Wisconsin Horticulture Update Summary September 6, 2013

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WI WEATHER REVIEW

The week ending Sept. 1, 2013 was the second hottest week of the year. Temperatures were well above normal statewide. Rains were spotty to heavy in the north and east, but bypassed the southern and west-central portions of the state. Four of the five major weather stations received no rain at all during the hot and humid week. Crops reportedly showed great progress where moisture was adequate.

Across the reporting stations, average temperatures last week were 9° to 14° above normal. Average high temperatures ranged from 86° to 93°, while average low temperatures ranged from 67° to 74°. Precipitation totals ranged from 0.0" in Eau Claire, La Crosse, 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 1494.8 to 2531.9. Following is a list of GDD as of September 6, 2013 for the following cities: Bayfield 1494.8, Beloit 2531.9, Crandon 1703.1, Cumberland 1955.4, Dubuque 2411.3, Eau Claire 2190.1, Fond du Lac 2072.8, Green Bay 1967.6, La Crosse 2334.7, Madison 2343.2, Milwaukee 2043.8, Wausau 1865.9. 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 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; 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 867;** fuzzy deutzia full bloom 884**; winged euonymus scale egg hatch 892;** chickory full bloom**, squash vine borer adult emergence 900; Japanese beetle first emergence 970;** littleleaf linden full bloom 1117; Rose-of-Sharon first bloom 1347**; pine needle scale egg hatch, 2nd gen. 1923; magnolia scale egg hatch 1938; banded ash clearwing borer adult emergence 2195.**

INTRODUCTION

The host for today's WHU was Douglas County Horticulture Educator Jane Anklam. Insect Diagnostic Lab director Phil Pellitteri and Master Composter Program Director Joe Van Rossum were special guests. Participants in today's discussions were representatives from the following counties: Brown (Vijai Pandian), Douglas (Jane Anklam), Kenosha (Barb Larsen), Outagamie (Jill Botvinik), Pierce (Diana Alfuth) and Portage (Sophie Demchik).

HORTS' SHORTS

Agents report the following issues to be of interest this week: Calls varied widely this week, but two common themes were echoed throughout the state -- wasp complaints and concerns about tar spots on maples. As the state has been drying out, trees are continuing to show signs of stress and early fall color, lawns are dry, weeds abundant, and vegetable crops slow to mature. Apples are ripening, asters are blooming on the roadsides, and despite the heat, in certain areas nighttime temperatures are cool. In northern Wisconsin, night temperatures have fallen to near 30°F, signaling an end to the growing season and preparation for fall clean-up.

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

Wasps

In bad years, wasps start scavenging for protein and sugars around the first of August and stay on, desperate for food to rear their young. In years when they make their first appearance later in the season, it is usually due to a cool year when the colonies are growing slower and they don't get to the desperate point. This year they may be

around for another three to four weeks; if it is a mild fall, and then the populations will crash. They are probably already on the decline.

A few calls have come in where a lot of wasps have been observed on a particular tree. The reason for that is probably because there are a lot of aphids or scales secreting honeydew, a source of sugar. On occasion, they congregate because they have found an abundance of sawfly larvae, caterpillars or some other protein source. If the wasps are troublesome to people and needed to be removed, the food source will first have to be identified and removed.

If wasp nests are found in soffits or attics and they are not bothering people, it is best to leave them alone. The biggest mistake is to plug the entrance hole before they are treated; they can be trapped in the wall, causing a lot more problems.

Wasp and Bee Control (UMN): http://www1.extension.umn.edu/garden/insects/find/wasp-and-bee-control/

Hornworms

There are a moderate number of calls to identify hornworm caterpillars and adult hawk moths. It may have been a bad year for butterflies, but it has not been a bad year for hornworms. The white-lined sphinx is quite active right now in flower gardens and fun to look for.

Hornworms and Hummingbird Moths (Colorado State): http://www.ext.colostate.edu/pubs/insect/05517.html

Boxelder Bugs

It is a little surprising that conditions are good for boxelder bugs, but they have not come out in large numbers. If they do not show up in the next week, it may not be a big year for them even though it has been so dry.

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

SPECIAL TOPIC: UW-Extension Compost Program Update

Presented by Joe Van Rossum, director of UW-Extension Solid and Hazardous Waste Education Center, Recycling Specialist and Coordinator of WI Master Composter Program. vanrossum@epd.engr.wisc.edu

Overview of Compost Programs

The UW Solid & Hazardous Waste Education Center (SHWEC) website www.uwex.edu/shwec includes information on the UW composting program, resources, publications and program partners. Joe Van Rossum covers large scale composting, backyard composting, and community gardening composting. Jonathon Rivin focuses on vermicomposting and on-farm composting.

