Wisconsin Horticulture Update Summary, May 24, 2013

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WI WEATHER REVIEW

For the week ending May 20, 2013, temperatures in the 80s and 90s warmed soils and nudged fruit trees and vines into blossom. Wet spots remained in many areas delaying planting.

Across the reporting stations, average temperatures last week were normal to 2° above normal. Average high temperatures ranged from 65° to 75°, while average low temperatures ranged from 44° to 49°. Precipitation totals ranged from 0.16" in Eau Claire to 0.86" in La Crosse. (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 114.9 to 433.9. Following is a list of GDD as of May 24, 2013 for the following cities: Bayfield 114.9, Beloit 433.9, Crandon 225.9, Cumberland 229.1, Dubuque 383.2, Eau Claire 275.2, Fond du Lac 276.4, Green Bay 228.9, La Crosse 313.8, Madison 351.8, Milwaukee 266.1, Wausau 252.4. To determine the GDD of any location in Wisconsin, use the degree-day calculator on 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 233; 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; common ninebark first bloom 507; **bronze birch borer adult emergence 550**..

INTRODUCTION

The host for today's WHU was Milwaukee consumer educator Sharon Morrissey. PDDC Director Brian Hudelson and insect diagnostician Phil Pellitteri were special guests. Participants in today's discussions were representatives from the following counties: Douglas (Jane Anklam), Eau Claire (Erin LaFavre), Marinette/ Oconto/ (Scott Reuss), Milwaukee (Sharon Morrisey), Outagamie (Jill Botvinik), Pierce/ St. Croix (Diana Alfuth), Portage (Sophie), andWaukesha (Kristin Krokowski).

HORTS' SHORTS

Agents report the following issues to be of interest this week: Temperatures have bounced around from the high eighties to near-freezing, with rain and high winds this past week, compressing bloom times and abbreviating flowering. Bees and other pollinators have been absent from orchards and gardens raising concerns about pollination and fruit production. Insect pests, other than mosquitoes and a few eastern tent caterpillars seem to be at a lull. Extensive damage caused by wildlife pests to trees and shrubs in the northern areas has been detected after the recent late snowfalls.

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

Bees

Honeybee numbers are down about 30%, which is typical for a bad winter. It has been noted, even in areas of full blooming trees and shrubs, that all bee populations seem to be low this year. In cooler weather, mason bees may be flying, but until it warms up, the other bees may be slow in coming out. It may be a poor year for pollination.

Honeybees Under Threat: a Political Pollinator Crisis (UW): http://www.guardian.co.uk/science/political-science/2013/may/08/honey-bees-threat-political-pollinator-crisis
National Honey Report, May, 2013 (USDA): http://usda.mannlib.cornell.edu/usda/ams/FVMHONEY.pdf

Mosquitoes

Mosquitoes have been out and active in the southern areas and in the far north. With the increased rainfall this year, more activity is to be expected.

Integrated Mosquito Management (UW): http://labs.russell.wisc.edu/mosquitosite/

Early pests

Insects that overwinter as adults benefited from the prolonged snow cover this winter and have already been reported active in gardens; strawberry flea beetles, asparagus flea beetle and strawberry rootworm are out. Butterfly numbers are low but that is to be expected since there were many in fall; they may rebound with warmer weather. Reports of tent caterpillars are have been low.

Flea Beetles (UWEX): http://learningstore.uwex.edu/Assets/pdfs/A3720-E.pdf
Eastern Tent caterpillars (UWEX): http://learningstore.uwex.edu/Assets/pdfs/A2933.pdf

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.

Edema

A geranium sample was identified with edema, a physiological disorder. The problem is not uncommon with herbaceous plants grown in greenhouse settings that are very moist, with relatively cool temperatures and under cloudy conditions. Because the plants do not transpire heavily in those conditions, they build up extra moisture internally. To handle the extra moisture they grow little masses of plant cells in the surface of the leaves or other plant parts; those areas eventually dry up and get crusty. Geranium is a very good host for that particular problem. When temperatures warm up, the problem will go away.

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

Impatiens Downy Mildew

Impatiens with downy mildew was submitted form Monroe county. It is suspected the problem will be found in other areas of the state as well.

