

Wisconsin Horticulture Update Summary, May 9, 2014

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WI WEATHER REVIEW

As of May 8, 2014, persistent rainfall diminished and milder conditions prevailed. The lingering storm system that produced cold damp weather last week exited over the weekend, allowing drier, warmer air into the state. Temperatures remained slightly below average until a mid-week warm front brought 70° to 80° readings, along with periods of showers and thunderstorms. An unusually active weather pattern this spring has caused considerable temperature and moisture variability across the state, and most soils in the north are still too cold and wet for planting. (WI Pest Bulletin. 5/8/2014)

As of May 5, 2014, across the reporting stations, average temperatures last week were 3° to 8° below normal. Average high temperatures ranged from 48° to 53°, while average low temperatures ranged from 38° to 42°. Precipitation totals ranged from 0.94" in Green Bay to 2.42" in La Crosse . (WI Crop Report, 5/5/2014)

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 16.0 to 211.0. Following is a list of GDD as of May 9, 2014 for the following cities: Bayfield 16.0, Beloit 211.0, Crandon 36.0, Cumberland 71.0, Dubuque 206.0, Eau Claire 110.0, Fond du Lac 95.0, Green Bay 56.0, La Crosse 154.0, Madison 146.0, Milwaukee 93.0, Wausau 58.0. 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. 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**; and Vanhoutte spirea, full bloom, 406, **emerald ash borer adult emergence, 450 - 500**.

INTRODUCTION

The host for today's WHU was Winnebago Co. agent Kim Miller. Insect Diagnostic Lab interim manager PJ Liesch and entomologist Chris Williamson were special guests. Participants in today's discussions were representatives from the following counties: Brown (Vijai Pandian), Columbia (George Koepp), Douglas (Jane Anklam), Kenosha (Barb Larsen), La Crosse (Steve Huntzicker), Pierce (Diana Alfuth), Racine (Patti Nagai), Rock (Christy Mardsen) and Winnebago (Kim Miller).

HORTS' SHORTS

Agents reported the following issues to be of interest this week: Spring has arrived, at least in most of the state. Although Douglas Co. reported that there was still ice on the bay and nothing was greening up, in almost every other area of the state, gardeners were reveling in the first day of 80° temperatures. Lawn mowers were making their first cuts of the season, trees were budding, early flowering shrubs and trees such as Forsythia and Magnolia were in bloom, and dandelions were starting to flower. Homeowner concerns about turf were high on the priority

list: repairing salt damaged lawn edges, renovating thin turf, fertilizing, and controlling broadleaf weeds. Winter burned evergreens, dead evergreens and tree dieback came up a close second as popular questions. There were homeowners who hoped it wasn't too late to prune fruit trees, or too early to plant their gardens. There were many requests for soil testing. Household pests were a bit of an issue for those folks who weren't spending their time outdoors in the garden.

SPECIALIST REPORT: Insect Diagnostic Lab Update

Presented 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

It was quiet in the insect lab this week, with samples of household insects such as flying ants, silverfish, warehouse beetles and pseudoscorpions being observed. The most interesting insect seen was an adult plum curculio caught in a black light trap, a certain signal that spring is here.

Insect ID, home pests: <http://labs.russell.wisc.edu/insectid/informational-sheets-home-pests/>

Plum Curculio (Cornell): <http://nysipm.cornell.edu/factsheets/treefruit/pests/pc/pc.asp>

SPECIAL TOPIC: Emerald Ash Borer Update

Presented by Chris Williamson, Professor of Entomology and UW-Extension entomologist in urban landscape, turfgrass ornamentals, Christmas trees, greenhouses, cranberries and grapes.
rcwilliamson@wisc.edu

EAB pesticide treatments

Emerald ash borer (EAB) adults emerge at 450-500 GDD50, coinciding with black locust bloom. Their emergence will be occurring quite soon.

PJ Liesch and Chris Williamson have been doing research in a forested area of Newburg, near the initial outbreak of EAB in the state. Observations have resulted in a number of conclusions pertinent to urban landscapes.

