as bubbling of the surface on oak leaf tissue.

A ginkgo, usually a trouble free plant, was submitted with a possible root issue, but it also had a leaf disease caused by ***Pseudomonas***. One of the very few diseases that may affect ginkgo, the leaf exhibited a very typical bacterial symptom of necrotic spot surrounded by a yellow halo.

A Scots pine with browning of interior needles was diagnosed with **Cyclasneusma Needle Cast**, a somewhat uncommon disease. It is a distinctive organism seen under the microscope; the fruiting bodies that pop up on the needle surface look like a pair of French doors opening.

Verticillium Wilt (UWEX):
http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Verticillium_Wilt_of_Trees_and_Shrubs.pdf
Anthracnose (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Anthracnose.pdf
Tubakia Leaf Spot (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Tubakia_Actinopelte_Leaf_Spot.pdf
Common Foliage Diseases of Shade Trees in Wisconsin (UWEX): http://learningstore.uwex.edu/assets/pdfs/A2509.pdf
Fungal Leaf Spot Diseases of Shade and Ornamental Trees in the Midwest (UIUC):
http://web.aces.uiuc.edu/vista/pdf_pubs/648.pdf
Cyclasneusma Needle Cast of Pines (Cornell): http://plantclinic.cornell.edu/factsheets/cyclaneusamneedlecast.pdf

Fruit Diseases

Many fruit diseases were seen on samples from fruit crops, especially raspberry and blueberry this week. **Raspberry leaf spot**, a Cylindrosporium disease, presents with very discreet, circular spots on the leaf surface. When the infections are dense enough, it can cause defoliation.

A watermelon came in with possible **blossom end rot** or **poor pollination**, but *Pythium* was isolated that can cause additional **root rot**.

Raspberry Leaf Spot (Iowa State): http://www.ipm.iastate.edu/ipm/hortnews/2011/9-28/raspberryleafspot.html
Blossom End Rot of Tomato (Cornell): http://vegetablemdonline.ppath.cornell.edu/factsheets/Tomato_BlossRt.htm
Poor Fruiting of Vine Crops (Iowa): http://www.ipm.iastate.edu/ipm/hortnews/2013/07-12/fruiting.html

Herbaceous Plant Diseases

Gray mold has been seen on various ornamental herbaceous plants.

Anthracnose and **root rot** was diagnosed on a Turk's Cap Lily.

Gray Mold (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Gray_Mold_Botrytis_Blight.pdf
Anthracnose (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Anthracnose.pdf
Root Rots in the Garden (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Root_Rots_in_the_Garden.pdf

Vegetable Conditions

Many vegetables with ends rotting have been seen; it is not quite clear whether the conditions are due to **blossom end rot** or **poor pollination**.

Blossom End Rot of Tomato (Cornell): http://vegetablemdonline.ppath.cornell.edu/factsheets/Tomato_BlossRt.htm
Poor Fruiting of Vine Crops (Iowa): http://www.ipm.iastate.edu/ipm/hortnews/2013/07-12/fruiting.html

Herbicide Damage

Herbicide injuries may be at fault in some of the samples brought in. A tomato came in that was very distorted. An *Amelanchier* sample looked as if it were hit with a growth regulator as well as some other active ingredient.

Herbicide Damage (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Herbicide_Damage.pdf

Questions

Tar Spot

We are seeing maple leaves with yellow spots with necrotic centers. What might that be caused by?

Early symptoms of **tar spot** on maple, especially Norway maple, will start as yellow areas with a tiny, tarry, black spot in the center that can be seen under the microscope. That tiny spot is the fruiting body that will enlarge as the disease progresses. More spots will occur, they will enlarge and coalesce into large tar spots. Tar spot has been a problem in the state the last few years.

Tar Spot (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Tar_Spot.pdf
Tar Spot of Maple (OSU): http://bygl.osu.edu/content/tar-spot-maple-0

Canker disease

A mature, Golden Raindrops crabapple flowered and leafed out beautifully this spring and suddenly, one large branch collapsed. I checked for girdling roots and animal damage at the base but there was no evidence of either. The only thing I suspected was fireblight, but would that disease take out an entire branch?

