

Northern Michigan FruitNet 2015

Northwest Michigan Horticultural Research Center

Weekly Update

FruitNet Report - June 16, 2015

CALENDAR OF EVENTS

2015

- 5/5 - 6/30 Leelanau County IPM Updates**
Bardenhagen Farm
- 5/5 - 6/30 Grand Traverse County IPM Updates**
Wunsch Farm
- 5/6 - 7/1 Antrim County IPM Updates**
Jack White Farms
- 5/6 - 7/1 Benzie County IPM Updates**
Blaine Christian Church
- 6/26 CIAB Grower Meeting**
SW Research and Extension Center, Benton Harbor, MI
- 6/29 CIAB Grower Meeting**
Oceana Intermediate School District, Hart, MI
- 6/30 CIAB Grower Meeting**
Peninsula Township Hall, Traverse City
- 6/30 CIAB Grower Meeting**
Milton Township Hall, Kewadin, MI
- 6/30 CIAB Grower Meeting**
NW Michigan Horticultural Research Center, Traverse City, MI

GROWING DEGREE DAY ACCUMULATIONS AS OF June 15, 2015 AT THE NWMHRC

Year	2015	2014	2013	2012	2011	2010	25 Yr. Avg.
GDD42	937	843	880	1289	851	1216	952.3

GDD50	516	467	508	746	457	682	523.9
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Growth Stages at NWMHRC (June 15, 2015, 11 a.m.)

Apple: Red Delicious – 19 mm fruit
 Gala – 16 mm fruit
 Yellow Delicious – 15 mm fruit
Pear: Bartlett: 16 mm fruit
Sweet Cherry: Hedelfingen – 14 mm fruit
 Napoleon – 13 mm fruit
 Gold – 13 mm fruit
Tart Cherry: 13 mm fruit
Balaton: 13 mm fruit
Apricot: 26 mm fruit
Grapes: Chardonay – 10” – 16” shoots

Northwest Michigan Fruit Regional Report – June 16, 2015

Wet conditions and continued rainfall present challenges for disease management in all tree fruit crops in the region.

Nikki Rothwell and Emily Pochubay

Weather Report

Weather conditions during the last week have been wet. We have reported rainfall at the NWMHRC on 7 of the last 9 days. The rainfall in the NW region is less than other fruit growing areas around the state, and these NW events total just less than 1.5” of rain. However, high humidity and fogs have accompanied these rain events, and long wetting events have been reported at many NW Enviro-weather stations. In some areas, fog has been sitting on the tops of orchards for many days in a row—these fogs are likely the cause of the cold lake and warm air temperatures. Again this week, our growing degree-day accumulations are similar to our 25-year average, and we have accumulated 937GDD base 42 and 516 base 50.

Crop Report

Fruit continues to size, and frost scars are evident on many fruits. In some orchards, frost scars are evident on much of the sweet cherry crop, and keeping these cherries free from American brown rot under these wet conditions will be a challenge. Growers are diligently trying to control diseases in all tree fruit crops as conditions have been ideal for fungal disease development. The tart and sweet cherry crop is variable between orchards and within orchards. The CIAB tart cherry estimate for NW Michigan is 80 million pounds. West Central estimates that they have 35 million pounds, and SW Michigan estimates a 25 million pound crop. Growers in SW Michigan are pleased with this season’s crop at this time. New York is estimating a 10 million pound crop, and Washington has estimated 25 million pounds. Wisconsin is at 7 million pounds, and Utah is estimating a 35 million pound crop. The total tart cherry estimate for the US at this time is 223 million pounds. The Guesstimate will take place in Grand Rapids on 24 June, 2015, and estimates may change at this event. Growers in the northwest think that they 80 million pound estimate is on the high side.

Pest Report

Recent warm, wet, foggy, and humid conditions have been conducive for disease development, and particularly challenging for growers to keep green tissue and developing fruit covered and protected this season. More disease symptoms are starting to appear following what seems like a never-ending wet spell. Many Enviro-weather stations are currently reporting long infection periods (30+ hours), with some areas up to 60+ hours of wet and 160+ hours in Kewadin. Although we have received a good amount of rain, rainfall accumulations are not as high as we would expect from such long infection periods. However, humidity levels have remained high between rain events, and we have seen several foggy days in the last week.