Treat it or lose it

Observations

At low populations of EAB, trees do not initially exhibit signs of decline. In trials initiated in 2009, after the first confirmations of EAB were detected in the area, no insect activity was observed for three years. It wasn't until 2012 that an "edge effect" was seen at the periphery of the woodlot. EAB, gregarious, sun-loving insects, prefer to attack trees at the edge of the forest, or in open settings. Interior trees of the woodland were not as readily impacted as the outer ones. In urban landscapes, where trees tend to be planted in the open, EAB proliferate.

Based on the biology of the insect, EAB attacks healthy trees and stressed trees equally. This is not the usual pattern for buprestids, such as the bronze birch borer, which attacks stressed trees.

Tree size does not matter to EAB. Saplings as well as very large trees are targeted by EAB.

It takes time before EAB symptoms are evident. As with many wood boring insects, damage occurs slowly and may not be noticed until it is severe, and too late to treat. It is important to be watchful for changes in tree health.

Conclusions

Because EAB cannot be detected at low populations, ash trees not properly and timely treated with insecticides have a high probability of succumbing, particularly in the case of trees near a confirmation site.

Pesticides effective and available against EAB have been listed and updated on UW-Extension factsheets. The factsheets for homeowners and professionals may be found on the UW EAB website, the UW-Extension Horticulture website and the PDDC garden facts webpage. Links to the current factsheets are also updated on the EAB state website.

Liesch and Williamson have personally worked with all but one of the products on the factsheets, and have found all to be effective when used as directed. The one product with which they have not worked is TreeAzin® (active

ingredient azadirachtin, a botanically based product from the neem tree). As a growth regulator, TreeAzin® is targeted to attack larvae, not adult insects. According to researchers who have used the product, it is effective when used appropriately.

Time applications appropriately

Tree injection

TREE-äge®, a commonly-used professional product containing the active ingredient emamectin benzoate, is applied through by trunk injection. Only licensed, certified applicators may deliver the product by drilling into a tree, inserting an injection capsule and an IV injection device.

The optimal time to apply tree injection is when the tree is fully leafed out. The most effective injection uptake coincides with adults laying eggs. A lethal concentration of the chemical should be in the cambium layer as larvae start feeding. Injections may be provided at other times in the season, but will not be as effective.

Soil drench and soil injection

For soil drench and soil injection applications, optimal timing is when ash trees are budding out. The products should be applied into the soil from the basal root flare area out 18 – 20 inches from the trunk of the tree.

Basal bark spray

Timing is crucial for basal bark spray application. If not absorbed in the plant at the appropriate time, it will not be effective. Applications should be made as ash trees are leafing out. Basal bark sprays are applied on the trunk from the soil level to 4½'-5' off the ground.

Questions

If a homeowner misses applying a pesticide during the optimal window, should they be encouraged to wait until next spring? Although the optimal time for the application is spring, there is data suggesting fall treatment is acceptable. It is statistically not as effective as spring application. If EAB is just getting established in an area, it is important to start treating as soon as possible, even if the optimal timing is missed. In areas where EAB is already established, it is best to treat in spring when the performance of the product will be maximized.

In an assessment assay conducted by Liesch and Williamson for the city of Milwaukee, it was determined trees treated with TREE-äge® (emamectin benzoate) had very comparable levels of the chemical in the leaves whether they were treated that season, or 1 year, 2 years or 3 years prior. Apparently, titers of that insecticide may not dissipate quickly.

Are pesticide applicators working with clients on multi-year contracts? Arborjet, manufacturer of TREE-äge® only guarantees two years of coverage, so applicators may be reapplying the product every two years. Interestingly, in studies conducted by Liesch and Williamson in Newburg, it was determined that TREE-äge® has exhibited at least five years of residual control after a single application.

TREE-äge® provides excellent control on trees over 20" dbh, as shown by data. On larger trees, applications of soil drenches, soil injections or basal bark sprays applied annually do not have data showing they are effective.

Are combo applications successful? Many applicators choose not to inject trees with TREE-äge®, whether because they are uncomfortable drilling trees or do not have the application technology equipment to apply. Some have used the maximum label rate of Zytect™ 2F or Merit® 2F as a soil drench in addition to using dinotefuron as a basal bark spray. Imidacloprid may also be injected in a tree. It is legal to use the same ingredient under different brand names, although it is not suggested that anyone do that.