Impatiens Downy Mildew (UWEX):
http://labs.russell.wisc.edu/pddc/files/2013/05/ImpatiensDownyMildewMGNewsletterArticle.pdf

Penicillium Bulb Rot

A hyacinth bulb sample from the UW campus came in with classic bulb rot symptoms. The deteriorating bulb was cultured and found to have *Penicillium*. The problem is often found in containers where bulbs are replanted year-after-year and the fungus builds up. Management entails replacing the soil and very carefully decontaminating the edges of the container with 10% bleach.

Blue Mold Rot (Purdue): http://www.ppdl.purdue.edu/ppdl/weeklypics/4-15-13.html

Chlorosis

An amsonia plant was submitted, presenting with bright yellow leaves, veined in green, and with pink flowers. A normal amsonia plant stem was brought in for comparison; it had green leaves and blue flowers. In this case of

chlorosis, the plant flower color exhibited an effect similar to hydrangea grown in alkaline conditions. It was recommended to dig under the plant to see if there was a limestone boulder raising the soil pH in that soil pocket.

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

Herbicide Damage

A Joe Pye weed plant was submitted showing cupping and yellowing. The symptoms were attributed to herbicide drift.

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

Purpling Needles on Spruce

Q: A *mature Colorado blue spruce exhibiting purpling of the foliage from the tips inward where the whole branch is purple, can that be attributed to drought?*
A: Trees that show purpling from the tip back have some type of water stress. If it is an individual branch, look for possible cankering infections on that branch that may be limiting the water movement to the tips. If it is more centralized through the tree, it could be attributed to drought, or overwatering, which promotes root rot development that destroys root tissue to the point the tree cannot take up water.
Q: *If it is due to the drought last year and not being watered appropriately, would the tree continue to decline if it were carefully maintained now?*
A: It really depends on how far along it was before the tree did get water. If it was caught early, the tree could recover; if it was dry for some time, it may have the hit the point of no return.

Purple Needles on Spruce Trees (WSU): http://county.wsu.edu/benton-franklin/gardening/general/Fact%20Sheets/Purple%20Needles%20on%20Spruce%20Trees.pdf

SPECIAL TOPIC: Disease Predictions for 2013

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

A Powerpoint accompanied this discussion. It can be found at http://labs.russell.wisc.edu/pddc/disease-predictions-for-2013/

Disclaimer: I will probably be wrong with these predictions. Every year I put together a list of things I think will be big and usually I am not particularly accurate. If I was, I might be playing the lottery or stock market!

Carry-over Drought Stress

Expect carry-over drought stress issues from last year, especially on conifers. Browning and purpling of needles will be evident on conifers, not only due to the dry summer but also the dry fall. This type of drought stress is not unusual in dry falls when supplemental watering has been discontinued in September; if trees don't have sufficient water internally in fall to carry them through winter, they dehydrate. Driving along the interstate, between Milwaukee and Madison, conifers along the highway show noticeable brown needles, most probably due to drought stress, although salt injury may cause similar symptoms.

Symptoms of drought stress on conifers include purpling of foliage on hosts like Colorado blue spruce, junipers or other evergreens. The symptoms indicate the start of drought stress problems but if alleviated early enough, the plants often will often recover.

Yew winter injury is another a water stress dehydration issue. Yews are very sensitive to not holding enough water over winter. In the spring as needles start to warm up but roots are still cold, there may not be enough water stored internally when they start to transpire; needles will dry out and brown because they cannot regenerate the moisture they need from the root system.

Boxwood may also have issues of dehydration with winter injury causing branch tips to be bleached, often across the entire canopy of the plants. This symptom may be attributed to insufficient watering in fall. Another cause may be rodent damage; when rodents chew on the base of the plant removing the bark, it interferes with water uptake. If individual branches bleach and die back, the cause may be Verticillium wilt. Another problem to look for is a new disease detected in the eastern U.S., boxwood blight, presents with branch die back, and discreet, dark lesions on leaves or stems. Box blight has not been found in Wisconsin; if it is suspected, send samples to the PDDC.

