

Northern Michigan FruitNet 2018
Northwest Michigan Horticultural Research Center

Weekly Update

FruitNet Report – May 22, 2018

CALENDAR OF EVENTS

5/8 – 6/27

IPM Updates

5/24

Thinning Meeting

NWMHRC, 11:30AM – 2:30PM

*Please RSVP at 231-946-1510 or
goodr100@msu.edu*

6/22

**Farmer Field Day - SOIL,
STEWARDSHIP & FARM
LONGEVITY**

RSVP here:

<https://www.eventbrite.com/e/farmer-field-day-tickets-45485784205?aff=eac2>

What's new?

- **Northwest Michigan Fruit Regional Report – May 22, 2018**

New articles

Northwest Michigan Fruit Regional Report – May 22, 2018

Tart cherries are in full bloom, early bloom in apples is underway, and predicted wet weather over the weekend is a concern for disease management.

Nikki Rothwell and Emily Pochubay, MSU Extension

GROWING DEGREE DAY ACCUMULATIONS AS OF May 21, 2018 AT THE NWMHRC

Year	2018	2017	2016	2015	2014	2013	28 Yr. Avg.
GDD42	376	458	417	455	307	451	465.6
GDD50	185	207	179	220	125	255	221.6

2018 Growth Stages – NWMHRC May 21, 2018

Bartlett Pear – Full bloom
Potomac Pear – Full bloom
Mac – Pink
Gala – Pink
Red Delicious – 1st bloom
HoneyCrisp – 1st bloom
Montmorency – 95% bloom
Balaton – Full bloom
Hedelfingen – Petal fall
Gold – Early petal fall
Napoleon – Petal fall
Riesling – Bud burst

Weather Report

Northwest Michigan has had some varying weather patterns for the past week. Last week, daytime temperatures reached into the mid- to high 70s then dropped into the low to mid-60s over the weekend. Despite the warm temperatures, we are behind our 20+ year growing degree (GDD) averages by almost 100GDD base 42 and almost 50GDD base 50. Thus far this season, we have accumulated 376GDD base 42 and 185GDD base 50. We had unexpected small rain event on Tuesday 15 May, and the NWMHRC received less than a 0.1" of rain. This event was enough to cause concerns about disease

development, but no infection periods were recorded at the NWMHRC Enviroweather station. We had another rain event over the weekend, and the NWMHRC Enviroweather station recorded just over ¼" of rain; this rainfall resulted in infection periods for tree fruit diseases. The forecast is predicting temperatures to warm for the remainder of the week with daytime highs near 80 with rain that may come over the Memorial Day weekend; growers will be concerned about fire blight as most of the region's apple will be in bloom.

Crop Report

With last week's warm temperatures, growth was accelerated. We are in full bloom in tart cherries and just beginning to see petal fall in sweet cherries. Our first apple blooms are also showing up on some varieties. Pollination has been all over the board with the fluctuating temperatures. Bee activity has been good when temperatures are warm, but activity slowed over the weekend. We have also had cloud cover and cooler temperatures in the past two days which has slowed bee activity. Growers have observed good hive strength, and beekeepers have been actively moving bees from block to block as different crops come into bloom.

Surprisingly, growers are still planting trees. In fact, many growers have yet to receive trees from the nursery. At the station, we just planted a block of sweet cherries, and a new apple block will go in the ground this week.

Apple growers are starting to think about thinning with the opening blossoms. Many growers around the state have considered blossom thinning in past seasons, and this strategy is an excellent option for northwest Michigan growers. This tactic may be timely this year as most orchards have a lot of bloom, and blossom thinning can be an early strategy to reduce a potentially large crop. However, this year, we may have warmer temperatures for our thinning window than in past seasons; warmer temperatures are favorable for thinner activity. Northwest Michigan has traditionally had a difficult time thinning with our cool spring conditions. This blossom thinning approach helps get a jump on thinning, especially if temperatures were cold during the prime thinning window (10mm fruit). If growers are considering bloom thinning, please check out this article: http://msue.anr.msu.edu/news/apple_blossom_thinning_for_2013_apple_crop

Another reminder to sign up for the thinning meeting this Thursday 24 May! Phil Schwallier will be here at the NWMHRC to guide us through the thinning process this season. The meeting starts with a CPS-sponsored lunch at 11:30, and the meeting begins at 12:30. Please RSVP at the station for lunch: 231-946-1510.

Pest Report

As mentioned previously, the weather was cool and wet Saturday morning through the late morning on Sunday 20 May. Many areas in the northwest region were wet for 24+ hours with variable rainfall that resulted in infection periods of apple and cherry diseases. Many growers were covered or in the midst of covering susceptible leaves and

blossoms going into this relatively long wetting event. Some areas in the area received minimal rainfall yesterday 21 May, but most locations dried quickly and did not have infection periods.