Growers are concerned with cherry leaf spot this season because the weather has been favorable for the development of this disease. In addition, conditions have not been optimal for spraying between rain events. Furthermore, there has been overlap in crop development that has posed challenges with balancing horticultural sprays and pest control in apples and cherries in ideal spraying conditions. There are low levels of CLS infections in most orchards at this time, and preventing the spread of CLS conidia to adjacent tissue will be critical for preventing high levels of CLS development later in the season. Many growers protected for CLS late last week and again early this week. Some growers also protected for powdery mildew last week, and previous research at the NWMRHC has shown that the optimal timing for powdery mildew control is at the first cover timing—well before the pathogen's mycelium are visible on leaves.

Primary apple scab is ongoing and according to the apple scab model, 95% of spores have discharged at this time. Primary apple scab season has ended in southeast MI, but primary has not been called in the west-central area at this time; the end of primary in NW typically follows one or two weeks after west-central MI. We would like to remind growers that preventing infection during primary is key for minimizing the need for control of secondary scab infection, even in blocks with little or no fruit this season.

Last Thursday (10 June), we observed apple leaves infected with cedar-apple rust, a fungal disease that begins on infected red cedar galls that produce telial horns and spores that spread to susceptible apple varieties following warm and wet conditions in the spring. Leaves currently showing lesions would have become infected in the spring, and once infection occurs fungicides will not eradicate the disease. CAR infected leaves will produce spores in mid to late summer that could infect nearby red cedar trees (if present) and become a source of inoculum next season.

American plum borer (APB) and lesser peachtree borer (LPTB) activity is decreasing at the station (3 APB/trap and 12 LPTB/trap) and we are likely at the end of optimal management timing for APB. Greater peachtree borers have not been detected and the next possible borer management timing could be targeted for later season LPTB and GPTB, when GPTB become active or a trunk spray in the next few days will still be helpful for LPTB control and will pick up early emerging GPTB. Plum curculio activity is ongoing and keeping fruit protected during recent wet conditions has been challenging. We detected codling moth (CM) for the second consecutive week and we are setting biofix at the research station for 9 June, the date of the first CM caught at the station. Since CM biofix, we have accumulated 95 GDD base 50 degrees F, and we are approaching the optimal timing for CM management between 100-250 GDD base 50 degrees F. We have not detected flight of obliquebanded leafroller adults at this time, but expect that these moths will become active soon.

Spotted wing drosophila traps were deployed in the region two weeks, and the first SWD detected in the state was found in Benzie County on 11 June. This SWD was a female fly captured in a Trece lure baited trap that was placed on the interior of a tart cherry orchard, approximately 200 ft from the orchard edge. We would like to remind growers to wait to begin SWD management programs until cherries are susceptible (when they lose their green color) and SWD are detected in nearby orchards or areas.

Grapes

Duke Elsner

Vinifera vines are still looking bad in many sites. There is a lot of rootstock growth on vines which have few scion shoots. Like last year, it will be important to keep as many of the basal shoots as possible on these vines- very few will need to be suckered this year, except for removing the rootstock growth. Hybrid varieties are growing quickly, many are in the 12 inch or longer shoot growth stage. Wild grapes are in full bloom, and bloom of cultivated varieties will soon begin in the Grand Traverse region.

Rose chafer adults are moving into vineyards now, but so far the population looks to be low. Potato leafhopper adults are present in low numbers. I have seen a much higher number of green fruitworm and pyramidal green fruitworm larvae in vineyards this year, but these are not usually a significant problem.

I have not seen any powdery mildew or downy mildew yet. It will be important to scout carefully for these diseases because of the concentration of shoot and leaf tissue at the base of vinifera vines that we have to put up with this year.



Green fruitworm on grape flower cluster

Saskatoons

Duke Elsner

Fruits are sizing a bit now, and taking on a reddish cast on the sides exposed to the sun. Adult apple curculio numbers and oviposition have declined. Rose chafer adults are moving into plantings now. These can be severe defoliators so it will be very important to watch out for them and take action if

needed. Larvae of green fruitworm and pyramidal green fruitworm are more numerous in saskatoons than in previous years. Symptoms of rust on berries have increased, but I have not seen much foliar or stem infection from this disease.