To manage drought related injuries, water appropriately. Most woody ornamentals and herbaceous plant require an inch of water per week either from natural sources or supplemental watering. Conifers need water through the growing season into fall, when the ground freezes or there is sufficient snowfall. Apply mulch to the dripline of trees and shrubs; one- to two-inches on heavier clay soils, three- to four inches on sandier soils. It is recommended to remove the turf to the dripline in order to alleviate any competition for water; turf will outcompete other plants for water. Avoid placing mulch up to the trunk or crown of plants because it creates a moist environment that can be conducive for more serious diseases.

Drought and Watering of Ornamental Plants (UWEX): http://green.uwex.edu/files/2012/07/Drought-and-Watering.pdf
Boxwood blight (CT):
http://www.ct.gov/caes/lib/caes/documents/publications/fact_sheets/plant_pathology_and_ecology/boxwood_blight-_a_new_disease_for_connecticut_and_the_u.s._12-08-11.pdf
Verticillium Wilt (UWEX):
http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Verticillium_Wilt_of_Trees_and_Shrubs.pdf

Diplodia (Sphaeropsis) Tip Blight

A disease that will likely be on the increase, due to last year's drought, is Diplodia tip blight, formally known as Sphaeropsis tip blight. Austrian pine is a primary host, although other pines, conifers and even deciduous trees have variations of this disease. There is good documentation in scientific literature that this disease tends to increase when trees are under drought stress, especially for Austrian pine. Moisture is needed for the fungus to infect, but once the infection occurs, drought stressed trees are more prone to rapid movement of the infection through tissue causing a more severe case of the disease. Diplodia tip blight is a canker disease; expect to see a general increase in other canker diseases when trees are under stress.

Symptoms of Diplodia tip blight on Austrian pine are dieback, excessive sap production, and uneven needle length at the tips of the branches. When the fungus infects it kills off some of the needles early and other slightly later, leaving some to expand. Examining the shorter needles under a microscope will help with partial diagnosis. Look at a portion of a needle under the needle sheath for little brown structures that pop up through the needle; those are the *Diplodia* fungus fruiting bodies. The fruiting bodies, when crushed on a microscope slide, produce very, very dark pigmented and relatively large sized spores that can be seen under a compound microscope.

Management of Diplodia tip blight includes the recommendation to stop planting Austrian pine because it is so susceptible to the disease, limiting its aesthetic usefulness in the environment. For existing trees, prevent stress, particularly water stress by watering with soaker or drip hoses to avoid wetting needles. Thin branches to increase airflow so needles dry faster after getting wet from dew or rain; the fungus initially infects through wet needles. One of the worst scenarios is to have conditions of lots of rain, allowing initial infection, followed by a hot dry period allowing the fungus to move down the tree. Prune out diseased branches to prevent movement of the fungus from the branch to the main trunk where it can girdle the trunk killing the tree. Remove cones that have fallen to the ground; they are often infected with the fungus.

If desperate, after the diseased branches have been pruned from the trees and the trees are properly watered, fungicide treatments may be tried. Many of the products are available only to professionals. Homeowners have had success controlling the disease by alternating applications of products containing thiphanate methyl and chlorothalonil, applying from budbreak through shoot elongation at fourteen-day intervals, but only when paired with proper environmental modification.

Alternating the application of at least two different fungicide active ingredients with different modes of action will provide control for possible pathogen variants that may occur and reduce fungicide resistance. To determine what

mode of action any fungicide has, check the FRAC (fungicide resistance action committee) code listing. Choose products with different FRAC designations when alternating fungicide products for any fungal disease.

Diplodia Shoot Bight and Canker (UWEX):
http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Diplodia_Shoot_Blight_and_Canker.pdf
FRAC: http://www.frac.info

Aster Yellows

Three factors accounted for the tremendous success of aster yellows in the state in 2012: there was a huge influx of aster leafhopper, the insect that carries the phytoplasma causing aster yellows; the aster leafhopper entered the system very early last season; and the percentage of leafhoppers carrying the phytoplasma was abnormally high – 10% as opposed to the more normal 1% to 2%. The impact was noticeable everywhere in the state including the coneflower trials at Boerner Botanical Gardens that were wiped out by the disease.