Is dinotefuron basal trunk spray effective for only one year? Yes. Dinotefuron is very water soluble, 60-70 times more than imidacloprid. In one trial, dinotefuron was applied in July, intentionally missing the application window of opportunity for optimal uptake, to see the outcome. Those treated trees were not protected, and died. Dinotefuron must be applied in spring, preferably in May, and no later than mid-June for one year of coverage. Imidacloprid when used as a basal trunk spray has more flexibility and may be applied later with some effectiveness.

Is dinotefuron trunk spray available to homeowners? Greenlight had manufactured dinotefuron for homeowners in a granular product. When Scott bought out Greenlight, it discontinued dinotefuron. and asked that the Greenlight product be removed from our factsheets. Although DATCP currently shows Greenlight products as registered in Wisconsin, availability is uncertain. Safari®, whose active ingredient is dinotefuron, is not a registered pesticide and may be purchased by homeowners, but is very expensive.

Is there a labeled double strength imidacloprid formulation available to homeowners? Optrol™, manufactured by Plant Care Science, is labeled for homeowners and may be found in independent garden centers and the internet. Zytect™2F and Merit®2F are professional products sold in larger quantities, but are not registered products so technically they may be purchased by homeowners.

What readily-found products are available to homeowners to use as a soil drench? The homeowner factsheet identifies products that will perform very well.

For trees over 25" dbh that homeowners want to treat themselves, will drenches offer any significant protection? It would probably be better to treat rather than do nothing. If they decide against Tree-age treatment, suggest they use a 2x imidacloprid product as a drench.

Is there any benefit to treating larger trees with imidacloprid in both spring and fall? There is no residual effect. We conducted trials using a spring and late summer application and saw no benefit to the split application staying within the labeled rate. For larger trees, stay with the optimal timing in spring, and try to use a labeled double strength imidacloprid formulation.

Is my ash tree worth treating for emerald ash borer? (UWEX):

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

Homeowner guide to emerald ash borer insecticide treatment (UWEX):

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

Professional guide to emerald ash borer insecticide treatment (UWEX):

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

Wisconsin's emerald ash borer information source: <https://datcpservices.wisconsin.gov/eab/>

Emerald ash borer: <http://www.emeraldashborer.info/>

Emerald ash borer: <http://dnr.wi.gov/topic/foresthealth/emeraldashborer.html>

Emerald ash borer in Wisconsin: <http://labs.russell.wisc.edu/eab/>

EAB state operation

Presented by Patti Nagii, UWEX representative to Wisconsin EAB communications committee, and Steve Huntzicker, UWEX representative to Wisconsin EAB operations committee.

The Wisconsin Cooperative EAB Program consists of representatives from DNR, DATCP, APHIS, USFS, UW-Madison and UW-Extension. Its goal is to keep everyone aware of ongoing research, publications, and EAB spread throughout the state. The communications committee oversees press releases, communication releases, banners and resources for the public.

In 2014, there will be some changes in the way the public will be able to access information from DNR. Previously, the public was directed to use a dedicated DNR EAB 1-800 phone number to ask questions and report possible EAB finds. That call center is no longer being supported, but callers will be directed to a general DNR call center where there may not be EAB specialists on hand. Under current discussion is a protocol in which UW-Extension offices will be contacted to help answer EAB questions the general DNR call center cannot handle. It is expected those calls will mostly entail EAB identification and tree ID questions from homeowners. The volume of questions

is not expected to be great. In 2013, there were only 226 calls logged in to the EAB call center, and they came mostly from quarantined counties. DNR will continue to support municipalities and woodlot owners through their urban forestry and forester programs.

Under discussion is how UW-Extension county offices may be referred to by the DNR call centers. The process includes sending DNR a list of county offices willing to answer EAB questions. Every UW-Extension county office will receive an EAB information packet containing current EAB publications that they can reorder. Each office will be asked whether or not they will be able to handle the calls. If an office is not willing, or unable, to take calls, there will be a list of regional offices that have volunteered to answer the calls.