Green fruitworm on Saskatoon shoot

Cedar-Apple Rust Disease Found in Northwest Michigan Cider Apples

Emily Pochubay and Nikki Rothwell, MSU Extension

A less-common fungal disease of apples in northwest lower Michigan, cedar-apple rust (CAR), was recently identified in a new planting of cider apples in Leelanau County. Although CAR has been a concern in more southerly regions of MI, CAR has not typically been an issue in apples in the north because the alternate host of this fungus is not as common in northern Michigan.

According to Cornell University's Tree Fruit IPM Disease Identification Sheet No. 5, CAR susceptible to very susceptible varieties include several cultivars that are grown in NW MI such as Idared, Jonagold, Mutsu, Northern Spy, Rhode Island Greening, Golden Delicious, Jonathan, etc. Resistant to very resistant varieties that are also common in this area include



Fig 1. Cedar apple rust on winter banana leaf

Liberty, McIntosh, Empire, Jonamac, Paulared. During our 10 June visit to the cider apple orchard, we found three varieties infected with CAR: winter banana, Hewes crab apple, and Ashmead's Kernel (Fig.1). Although we do not know their level of susceptibility to CAR, at the time of our visit, winter banana appeared to have the highest level of CAR lesions on leaves followed by the Hewes crab apple and lastly, Ashmead's Kernel.

CAR lesions begin as small, faint, yellow spots on the upper leaf surface and turn a yolky yellow-orange color sometimes developing a reddish border as they age. As lesions age, they become raised bumps on the leaf surface. Most of the lesions that we observed on 10 June were more developed and contained several small black spots called pustules or pycnia. Older lesions that had started producing blisters and small tubular growths on the undersides of leaves were also found. The lesions that are currently present on these trees will form masses of powdery orange to brown spores on the undersides of leaves in mid to late summer, and these spores are the cause of infection of CAR's other host: red cedar. CAR can also infect fruit and cause lesions that typically appear on the calyx end. Fortunately, in the young cider apple planting where we found CAR, fruit infection is not a concern as these trees are not yet bearing. However, early defoliation could be problematic in trees that are heavily infected with CAR and if trees have other pest (ex. lepidopterans) or disease (ex. apple scab) infestations that could contribute reduced leaf area.

Cedar-apple rust, *Gymnosporangium juniper-virginianae* Schwein, is an interesting and distinct fungal disease from more significant diseases in apple such as apple scab. Unlike scab, which can undergo multiple disease infection cycles on apple only, CAR requires two hosts, red cedar and an apple-related species to complete its life cycle. Hosts of CAR in Michigan include the Eastern red cedar (*Juniperus virginiana*), various cultivated apples, crab apples and hawthorn. Infected galls on red cedar overwinter from the previous year and produce orange gelatinous growths called telial horns during warm and wet spring weather. Telial horns release spores that are carried by wind from the red cedar to apple. Susceptible apple hosts become infected and produce CAR lesions (described previously). Apple leaves infected with CAR can defoliate pre-maturely and eradication of the fungus with fungicides is not an option once infection occurs. Spores produced from lesions on apple only infect red cedar and will not re-infect apple. Hence, both host must be present or near to each other, for CAR to complete a full disease cycle.

Prevention of CAR infection is the best option for management and growers can work toward minimizing problems with CAR by planting resistant cultivars, removing nearby red cedars, or if necessary, using an early-season fungicide program that will prevent infections when telial horns appear on galls of infected red cedar trees. As mentioned above, the necessary alternative host of red cedar is not common in our region, and as a result, we have not seen many incidences of CAR. However, over the years, homeowners have planted this species for landscaping purposes, and more CAR infections are possible. The trees at the infected site were budded in a more southerly area, and this infection may have come in on these trees.

Spotted wing *Drosophila* statewide monitoring reports start next week

Traps are going up this week in all major fruit producing counties to monitor for spotted wing Drosophila (SWD) in 2015. No flies have been caught so far in our earliest traps in southwest Michigan.