The organism was named aster yellows because it was first described on plants of the aster family, but the pathogen can affect a very wide host range of plants; three to four hundred species and about forty plant families are susceptible. Not only on ornamentals, the pathogen can also be found on carrots and potatoes.

Symptoms of aster yellows can be foliar yellowing, growth distortion such as twisting of petioles or leaves, and abnormal leafy, greenish flowers. Other unusual symptoms may be the presence of a bouquet of secondary flowers, or brooms, erupting through the cone on a primary flower; pigtailing of a flower stalk; or the formation of a wide flat stem, known as fasciation. On carrots, an abundance of fine hairs on the taproot and an off-flavor are caused by the phytoplasma. Potatoes infected with aster yellows will form aerial tubers or small potatoes on the stem.

There is no effective control for aster yellows once a plant is infected. The phytoplasma collects in the roots of the perennial plants in the fall and re-colonizes each spring. The plants must be removed. Leafhopper control is impractical for managing this disease; if leafhoppers are killed in one location, more will come in from other areas.

The northern regions of Wisconsin on the southern border of Lake Superior tend to have good examples of aster yellows in most years because the leafhoppers cannot cross the lake as they move north. They concentrate and settle in the southern lakeshore causing a higher transmission of the phytoplasma.

Aster Yellows (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Aster_Yellows.pdf
Aster Leafhopper (UWEX): http://learningstore.uwex.edu/assets/pdfs/A3679.PDF

Tar Spot

Tar spot was initially found in the eastern counties bordering Lake Michigan, but it seems to be moving west and north, having been found in Eau Claire and farther north. With the cool, wet spring in 2013 and plenty of innoculum from 2012, this will probably be a fairly common disease.

Tar spot, caused by the fungus *Rhytisma acerinum*, an introduction from Europe, was particularly heavy on Norway maple last year. On Norway maple the large spots are not solid black but a convergence of smaller black spots merging to form a larger spot. They initially start out very localized and very punctate. The symptoms of tar spot caused by *Rhytisma americanum* on silver maple are very large, solid, tarry-looking spots on the leaves, often the size of a quarter. In the center of the spot is a thumbprint type of pattern where the fungus produces spores in the ridges. If the disease occurs early enough and there enough spots per leaf, portions of the leaf can collapse and dry up, causing some defoliation.

When considering management for this disease, the first recommendation is not to panic; tar spot does not cause much severe damage, it is considered a cosmetic disease. The most important thing is sanitation, cleaning up the infected leaves in fall; the fungus will survive over winter in any infected leaves left on the ground, providing innoculum the next year.

Fungicide treatments are available but not recommended unless there is a particularly sensitive tree to protect. Apply three applications of copper-containing products; at budbreak, when leaves are half-expanded and at full-leaf expansion.

Tar Spot (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Tar_Spot.pdf

Anthracnose

With the cool wet spring this year, anthracnose will be expected on trees and shrubs. *Gloeosporium* spp., *Collectotrichum* spp., and other fungi can cause the disease. The most common hosts are maple, oak, especially white oak, and ash but anthracnose can occur on almost any plant other than conifers.

Symptoms of anthracnose are browning on the leaves in a random pattern. If it occurs early enough in leaf development, it can cause leaf distortion where some of the tissue dies but if the leaf is not fully expanded yet the living tissue will expand around the dead area. On white oaks the damage is often high enough to cause defoliation, but the trees typically re-foliate by the middle of July. It can cause branch dieback on sycamore.

Anthracnose on maples causes localized dark spots on leaves, but other diseases may also cause spots. Reports have come in from areas south of Wisconsin on maple leaf blister, a disease related to peach leaf curl, cause by the fungus *Typhrina*. In Iowa, maple has been detected with Venturia leaf spot, a disease caused by a fungus similar to the one causing apple scab. In general, the environmental conditions this year are good for a variety of leaf diseases on trees and shrubs.

The recommendation for management of anthracnose and other leaf diseases is not to panic. Remove diseased leaves in fall to remove the overwintering site for the fungi. If someone is absolutely desperate for fungicides, products are available, but consider alternating between two or more active ingredients. Make three applications; at bud break, at half-leaf expansion, and at full-leaf expansion.