The goal for UW-Extension assistance is to provide homeowners with appropriate information to make the best decision for their situation, if it is to save a tree, treat it themselves, or contract for professional treatment. UW-Extension factsheets are available to provide most of those answers.

The state also wants to know if there is EAB suspected in non-quarantined counties so it can be verified. There will continue to be protocols for non-quarantined counties to report finds to DNR. New jurisdictions within quarantined counties may have revised protocol for reporting to the DNR soon.

Still under discussion is the process by which county offices may have to report EAB calls.

Before UW-Extension county offices are asked to participate, an email explaining the program will be sent, along with the information packets.

Gratitude was expressed to Barb Larsen, Patti Nagai and Steve Huntzicker for their involvement in the EAB operations program.

WI EAB program strategies 2014 (DATCP): <http://datcpservices.wisconsin.gov/eab/articleassets/WisEABStrategy2014.pdf>

WI EAB strategic program 2011 (DATCP): <http://datcpservices.wisconsin.gov/eab/articleassets/WisEABStrategy2014.pdf>

ANNOUNCEMENTS

Responding to Horticultural Inquiries

The 2014 Responding to Horticulture Inquiries will feature update sessions, an “Answering Horticultural Inquiries in County Offices” session and more. These will be open to UW-Extension agents, educators, office staff and plant health advisors. RSVP Brian Hudelson bdh@plantpath.wisc.edu

<http://fyi.uwex.edu/wihortupdate/2014/04/19/responding-to-horticulture-inquiries-2014/>

The program will be offered at the following locations:

Brown Co., Brown Co. Extension Office, Green Bay May 22, 2014, 8:45 AM - 4:55 PM

Eau Claire Co., Expo Center May 28, 2014, 8:45 AM - 4:45 PM

Turfgrass Field Day

As usual, the last Tuesday in July is WI Turfgrass Association Summer Field Day. This year it will be held July 29 at the OJ Noer Research and Education Facility. The morning session will feature programs on general lawn and sports turf. The afternoon session will be on golf greens. Lunch will be provided. County agents are invited to attend without charge. RSVP Doug Soldat. djsoldat@wisc.edu

http://www.wisconsinturfgrassassociation.org/Field_Day.htm

Requests for Trial Specimens

Chris Williamson is looking for white birches affected with bronze birch borer, to conduct bronze birch borer efficacy trials.

Chris Williamson is looking for growers that have adult black vine weevils.

Contact Chris at rcwilliamson@wisc.edu

Retirement Party

County agents, please let Brian Hudelson know if you have not received information on Phil Pellitteri's retirement party. Contact Brian Hudelson bdh@plantpath.wisc.edu

FINAL NOTES

The full audio podcast of today's and archived WHU conferences can be found at <http://fyi.uwex.edu/wihortupdate/>

Next week, the host will be Christy Marsden. Special guests Amanda Gevens and Brian Hudelson will give an update report of late blight in the state.

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 <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 #4 is available at <http://www.plantpath.wisc.edu/wivegdis/>

Topics covered in the issue include:

- Dual Magnum 24(c) Special Local Needs label in WI
- Edema & Ethylene Toxicity in Greenhouse Plants
- Risk for Potato Volunteers in WI 2014

PDDC UPDATE

UW-Extension/Madison Plant Disease Diagnostic Clinic (PDDC) Update, May 9, 2014

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 3, 2014 through May 9, 2014.

PLANT/SAMPLE TYPE	DISEASE/DISORDER	PATHOGEN	COUNTY
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BROAD-LEAVED WOODY ORNAMENTALS			
Rose	Virus Disease	Unidentified virus	Washington
HERBACEOUS ORNAMENTALS			
Geranium	Edema	None	Dane
NEEDED WOODY ORNAMENTALS			
Spruce (Blue)	Rhizosphaera Needle Cast	<i>Rhizosphaera kalkhoffii</i>	Waukesha
Spruce (Unidentified)	Rhizosphaera Needle Cast	<i>Rhizosphaera kalkhoffii</i>	Dane
VEGETABLES			
Broccoli	Sunburn/Water Stress	None	Dane
Tomato	Bacterial Canker	<i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i>	Douglas
	Ethylene Injury	None	Dane

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