Fireblight is a progressive disease, starting at the tip and going back, usually not causing a sudden collapse. It is possible a **canker disease** lower down the branch could have established enough to eventually girdle the branch, causing its collapse. Look for a canker that may be a distinct discolored or sunken area, or something very subtle. If there is little to no sign of distinct cankers, surprisingly with incubation one or more fungal fruiting bodies may pop out of the wood.

Fungal Cankers of Trees (Iowa DNR): http://www.iowadnr.gov/portals/idnr/uploads/forestry/fungalcankers.pdf

Stress and disease

Do you see a lot of correlation between last year's drought and the prevalence of cankers this year?

In my years in the lab we have observed that there are more canker submissions after trees have been under a variety of stresses. There haven't been formal studies, but my observations have been that trees seem to be more susceptible to canker diseases after events like last year's.

Drought Stress and Tree Diseases (UIUC): http://hyg.ipm.illinois.edu/pastpest/200710a.html

Hickory brooms

Has there been any follow-up to the witches broom on hickory submitted from Kenosha last week?

The PCR test for phytoplasmas on the available tissue came back negative, but we will request a fresher branch and root sample.

Maple decline

We are continuing to get calls on maple decline in Brown Co. Is that being seen anywhere else?

An interesting sample of dieback on a maple came in from Dane Co. The branch had reduced vigor, the distorted leaves were reduced size, and tufts and light spots on the leaf appeared to have mosaic issues, possibly caused by a viral infection locally affecting the branch. Look for distorted leaves and subtle mosaic patches on the maples that are dying back in your area.

Maple Decline (Cornell): http://plantclinic.cornell.edu/factsheets/mapledecline.pdf

SPECIALIST REPORT: Insect Diagnostic Lab Update

Presented by Phil Pellitteri, Distinguished Faculty Associate, UW-Madison Department of Entomology and Director, UW-Extension Insect Diagnostic Lab pellitte@entomology.wisc.edu

Weekly Insect Update

Black fly complaints are high this year. Very unpredictable, these insects are not influenced by any weather pattern. Primarily stream and river breeders, they have a stable environment of temperature and moisture conditions. Although not typical, it is not unusual for the 24 species of black flies in the state to hatch, one species after another, as they seem to be doing this year. Many of them are bird-biters, but some prefer humans; depending on your location, there can be combinations of them.

It is the normal trend for **bees and wasps** to become more numerous this time of year.

There was a possible sample of **cicada killer** from Brown Co.

Spider complaints are more numerous.

Black flies (UMN): http://www.extension.umn.edu/yardandgarden/ygbriefs/e601blackflies.html
Wasp and Bee Control (UMN): http://www.extension.umn.edu/yardandgarden/ygbriefs/e601blackflies.html
Pollinators (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Pollinators.pdf
Insect ID Wasp and Bee (UW)- http://www.entomology.wisc.edu/insectid/waspbee.php
Cicada Killer Wasps (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Cicada_Killer_Wasps.pdf

Questions

Lack of pollinators

In Marinette, Oconto and Florence Counties, we are experiencing a lack of pollinators. Is that being seen statewide?

The lack of pollinators has been noticed statewide. It is speculated that the stress of last year's drought decreased populations so they started out with lower numbers, and the coolness this year has slowed them down. It just is not a good year for them.

Pollinators (UMN): http://www.entomology.umn.edu/cues/pollinators/

Special Topic: Spotted Wing Drosophila

Presented by Christelle Guédot, Assistant Professor, Fruit Crop Entomologist, Extension Specialist guedot@wisc.edu

History

Spotted wing drosophila (SWD), *Drosophila suzukii*, is an invasive species from Japan. It was introduced to California in 2008 and spread quickly up the West Coast. In 2009 it was found in Florida and moved up quickly. The first SWD in Wisconsin was documented in 2010. It was rather quiet for this pest in our state in 2011, but in 2012, the population exploded, creating much damage for raspberries and other crops.

Identification of SWD Adults

Males

The males have one rather large dot on the upper side of each wing, not at the tip. If the specimen is old, the dot may be faint but still recognizable. They have two dark bands of hair on each of their yellowish forelegs, characteristic of SWD males.

Females

The female SWD do not have spots on their wings, so they are not as easily identified by the naked eye. They do have unique serrated ovipositors, egg-laying structures. Their characteristic ovipositors have two rows of teeth that will cut a slit in the firm skin of the fruit, allowing the female to attack fruit that is perfectly sound and lay eggs under the skin of the fruit. Under the microscope it is easier to identify because the ovipositer is so unique.