Anthracnose (UWEX): http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Anthracnose.pdf
Maple Leaf Blister: Black Leaves on Maple Explained (Iowa State): http://www.ipm.iastate.edu/ipm/hortnews/2009/6-3/leafblister.html
Leaf Blister on Maple – Not Anthracnose (UMN): http://www.ipm.iastate.edu/ipm/hortnews/2009/6-3/leafblister.html

Impatiens Downy Mildew

This disease has received much press since it hit the eastern U.S. last year. Impatiens downy mildew (IDM) is caused by *Plasmopara obducens*, the same genus that causes downy mildew on grapes, but the species is specific to impatiens. The standard garden impatiens (*Impatiens walleriana*), balsam impatiens (*I. balsamina*), and the native jewelweed (*I. pallida* and *I. capensis*) are susceptible to this disease. New Guinea impatiens (*I. hawkeri*) has a fair level of resistance or tolerance to the disease.

Impatiens downy mildew, and other downy mildews, prefer cool temperatures between 59° and 73°, long leaf wetness periods, and high humidity.

The symptoms of this particular downy mildew include yellowing of leaves, sometimes stippled as if they had mite feeding; cupping and curling downwards; and defoliation. A sign of IDM is white fuzzy sporulation on the bottom surface of the leaf, not the top surface (sporulation on the upper surface is more likely to be powdery mildew). With a hand lens, little stalks that bear sporangia, spore-like structures in little clusters, can be seen. With a compound microscope, an oblong spore can be seen on little structures that look like antlers.

If IDM is suspected, send it to the PDDC; diagnosis for this particular disease will be offered free of charge this year as a public service to document the presence of the disease throughout the state. If the sample submitted is not IDM, a standard test to diagnose the problem will be carried out. If additional testing is required above standard testing for the sample, fees will be charged over the free $20 test.

One of the initial recommendations for management of impatiens downy mildew is to diversify plantings. Using a wide range of bedding plants will reduce the severe problem of losing all plants when disease strikes.

Diversification tends to break up and sometimes will prevent the spread of pathogens allowing other ornamentals that are not susceptible to the disease to fill in. Use New Guinea or hybrid impatiens which resist IDM when possible. If traditional garden or balsam impatiens are used, carefully inspect plants for IDM symptoms prior to purchase and isolate them in a holding area for two weeks before planting to see if they develop symptoms. Keep plants from different sources separated so if one source has IDM its spread will be limited. Rotate impatiens plantings every year so the long-lived resting structure, the oospore, that may survive in plant debris or soil will not contaminate susceptible plants the following year. This concept is important for disease prevention with any type of planting.

If there was a history of IDM in a planting bed, it is suggested that working in that bed be held for last, to prevent potential movement of pathogens from the contaminated bed to other areas of the yard. Anything that comes into contact with contaminated plant material or soil should be disinfested with 10% bleach or 70% alcohol; alcohol is a little less corrosive than bleach on metal tools.

Limit leaf wetness by using soaker hoses or drip irrigation, when watering. Avoid overcrowding plants because they hold moisture longer, providing favorable conditions for pathogens like downy mildew to become established. When plants are spaced farther apart to provide air circulation, humidity will be reduced, cutting down how much an organism can sporulate.

Monitor plants frequently and remove any symptomatic ones, sending a sample to the PDDC for confirmation. If impatiens are confirmed to have downy mildew, the recommendation is to remove infected plants, bagging them on the site, and remove asymptomatic impatiens plants within three feet of the infected one. Work from the edge to the center to remove the plants. Have a garbage bag right there to put the plants into and seal it up; discard with general trash. Do not compost infected plants.

Fungicide treatments are useful for commercial growers of impatiens. For homeowners, only the product mancozeb is available. One of the breakdown products of the active ingredients in mancozeb is a known carcinogen that supposedly will break down immediately into a non-carcinogenic form; that it is something to make the homeowner aware of. Apply the fungicide at seven-day intervals.