In apples, all northwest region Enviroweather stations except for Eastport recorded apple scab infection periods following the weekend's wet weather. This was a key time to be covered as the RIMpro model estimated that many scab spores were released during this wetting event. Light to moderate infection periods were reported on Enviroweather depending on the amount of rainfall and duration of the wetting event; symptoms from this infection could begin showing up at the end of May. Additionally, if apple scab infection occurred following 9 May rains, symptoms from this infection period should begin showing up this week. For many areas, it has been about three weeks since biofix, and we encourage growers to continue scab and powdery mildew management in the coming weeks.

RIMpro-Venturia Outputs

[Bear Lake \(Biofix 1 May\)](#)

[Benzonia \(Biofix 1 May\)](#)

[East Leland \(Biofix 1 May\)](#)

[Eastport \(Biofix 2 May\)](#)

[Elk Rapids \(Biofix 1 May\)](#)

[Kewadin \(Biofix 1 May\)](#)

[Northport \(Biofix 5 May\)](#)

[NWMHRC \(Biofix 1 May\)](#)

[Old Mission \(Biofix 1 May\)](#)

[Williamsburg \(Biofix 1 May\)](#)

Some apple varieties have started blooming at the station; many king blossoms opened over the weekend on Honeycrisp. Fortunately, fire blight was not a serious concern during this early part of bloom because temperatures have been too cool for substantial bacterial growth. However, the current forecast is calling for high temperatures in the upper 70s and 80s toward the mid to later part of this week followed by possible rain showers and these conditions are very concerning for fire blight. Enviroweather's fire blight model is showing very high epiphytic infection potential (EIP) values for later this week and growers should continue to monitor this output and the forecast frequently to assess when to apply a bactericide for this disease. We remind growers that applications should be made prior to rain events - this strategy reduces fire blight bacteria populations prior to rain thereby minimizing the risk of infection. Additionally, new flowers that will continue to open may need to be protected as the fire blight bacteria will spread and develop quickly on new flowers if temperatures are warm. Applications of the plant growth regulator Apogee are suggested if EIP values and the weather continue to be optimal for fire blight; the timing for the first application of Apogee is king bloom petal fall. Apogee has been an excellent material that helps minimize the impacts of fire blight. Growers that have trees they are trying to push to fill their space/reach the top wire are considerably susceptible to fire blight infections.

Insect activity in apples continues to be quiet at the station. Spotted tentiform leafminer (18 per trap) activity is ongoing in low numbers. We have been monitoring for the first flight of San Jose scale males, but this pest has not been detected in our traps at this time. Because scales are generally weak fliers, it is helpful to put pheromone traps in trees with a known scale infestation. Systemic materials for scale need to be applied prior to crawler emergence to allow the material to move into the tree tissues; review pesticide labels for use directions such as application timing and mixing recommendations. We have not detected codling moth, but we expect to detect moth activity following the warm evenings predicted for later this week. Insecticide applications are not recommended during bloom.

In cherries, sweet cherries are at petal fall, and tart cherry bloom is underway. Many growers protected blossoms from brown rot late last week into the weekend as many blossoms opened and the weather changed quickly. The prolonged cool and wet weather could have been concerning for the possibility of European Brown Rot infection in Balaton and susceptible Montmorency orchards (i.e. slow-drying areas).

Growers have also been protecting green tissue from cherry leaf spot infections. Given the cool temperatures, many were surprised to see that conditions were met to trigger infection periods for this disease. With shuck-split approaching, it is a good time for growers planning to make applications of Bravo Weather Stik post shuck-split under the Special Local Needs 24c label to complete the training and receive the affidavit as well as the special label. Please visit: https://www.michigan.gov/mdard/0,4610,7-125-2390_45088-275564--,00.html for additional instructions.

American plum borers began flying at the station in the last week. We have also received reports of plum curculio activity in hot spot locations. Growers should be ready to protect fruit coming out of the shuck from plum curculio oviposition. The forecast is calling for warm evenings this week, and these nighttime temperatures will stimulate plum curculio activity. We have not detected San Jose scale male flight in sweet cherries at the station at this time; however, some growers may be considering the use of a systemic insecticide like the product Movento and this product requires substantial leaf tissue, excellent coverage, and a penetrating adjuvant for adequate uptake and translocation of the product prior to crawler activity.