The fly is 1/16 to 1/8” long.

Life cycle

SWD prefer moderate temperatures around 65°-70°F. They have a 12-day generation time, depending on the weather. The female can lay up to 350 eggs, laying 1 -3 eggs at a time in a fruit. The eggs will hatch within 1-3 days. The larvae will take 5-7 days to go through three larval instars, the final, and largest, instar larvae is about 1/8” long. They will pupate and come out as an adult.

The females can lay eggs one day after they emerge. Although not documented, it is expected they may have ten to twelve generations in the state. There are no distinctions between generations, so they keep emerging and continuing their life cycles, making it difficult to determine how many generations we will have in Wisconsin.

Due to the females’ unique saw-like ovipositers they are able to attack firm, barely ripened fruit, unlike other *Drosophila* that are only able to take on damaged or softened fruit.

Crops at risk

Soft berry fruit are most at risk for damage from SWD. Raspberries are the preferred host, but blueberries, blackberries, strawberries, cherries, nectarines, peaches and grapes are all hosts. Grape varieties may have more moderate susceptibilities; this is being researched by UW-Madison. Apples will be attacked only if they are already compromised.

Alternate hosts

If a plant has a soft fruit, it will be targeted as an alternate host. Elderberry, pokeweed, dogwood, honeysuckle can be potential SWD alternate hosts.

Fruit symptoms

Initially a sunken spot will be seen on the soft berry fruit; it may look soft and possibly lighter colored. Looking at it very closely, the egg may be seen under the surface of the skin, with a breathing tube on the outside of the fruit. The breathing tubes are very short, white filaments coming out of the berry. The fruit will begin to soften as the larvae begin to feed, the tissue will scar, the berry will become very juicy and the berry will finally collapse.

SWD overwintering range

It is not certain whether SWD overwinters in Wisconsin, but the suspicion is affirmative. Other states that have questioned the cold hardiness of the insect have been disappointed to find them surviving the colder winters. There is no way to determine whether they are overwintering unless adults are caught during winter, as they have been in southern states. The eggs and larvae probably are not cold-hardy, but it is likely the adults can hide in protected areas to survive winter. Even with winter mortality, the small population of flies that survive will increase with warming temperatures.

SWD proliferate between 65°and 70°. Temperatures 10° to 15° colder or warmer will slow down the populations. Normal summer high temperatures of 85° and higher will probably keep the numbers low, but with cooler fall temperatures, the populations will explode.

Checking for SWD larvae in fruit

To check for SWD larvae in suspected, firm, intact fruit, put the fruit in a plastic bag filled with soapy water. As the fruit sits, the little white larvae will float to the top. As long as the fruit stage was firm, intact and not soft or damaged, the larvae found would most probably be SWD.

Another method to check for SWD is to put the suspected fruit in a Ziploc bag and let the adult emerge. Put the bag with the adult in the freezer to kill it and then identify it or send it to Christelle or Phil.

At this current time in raspberry development, mostly likely any *Drosophila* found in fruit is SWD.

Identifying larva

Most fly larvae have two flat spiracles, button-shaped breathing organs, on their back ends. On the flat back ends of the *Drosophila* species, the spiracles are stalked, sitting above the abdomen. There are 119 species of *Drosophila,* and there is no way to tell the species apart in the larvae form. If a Drosophila larva is found in an early stage of a soft berry, and it is discoloring the berry, it is most probably SWD. If fruit is being attacked after becoming soft and decayed, it would be much too difficult to determine which *Drosophila* larvae was involved.

Management

Monitoring

At this time, no monitoring device has been developed that can warn of the presence of SWD adults before eggs are laid and larva attack the fruit. It is not surprising, because overwintering adults can lay eggs as soon as they emerge, since they have either mated before overwintering or are ready to mate as soon as they emerge.

A technique used to monitor for SWD already in the field is to use a covered 32 oz. clear deli container, drilled with ten - 3/8” holes near the upper rim. Place 1” of bait in the cup. Apple cider vinegar may be used as bait, but has performed unsatisfactorily. A bait mixture made up of 1T active dry yeast, 4T sugar, and 1 drop unscented soap to 12 oz. water has been used with better success. UW-Madison, along with nine other state institutions, is in the process of testing new formulas of baits. Hang the traps in the shade, in the fruiting area. Change the bait weekly. When disposing of the bait liquid, do not pour it in the area of growing fruit, because it will continue to attract flies.