Impatiens Downy Mildew (UWEX):
http://labs.russell.wisc.edu/pddc/files/2013/05/ImpatiensDownyMildewMGNewsletterArticle.pdf
Impatiens downy Mildew in the Landscape (Cornell): http://ccesuffolk.org/assets/Floriculture/Impatiens-DM/DM-landscape.pdf
Alternatives to Garden Impatiens (Cornell): http://extension.umass.edu/floriculture/sites/floriculture/files/pdf-doc-ppt/Alternatives-to-Garden-ImpatiensCornell.pdf

Needle Loss on Spruce

Q: *Rhizosphaera needle blight and blue spruce dieback, are they associated with drought?*
A: *Rhizosphaera* is out there, but on spruce there is interior needle loss without evidence of disease. Some of that may be drought related. There may also be significant mite damage from last year when it was so dry, that can also lead to needle loss. One spruce sample with stippling on the needles came in, but Phil did not see any evidence of insects and the stipples were larger than normal so we are hypothesizing it may be due to ozone damage.

Anything damaging the interior needles can cause premature needle loss. *Rhizosphaera* may do that, but there are other causes as well. If the needle loss and dieback occur from the tips, there would be concern about weather last year and drought stress. If there was a lot of rain and symptoms of tip dieback, there may be root rot issues limiting water uptake.

Q*: If the cause is drought stress, how can you tell when the tree is too far-gone?*
A: It is an aesthetic decision; leave it up to the clients. Some clients are much more tolerant than others, saving the tree until the last needle falls off. If the problem looks to be caused by *Rhizosphaera*, let clients know it is a chronic problem, and the tree will continue to thin. They will have to make the decision whether to maintain the tree and determine the aesthetics to the landscape. If the problem looks like it may be due to mites, look for active mites or old egg cases, of just send a sample to Phil.

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

Spruce Spider Mites (UWEX): http://hort.uwex.edu/sites/default/files/Spruce%20Spider%20Mite.pdf

ANNOUNCEMENTS

Responding to Horticultural Inquiries

The 2013 Responding to Horticulture Inquiries will feature update sessions with Brian Hudelson, Phil Pellitteri and Mark Renz, an "Answering Horticultural Inquiries in County Offices" session and a hands-on plant ID, insect ID, and disease ID session. These will be open to plant health advisors and county office staff. Program schedule: http://fyi.uwex.edu/wihortupdate/2013/04/15/responding-to-horticulture-inquiries-2013/

The program will be offered the following location, spaces are still available:

- **Marathon County** May 30, 2013 9 AM – 5 PM, Marathon County UW-Extension, 212 River Dr., Wausau, WI 54403

Please contact Brian Hudelson (608-262-2863 or bdh@plantpath.wisc.edu) to reserve a spot or if there are questions.

Invasive Terrestrial Plants

June 12, 2013 at 9 AM at the Douglas Co., Extension office, Mark Renz will talk on invasive terrestrial plants in the northwest part of the state. Master Gardeners are encouraged to attend.

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 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

Newsletter #5 is now available at http://www.plantpath.wisc.edu/wivegdis/
Disease update: considerations for late blight management in 2013
Insect updates: springtails, seed maggots, calculating degree-days, flea beetles, aster leafhoppers

PDDC Update

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

Brian Hudelson, Ann Joy, and Andrew Pape, 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 18, 2013 through May 24, 2013.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
HERBACEOUS ORNAMENTALS			
Amsonia	Chlorosis	None	Dane
Geranium	Edema	None	Oneida
Hyacinth	Penicillium Bulb Rot	*Penicillium* sp.	Dane
Impatiens	Downy Mildew	*Plasmopara obducens*	Monroe
Joe Pye Weed	Herbicide Damage	None	Dane
NEEDLED WOODY ORNAMENTALS			
Pine (White)	Root Rot	*Cylindrocarpon* sp.	La Crosse
Spruce (Blue)	Phomopsis Canker	*Phomopsis* sp.	Dane
Spruce (Unidentified)	Rhizosphaera Needle Cast	*Rhizosphaera kalkhoffii*	Dane
VEGETABLES			
Potato	Blackheart	None	Dunn

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