Backyard Composting Programming

Eight new and/or updated homeowner publications have recently been added to the Learning Store, including the newest, Making and Using Compost in the Garden, authored by Joe Van Rossum and Walworth Co. Hort Educator Chrissy Wen. Seven compost bin plan publications have been updated with revised graphics and information. http://learningstore.uwex.edu/Search.aspx?k=composting

The Master Composter program, a “train the trainer” program, is a one day workshop that covers composting in depth, and helps participants feel comfortable teaching others to start composting. Participants receive resources to help them accomplish their obligation of teaching three outreach programs: two “how-to” workshops and one display or demonstration. Three to five Master Composter workshops are taught each spring; an email will be sent in November to solicit interest; feedback will determine how many workshops are needed and where they will be held. In early January, a list of workshop locations and dates will be posted.

One of the components of the Master Composter program is a seventy-page home study guide found on the publications resource list. This learning tool is available to anyone wanting to learn about composting in the back yard. http://www4.uwm.edu/shwec/publications/cabinet/composting/HomeStudyGuide2010.pdf

A list of compost bin suppliers is provided on the website, whether one wishes to purchase a single bin or many. Groups interested in purchasing bins for fundraisers or to host a truckload sale to promote composting may contact Joe for technical assistance in choosing bins.

Community Composting

Any composting done outside of someone's backyard but on a scale less than 50 cubic yards in size is considered community composting. This may be done at a community garden, a school, or a project smaller than that of an industrial or municipal scale. There has been a lot of interest from community garden sites to have composting done on premises. For success in these situations, signage is crucial to direct users as to which bins to use and which to be left alone so they are used properly.

More interest has been seen in bringing off-site materials (*i.e.*, from a coffee shop, small grocer or restaurant) to compost locations. A few groups, in Madison, Milwaukee and Eau Claire, have used volunteer efforts to take materials from the point of generation to community compost sites. These efforts can pose some challenges for local zoning codes and state statutes.

School composting has become a popular topic. Before starting a compost program, it is important to determine the reason for composting, whether as a teaching tool, or a method to deal with food cafeteria waste. Each of the goals requires a different approach. With a curriculum goal, a two- or three-bin system can be managed by students to observe how compost degrades over time. A food waste management goal is more involved, and requires more than a student or teacher to manage the project. A student-run project it is destined to fail when students graduate and succession managers are not arranged. A factsheet, "Composting in Schools, Getting Started," is a resource tool for students, teachers, staff and administrators to consider before starting a composting program in their school.

How do you determine a budget when you are looking at community composting programs?

Developing a budget is important. The first thing to ask is how will the materials be managed: will they be managed on-site, or will they be transported to a large scale compost facility? Relying on volunteers may be a good way to get started, but is generally not sustainable long-term. For systems to be successful, dedicated operators -- dedicated in that they care about what they are doing, and also dedicated in terms of their job description -- are required. For budgeting, the type and quantity of garbage also needs to be assessed. Once determined, plans can be put in place to put together a system that works best for that individual location.

It will take a few more years in our state before there is a widespread infrastructure to pick up food scraps, although it has started in a few areas around the state. Currently it tends to be more costly to compost large scale than just putting it into the trash.

Large Scale Composting

Municipal, privately operated and on-farm composting occur in the state right now. The UW-Extension provides technical assistance to existing facilities and start-ups, helping them to understand the state DNR regulations, to improve facility operations and instill best management practices in treating materials that come on-site, and to produce quality product and assure delivery to the customer.

Startups find state regulations easier to navigate than some of the local zoning issues. Zoning codes often do not include composting as a recognized land-use activity. They are typically permitted under a conditional use permit, and it can be a challenge to acquire the local zoning permit and get up and running. The program can help startups get through the process.

A list of licensed compost facilities is maintained on the website. The directory only includes licensed compost facilities. Some compost sites are not required to have a license. Sites producing less than 50 cubic yards do not need a license, nor do on-site farm composters if the compost is used on-site. If the compost is sold, a license from the DNR will be necessary.

Workshops are available for large-scale compost facility operators via the Midwest Extension Compost School, a partnership among Wisconsin, Illinois, Minnesota, and Iowa Extensions. WI will host the workshop in June 2014 at the West Madison Ag Research Station. The three-day program instructs composters about the process and types of high quality products available. Helping producers understand what compost quality means and how to communicate that to the customer is part of the program. Testing procedures for compost are different than that for soil and manure tests. The U. S. Composting Council has a seal of testing assurance program to help ensure test

results are consistent, no matter which lab they are sent to. A list of labs is maintained on their website; six compost facilities in WI participate. Procedures are standardized, and are undergoing revision now. Analytical and sampling procedures have been established, from sampling, through chain of custody, to the final analysis, to be assured samples are comparable.