The minimum number of baited traps is 1 trap per acre for vinegar bait; or 1 trap per 5 acres for the yeast - sugar bait.

The best detection period is when the fruit is just beginning to ripen.

Control

When SWD has been detected in a susceptible fruiting area, control action must be started immediately. For this new invasive pest, research is on-going to determine the best control methods. Currently there is no action threshold for SWD, so if a fruit crop is susceptible and SWD is in the crop, it is time to take action.

Increase monitoring to see where SWD is in the field, and check traps more frequently to see how the population is changing.

When SWD is detected, begin using insecticides and continue until harvest is completed, taking into account pre-harvest intervals.

Cultural controls

For small strawberry areas, covering the crop with very fine mesh netting before flies are detected will be effective.

For other susceptible crops and large areas, it will be important to schedule timely harvests, especially for berry crops that continually produce fruit. Harvest every other day to prevent fruit from over-ripening on the plant or dropping on the ground. Remove all good fruit and separately collect damaged, over-ripened, or infested fruit. If any ripened fruit is left on the plant or lies fallen to the ground, the adult SWD will use the fruit to increase the population.

Ripened, damaged and infested fruit must be disposed of properly. Composting is not an option; compost temperatures may increase SWD larval development. For small amounts of fruit, the fruit may be bagged, tightly sealed and left in the sun to solarize the fruit and larvae. To destroy very large amounts of fruit, pile fruit in sun and cover with clear plastic sheeting, completely securing edges with soil, to solarize. Damaged and infested fruit may be buried at least two feet below ground; if not deep enough, the flies may escape. Infested berries have been fed to chickens, but it is not sure whether that is an adequate solution to removing the insects.

Insecticides

Recommended insecticides are listed on the UW-SWD website. Additionally, lists of recommended insecticides per crop with short pre-harvest intervals will be available shortly and sent to county agents. An important consideration, especially for pick-your-own fields, is the pre-harvest interval for spraying insecticides.

Recommended spray intervals are every 4–5 days. This will be quite difficult for growers, especially pick-your-own operations, who have not sprayed their fruit before. Spraying will be the only option if a fruit crop is desired at the end of a season.

UW-Madison 2013 monitoring project

Working with county agents and growers across the state, UW-Madison has been using apple cider vinegar traps to monitor for the presence of SWD. Updates for confirmed detections have been mapped.

Graduate student Emma Pelton has been studying the landscape ecology of SWD, looking at the effect of woodlands near raspberry patches to see if there is a higher incidence of SWD near potential woodland overwintering sites. While using the yeast-sugar bait in her study, it was found that the bait has been catching more flies, and earlier, than the apple cider vinegar bait used in the statewide monitoring project.

Wisconsin counties with SWD

Confirmed detections of SWD have been in Crawford, Sauk, Iowa and Door Counties. Suspected presence of SWD larva in fruit or adults is in Jefferson, Washburn, Bayfield, Pierce, Wood and Kenosha Counties.

UW-Madison SWD website

There is a dedicated website to spotted wing drosophila in Wisconsin: http://labs.russell.wisc.edu/swd/

It includes information on the insect biology, its impact, management, resources and the UW-Madison monitoring project. Maps indicating the confirmed and suspected presence of SWD are updated weekly.

Resources

Insecticide recommendations by crop, presentations, and pdf factsheets are available. Contact Christelle.

Questions

SWD dispersal

How are these insects dispersed and how far do they travel?

The distance they can move, especially with strong winds, has not been verified. It is suspected that they are not being blown in and are believed to be overwintering in Wisconsin because they have been found in the same areas this year as they were found in last year. In addition, they have shown up all over the state. It is believed they are here to stay.

SWD pupation

Can the larvae come out of the berries that have fallen and burrow into the ground?

They can pupate in and out of the berries, they do not need soil to pupate.

Handling samples

How should the rotting fruit samples with potential SWD larva be handled?