Articles featured in past FruitNet Reports

IPM Update Announcement: WPS Discussion with Eric McCumber, MDARD on May 22nd and 23rd

We are pleased to host Eric McCumber, MDARD for a discussion on Worker Protection Standards (WPS) at next week's regular IPM Update meetings on May 22nd in Leelanau

and Grand Traverse County locations and on May 23rd in Antrim and Benzie County locations. Discussion topics include a timeline of when WPS regulations go into effect, central posting requirements with examples, and regulations that apply to family-owned and operated farms. Eric will also provide examples of common WPS compliance challenges on fruit farms as well as time for questions. Please review the IPM Update schedule below for times and locations. Please note that IPM updates are weekly at all four locations.

IPM Update Schedule

Leelanau County

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

Dates: May ~~8, 15~~, 22, 29; June 5, 12, 19, 26

Time: 12PM – 2PM

Grand Traverse County

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

Dates: May ~~8, 15~~, 22, 29; June 5, 12, 19, 26

Time: 3PM – 5PM

Antrim County

Location: Interwater Farms Inc (Jack White Farm), 10877 US-31, Williamsburg (south of Elk Rapids on the southeast side of US-31)

Dates: May ~~9, 16~~, 23, 30; June 6, 13, 20, 27

Time: 10AM – 12PM

Benzie County

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

Dates: May ~~9, 16~~, 23, 30; June 6, 13, 20, 27

Time: 2PM – 4PM

Black Stem Borer Trap Update – May 18, 2018

Emily Pochubay and Nikki Rothwell, MSU Extension

The NWMHRC and local consultants/scouts have been monitoring for black stem borer (*Xylosandrus germanus*) (BSB) over the last two weeks. Although small look-a-like beetles have been found in traps, we have not found confirmed black stem borers in the region at this time. We found other small beetles, but after identification, we concluded this beetle was not BSB. This pest has been detected in other regions of the state and the

numbers of black stem borers in traps have been increasing in those regions (Table 1). We caution those who are monitoring for this pest because positive identification is difficult. There are limited resources available for identification; this taxonomic key: <http://idtools.org/id/wbb/xyleborini/index.htm> is complex, but could be helpful to individuals trained in insect ID. The NWMHRC has been assisting with the identification of black stem borers, and we encourage scouts to bring suspected black stem borer specimens to the NWMHRC. For assistance, contact the NWMHRC at 231-946-1510.

Table 1. Regional detections of black stem borer, 2018. Data provided by Mike Haas, MSU.

Date	Site	Total # Black Stem Borer
5/15/2018	Southwest 1	11
5/15/2018	Southwest 2	2
5/15/2018	Southwest 3	1
5/15/2018	Ridge 1	4
5/15/2018	Ridge 2	1

Although we have not trapped BSB in northwest Michigan, the general rule of thumb is to begin management practices when forsythia is in full bloom. This plant is in bloom or just past bloom in most areas in the region, and if growers have had problems with this pest in the past, we recommend starting BSB applications to ensure control of this first flight. Anecdotal evidence from past seasons have shown that if growers miss the first (and most consistent) flight of BSB, control later in the season is much more difficult due to the complexity of this pest's life cycle.

Lifting the Economy on Hawks' Wings

Small raptors called American kestrels provide important 'ecosystem services'



A male kestrel in a northern Michigan cherry orchard. Males have gray wings; females, rusty wings.

Find related stories on NSF's Environmental Research and Education (ERE) programs [webpage](#).

America's smallest raptor, the American kestrel, can boost economies in Michigan and other fruit-growing states, new research shows. It's the first study to measure regional job creation aided by the activity of native predators.

American kestrels range from Alaska to South America. They dine on bugs, small mammals and fruit-eating birds. More kestrels mean fewer pests, and the tiny hawks' mere presence can produce measurable improvements, said Catherine Lindell, a Michigan State University (MSU) integrative biologist and study co-author. Growers can attract more of these beneficial birds by building nesting boxes.

A paper reporting the results was published today in the *Journal of Applied Ecology*.

"This research demonstrates that farmers can use science to design agricultural fields that benefit people and wildlife," said Betsy Von Holle, a program director for the National Science Foundation's (NSF) Dynamics of Coupled Natural and Human Systems program, which funded the research.

Lindell and her team calculated the benefit-to-cost ratios of installing kestrel nest boxes around orchards. The results showed that, for every dollar spent, \$84 to \$357 of sweet cherries are saved from fruit-eating birds.

To scale up the projections, the team used regional economic modeling. The models predicted that increased sweet cherry production from reduced bird damage would generate 46 to 50 jobs, which translates to a major contribution to Michigan's economy.