Posted on **June 9, 2015** by MSUE News, [Julianna Wilson](#), Michigan State University Extension, Department of Entomology



Spotted wing Drosophila trap baited with commercial lure. Photo credit: Karen Powers, MSU

[Michigan State University Extension](#) fruit personnel, who will be monitoring more than 120 different locations this season, are setting up the 2015 [Spotted Wing Drosophila](#) (SWD) Monitoring Network this week. Counties included in the 2015 trapping network will be Allegan, Antrim, Benzie, Berrien, Genesee, Grand Traverse, Ingham, Ionia, Kalamazoo, Kent, Lapeer, Leelanau, Livingston, Macomb, Mecosta, Montcalm, Oakland, Oceana, Ottawa and Van Buren.

All traps in the network will be baited with commercially available lures and placed in susceptible crop fields or orchards – or in a location adjacent to susceptible crops – in areas where SWD infestation has been recorded in the past. Weekly reports will include the number of male and female SWD captured by county and crop.

For more information on this pest, please visit the [MSU Spotted Wing Drosophila website](#).

This article was published by **Michigan State University Extension**. For more information, visit <http://www.msue.msu.edu>. To have a digest of information delivered straight to your email inbox, visit <http://bit.ly/MSUENews>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).

CIAB Grower Meetings

The CIAB meets June 25, 2015 at 9:00am at Amway Grand Plaza, Grand Rapids, MI to discuss the Optimum Supply Formula and to set restriction and percentages, if any. The CIAB will hold grower meetings to discuss the outcomes with growers and the prospects for this harvest.

The meetings will be at the following locations and times. Please attend the one that is most convenient for you.

Friday, June 26 4:30pm – 6:30pm
Southwest Michigan Research and Extension Center
1791 Hillandale, Benton Harbor, MI

Monday, June 29, 8:30pm – 10:00pm
Oceana Intermediate School District
844 Griswold Street, Hart, MI

Tuesday, June 30, 9:00am – 11:00am
Peninsula Township Hall
13235 Center Rd. Traverse City, MI

Tuesday, June 30, 1:00pm – 3:00pm
Milton Township Hall
Kewadin, MI

Tuesday, June 30, 7:00pm – 9:00pm
Northwest Michigan Horticultural Research Station
6686 S. Center Highway, Traverse City, MI

2015 Tree Fruit IPM Update Series

Emily Pochubay and Nikki Rothwell
Michigan State University Extension

Tree Fruit IPM Updates beginning the first week of May through mid-July (as needed) will highlight management of the season's current potential pest challenges dictated by weather and pest biology. Attendees are encouraged to bring examples of pests and damage found on the farm to these workshops for identification and discussion. Workshops will be held weekly in Leelanau and Grand Traverse counties and bi-weekly in Antrim and Benzie Counties. Tree fruit growers are welcome to attend meetings at any of the locations and times that are most convenient (see below). These workshops are free and do not require registration. Certified crop advisor continued education credits (two per meeting) and pesticide recertification credits (two per meeting) will be available. We are looking forward to seeing you in a few weeks! For more information, please contact Emily Pochubay (pochubay@msu.edu), 231-946-1510.

IPM Update Dates, Times, and Locations

Leelanau County

Location: Jim and Jan Bardenhagen, 7881 Pertner Rd, Suttons Bay

Dates: June: 16, 23, 30

Time: 12PM – 2PM

Grand Traverse County

Location: Wunsch Farms, Phelps Road Packing Shed, Old Mission

Dates: June: 16, 23, 30

Time: 3PM – 5PM

Antrim County

Location: Jack White Farms, 10877 US-31, Williamsburg (is not correct in Google Maps) *North of Camelot Inn and South of Elk Rapids on the southeast side of US-31*

Dates: June: 17; July: 1

Time: 10AM – 12PM

Benzie County

Location: Blaine Christian Church, 7018 Putney Rd, Arcadia, MI 49613

Date: June: 17; July: 1

Time: 2PM – 4PM

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WEB SITES OF INTEREST:

Insect and disease predictive information is available at:

<http://enviroweather.msu.edu/homeMap.php>

This issue and past issues of the weekly FruitNet report are posted on our website:

<http://agbioresearch.msu.edu/nwmihort/faxnet.htm>

60 Hour Forecast:

<http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous46ktvc>

Information on cherries is available at the new cherry website:

<http://www.cherries.msu.edu/>

Information on apples:

<http://apples.msu.edu/>

Fruit CAT Alert Reports has moved to MSU News

<http://news.msue.msu.edu>