We are still learning how to treat samples. It has been determined it is not good to keep decomposing fruit samples with the larvae in a plastic bag because the larvae can drown and die in the fermenting juice. Piercing the bag with very tiny holes to drain the liquid but not lose the larva may be appropriate. In the U. of North Carolina lab, they suspend a container with a fine mesh bottom to drain liquid from the fruit. We are also learning that if the pupae are not pulled out of the fruit, fewer adults will emerge; the species tends to seek high, drier areas to pupate.

Spotted Wing Drosophila (UW-Madison): http://labs.russell.wisc.edu/swd/
Spotted Wing Drosophila (Oregon): http://spottedwing.org
Spotted Wing Drosophila (MSU): http://www.ipm.msu.edu/invasive_species/spotted_wing_drosophila
Spotted Wing Drosophila: A New Threat to Tender Fruit Crops (OMAFRA):
http://www.omafra.gov.on.ca/english/crops/facts/pest-alert-swd.htm#id

ANNOUNCEMENTS

July 30: WI Turfgrass Field Days. AJ Noerr. For general information on Turfgrass Field Days:
http://www.wisconsinturfgrassassociation.org/Field_Day.htm

August 1: WI Commercial Flower Growers Assn. summer meeting at West Madison Ag Research Station

August 7: Trial Garden and Plant Health Field Days at Boerner Botanical Gardens
http://counties.uwex.edu/waukesha/files/2010/12/2013-PHFD-Brochure-small.pdf

August 7: UW Day at the Fair, State Fair Park, Milwaukee

August 8: WNA Field Day http://www.wgif.net/wna-wisconsin-nursery-association.aspx

August 20: Annual Twilight Garden Tour, Spooner Agriculture Research Station

August 20 – 22: Diagnosing Tree/Shrub Diseases & Pests Workshops sponsored by Winnebago, Outagamie and Brown Co. UW -Extensions. http://winnebago.uwex.edu/files/2010/05/2013-Insect_Disease-Brochure.pdf

FINAL NOTES

The next WHU will be held on August 2 at 9:30 AM. The host will be George Koepp. The special guest will be Mark Dwyer to speak on shade perennials.

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 Science http://turf.wisc.edu/

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 http://turf.wisc.edu/

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

Topics addressed in newsletter #13 are:

- Vegetable Crop Updates
- DSVs/Blitecast for late blight management
- PDays for early blight management in potato
- Cucurbit downy mildew status
- Early season indication of how well ESN has performed in 2013

UW Vegetable Pathology Updates: http://www.plantpath.wisc.edu/wivegdis/#updates

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 July 20, 2013 through July 26, 2013.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
BROAD-LEAVED WOODY ORNAMENTALS			
Catalpa	Verticillium Wilt	*Verticillium* sp.	Brown
Crabapple	Apple Scab	*Venturia inaequalis*	Fond du Lac
Ginkgo	Pseudomonas Leaf Spot	*Pseudomonas* sp.	Dane
Oak (Unidentified)	Anthracnose Leaf Blister Monochaetia Leaf Spot Oak Wilt Tubakia Leaf Spot	*Discula* sp. *Taphrina caerulescens* *Monochaetia* sp. *Ceratocystis fagacearum* *Tubakia* sp.	Sheboygan Sheboygan Waukesha Pierce, Walworth Outagamie
FRUIT CROPS			
Apple	Black Rot	*Sphaeropsis* sp.	Pierce
Raspberry	Raspberry Leaf Spot Root Rot	*Cylindrosporium rubi* *Rhizoctonia* sp., *Fusarium* sp.	Grant Bayfield
HERBACEOUS ORNAMENTALS			
Stachys	Gray Mold/Botrytis Blight	*Botrytis cinerea*	Portage
Turk's Cap Lily	Anthracnose Gray Mold/Botrytis Blight Root Rot	*Colletotrichum* sp. *Botrytis cinerea* *Rhizoctonia solani, Pythium* sp.)	Dane Dane Dane
NEEDLED WOODY ORNAMENTALS			
Pine (Scots)	Cyclaneusma Needle Cast Diplodia Shoot Blight and Canker	*Cyclaneusma minus* *Diplodia pinea*	Sheboygan Sheboygan
VEGETABLES			
Horseradish	Root Rot	*Fusarium* spp., *Pythium* sp.	Dunn
Tomato	Herbicide Damage Septoria Leaf Spot	None *Septoria lycopersici*	Barron Dane
Watermelon	Pythium Fruit Rot	*Pythium* sp.	Waushara

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