Bag labels required on compost bags only have to say what went into the compost. If claims are made on nutritional content, the product may be regulated as a fertilizer and not just a soil amendment. Most composters prefer to keep products labeled as soil amendments only. A list of analyses performed on the compost should be available.

At farmers markets, vendors may sell bags of compost or manure. Are those regulated?

Buyer beware is such situations. Ask if the compost has gone through a heating process, exposed to temps above 131°F for at least 15 days. If it has gone through that process, the weed seed viability should be significantly reduced and the number of pathogens should be significantly reduced as well. Higher quality compost should not negatively impact garden plants.

A simple bioassay test can be run by anyone wanting to know if the compost quality is adequate to use in the garden. Using 6 plastic cups, three filled with good potting soil (control) and three with compost to be evaluated, plant 5-10 'Marketmore 76' cucumber seeds in each cup. Let sit for two weeks and observe the growth and vigor between the control and compost samples. Germination and rate of development of the plants can be checked. This simple test will not, however, specify what is wrong with the compost. Plant damage during the assay may be due to immature compost, high salt concentrations in the compost, diseases, insect pests, herbicide damage or environmental issues. The full Washington State University bioassay procedure can be found at: http://puyallup.wsu.edu/soilmgmt/pubs/clobioassay.pdf

Research

For the past two summers, Joe Van Rossum and UW-Extension Weed Specialist Mark Renz, have worked on invasive seed survival research in compost, specifically garlic mustard and buckthorn. Large-scale pilot testing was done at the Madison Ag Research Station, where seeds from each of the species were placed into compost piles and various management strategies were used. Within 15 days, all the garlic mustard seeds had been killed and within 30 days all the buckthorn seed had been killed. Temperatures in some of the compost piles reached 160°, but in all cases they reached at least 131°. A thirty-day window is within the normal time frame municipal or private facilities compost on site. Properly managed compost sites can expect to see destruction of garlic mustard and buckthorn seed species germination. A final report will be ready in a few months.

Questions

What tips do you have for homeowner composting this fall?

From growing season into fall, as materials are added into the compost pile, balance carbon to nitrogen (brown to green); two to three volumes of brown material to one volume of green material. Make sure there is adequate moisture in the pile; the compost should be as damp as a well-wrung out sponge with approximately 50% moisture. Filling a bin with leaves alone in fall will still look like leaves in spring. Adding green material, high in nitrogen, like grass clippings or coffee grounds will start decomposition faster. The compost may freeze in early January, but as it thaws in spring it will start working again and there will be finished compost by mid- to late-May. The key is balancing the carbon and nitrogen and assuring good moisture. If plants need water, so does the compost pile.

As snow falls is it okay to keep adding waste to the pile?

If composting food scraps, have a bale of straw or weeds to throw on top toward adding brown carbon materials in the right ratio, so when the pile thaws it will start working already.

Please contact Joe with questions and any suggestions for other compost programming needs.

General Questions

Replanting Trees

A client lost a locust tree to disease and wants to plant a Kentucky coffeetree in its place. Will a disease that affects the locust be a problem for the coffeetree?

Often the cankers that may have caused the decline of the tree would not be soil borne and should not affect the new tree. Most of the canker diseases to which honeylocust are prone are not soil borne. The decline may have been exacerbated by stress so it probably will be fine to put in a Kentucky coffeetree in its place.

Tomato Clean-up

If tomatoes have been smashed into the ground because of mechanical issues, is it necessary to clean up all the debris now because insects will be attracted to them, or can they be cleaned up at a later time?

Insects will probably not be attracted to them. If the tomatoes are diseased with *Septoria*, late blight or other pathogens, it is recommended to clean them up so disease will not be spread.

Eating Tomatoes

If a tomato plant is showing signs of leaf spots or wilting, but the tomato fruit look good, can they be eaten?

It may be recommended to check with food safety specialists. Commercial food producers are instructed that if the fruit falls on the ground, it may get contaminated with E. coli and should only be cooked or processed and not eaten fresh.

Fungal diseases may affect the fruit quality and the taste. It may not be harmful to eat, but it may not be good to eat. If spores are present in the fruit, it is not recommended for long term processing.

FINAL NOTES

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

Next week is the last Wisconsin Horticulture Update of the Season. The host will be Phil Pellitteri. The topic is the season's wrap-up.

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 #19 includes the following topics:

- Late blight updates
- Cucurbit downy mildew updates
- Basil downy mildew identification and management

UW Vegetable Crop Update: http://www.plantpath.wisc.edu/wivegdis/

Spotted Wing Drosophila Update

On 9/3/2013, spotted wing drosophila was confirmed in Eau Claire Co.

UW spotted wing drosophila Monitoring Program: http://labs.russell.wisc.edu/swd/