"Having more American kestrels around orchards reduces the number of fruit-eating birds significantly," Lindell said. "It's not just a microeconomic boost that simply benefits the fruit grower -- it has a macroeconomic effect that benefits the state's economy."

Added Von Holle, "Fruit-eating birds avoid orchards with American kestrels, so those with kestrel nest boxes end up producing more cherries. If kestrel nest boxes were used more widely, these researchers estimate, Michigan would benefit by adding new jobs and more than \$2 million in increased revenue over a five-year period."

The strategy isn't limited solely to Michigan cherry producers. It's a potential boon for fruit producers throughout the kestrels' range, and is a cost-effective ecosystem service, the scientists said.

Though building nest boxes doesn't always guarantee a booming kestrel population, "installation and maintenance costs of boxes are small, and even if box occupancy rates

are low, they can direct kestrel activity to particular places in agricultural landscapes where kestrels can deter birds that are fruit pests," said Megan Shave, MSU integrative biologist and first author of the journal paper.

Although birds make up only 2 percent of kestrels' diets, just having the feathered enforcers in the area keeps many fruit-eating avian species out of orchards. These improvements give fruit growers another, more sustainable option to conventional pesticide-based crop protection, Lindell said.

Stephanie Shwiff and Julie Elser of the U.S. Department of Agriculture's National Wildlife Research Center performed the economic analyses for the study.

-- Cheryl Dybas, NSF (703) 292-7734 cdybas@nsf.gov

-- Layne Cameron, MSU (517) 353-8819 Layne.Cameron@cabs.msu.edu

This article is currently featured on the National Science Foundation website:

https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=245124&org=NSF&from=news

Thinning Meeting

A thinning meeting will be held at the NWMHRC on Thursday, 24 May, 2018. Phil Schwallier will be on hand to talk about thinning strategies for the season. Thinning has begun earlier in the season, and many growers are starting their programs at bloom time. Phil will also discuss the carbohydrate model and a new thinning model on the RIMPro website.

The meeting will kick off with lunch at 11:30. The educational portion of the meeting will run from 12:30-2:30. We would like to thank CPS for sponsoring lunch at this meeting.

Please RSVP for lunch by calling Jenn at the NWMHRC: 231-936-1510 or emailing goodr100@msu.edu.

Farmer Field Day - SOIL, STEWARDSHIP & FARM LONGEVITY

Learn About:

Soil Fertility, Nutrient Utilization, and Conservation Tools

Qualifies for a MAEAP phase 1 credit

Date: June 22, 2018

Time: 8:45AM - 4PM

Location: MAPLE BAY FARM **10875 US-31, Williamsburg MI**

Reception & bluegrass performance to follow featuring **CARTER CREEK**

FREE OF CHARGE

A locally-sourced lunch is included with pre-registration

TO REGISTER:

Contact the *Grand Traverse Conservation District* via phone or email: **231.941.0960 ext. 22 // Ifreed@gtcd.org**

<https://www.eventbrite.com/e/farmer-field-day-tickets-45485784205?aff=eac2>

2018 IPM Update Schedule

Please join us for 2018 season Tree Fruit IPM Updates beginning the second week of May. These meetings highlight timely discussions of pest challenges and management options 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. Additionally, we will host invited speakers from local organizations and MSU at this year's meetings. Workshops will be held weekly in Leelanau, Grand Traverse, Antrim, and Benzie counties. Tree fruit growers and consultants 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. Restricted use pesticide applicator recertification credits (2 credits per meeting) and Certified Crop Advisor credits 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.

Leelanau County

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

Dates: May 8, 15, 22, 29; June 5, 12, 19, 26

Time: 12PM – 2PM

Grand Traverse County

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

Dates: May 8, 15, 22, 29; June 5, 12, 19, 26

Time: 3PM – 5PM

Antrim County

Location: Jack White Farms, 10877 US-31, Williamsburg (south of Elk Rapids on the southeast side of US-31)

Dates: May 9, 16, 23, 30; June 6, 13, 20, 27

Time: 10AM – 12PM

Benzie County

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

Dates: May 9, 16, 23, 30; June 6, 13, 20, 27

Time: 2PM – 4PM

MSU Extension programs and material are open to all without regard to race, color, national origin, gender, gender identity, religion, age, height, weight, disability, political beliefs, sexual orientation, marital status, family status, or veteran status. Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities.

WEB SITES OF INTEREST:

Farmer to Farmer – Connecting farmers, cultivating community

<http://www.f2fmi.com>

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://www.canr.msu.edu/nwmihort/nwmihort_northern_michigan_fruit_net

60-Hour Forecast:

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

Information on cherries:

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

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

Information on grapes:
<http://grapes.msu.edu>