

Northern Michigan FruitNet 2013

Northwest Michigan Horticultural Research Center

Weekly Update

May 21, 2013

GROWING DEGREE DAY ACCUMULATIONS AS OF May 20th AT THE NWMHRC

Year	2013	2012	2011	2010	2009	2008	23yr. Avg.
GDD42	420	742	338	613	420	406	461.6
GDD50	232	395	136	286	186	180	218.8

Growth Stages at NWMHRC (May 20, 2:30 p.m.)

Apple: Red Delicious – 40% bloom

Gala – 60% bloom

Yellow Delicious – King bloom

Pear: Bartlett: Petal fall

Sweet Cherry: Hedelfingen: In shuck

Napoleon: Late petal fall

Gold: Petal fall

Tart Cherry: Early petal fall

Balaton: Early petal fall

Apricot: Shuck split

Grapes: 1-3" shoots

NORTHWEST MICHIGAN REGIONAL REPORT

N.L. Rothwell, NWMHRC

Hot temperatures over the weekend brought isolated storms across the region on Monday; growers are concerned about disease development under these optimal conditions

Temperatures made it seem like July over the weekend when we hit 80s to mid-80s on Sunday and Monday, and nighttime temperatures dropped only into the high 60s and low 70s. With these warm temperatures and the forecasted rainfall, growers have been spraying through the weekend and into Monday to prevent disease development; fireblight is of particular concern under these conditions. With the recent warm temperatures, we have accumulated growing degree days, and we are now right on target with our 20+-year average. Thus far this season, we have accumulated 420GDD base 42 (average: 462GDD base 42) and 232GDD base 50 (average: 219GDD base 50). The region also received variable rainfall yesterday (20 May), and more rain is predicted for today and tomorrow. Yesterday's rains were isolated, and many of the storms were short-lived but powerful. We have had reports of hail south of Elk Rapids and in Traverse City, and many growers re-applied fireblight sprays to damaged apples in locations with a past history of fireblight.

Apple. As mentioned above, **fireblight** is the disease of concern in apples at this time. Growers have been making applications to control this disease and keeping a close eye on the radar, weather conditions, and the fireblight model on MSUE's Enviroweather (www.enviroweather.msu.edu). The weather forecasts seem to be all over the board, and it has been difficult to make decisions with this 'moving' target. The high chance of rain yesterday resulted in isolated showers and storms, which was unlike the original forecast of rainfall throughout the region. Growers that sprayed for fireblight on Sunday should reapply today to make it through the next two days of rain and heat. By Thursday,

temperatures will drop and fireblight will not be as much of a concern on opening blossoms. The temperatures on Thursday and into Memorial Day weekend are predicted to be in the 50s, which is not conducive for the fireblight pathogen, but these cool conditions are a concern for honeybee flight for pollination.

Scab is a concern with the fast growing new tissue, and with the warm temperatures and rain, this new growth will need to be covered. We have caught an average of 125 **spotted tentiform leafminers**/trap this week in apple. No **codling moths** have been caught in the region.

Cherry. Warm and humid conditions are conducive for the **American brown rot** (ABR) pathogen. Although here at the station we are in petal fall/shuck split in sweet cherry, orchards to the north may still have open sweet cherry bloom and growers should consider adding an ABR fungicide to their next Bravo/chlorothalonil sprays. These conditions are also good for **cherry leaf spot** (CLS) development, and although the model is not yet predicting a CLS infection, the open bract leaves on Montmorency and Balatons have open stomates and can be infected by CLS spores. Despite their small size, these leaves should be covered at this time. Last year, we had epidemic levels of CLS in orchards where bract leaves were infected early in the season. Growers need to be sure to read all labels closely when tightening up fungicide application intervals with the warm and rainy weather.

Four small **obliquebanded leafroller** (OBLR) have been found in sweet cherry at the NWMHRC. **American plum borers** have begun flying, and we caught an average of 6.5 moths/trap this week. **Green fruitworm** moths have also been trapped.

Wine Grapes

Duke Elsner, Grand Traverse County MSUE

Shoot development in the NW is at the 2 inch stage for Chardonnay and Riesling, while some later cultivars, such as Gewurztraminer, still have many buds just getting to bud break. The uniformity of bud and shoot development within blocks looks far better than it did a week ago. Clusters are visible and the crop load looks good at the sites I have checked.

Rains over the past few days opened the **powdery mildew** infection season in the NW. Previous rains occurred before a significant amount of green tissue was available for infection. Even though we have many vineyards that seldom have early infections by powdery mildew, it is always important to check for it in weekly scouting in order to detect early infections.

I have seen a few **flea beetles** on wild vines in the area, but far fewer than last year. I have received no reports of **climbing cutworm** injury; the activity period for these has essentially ended. No **grape berry moths** have been trapped as of yet.

Reminder – A *Vineyard Weed Identification and Management Workshop* is scheduled for **June 7th** at the Northwest Michigan Horticultural Research Center. See [attached flyer](#) for more details and registration form.

HOW TO USE THE ENVIROWEATHER FIRE BLIGHT MODEL

Nikki Rothwell, NWMHRC

George Sundin, Plant Pathology, MSU

Growth of the fire blight pathogen is favored at temperatures over 65 F. Degree hours using a base of 65 F (DH65) is used to estimate fire blight bacterial population growth. To reach a level where fire blight can cause problems in the orchard, 198 degree hours (base 65 F) from first bloom are needed to increase the population to a potentially dangerous level. These fire blight bacteria grow on the tip of the flower pistil (the stigma, which receives pollen grains), and once the population has built up on the stigma, a rain or heavy dew can wash the bacteria deep inside the flower where infection can take place.

The fire blight blossom model is based on the EIP value (Epiphytic Infection Potential), which is a way to express this heat unit accumulation on a 0 to 100 scale. ("Epiphytic" = plant surface). The EIP is calculated by dividing the current DH65 accumulation by 195 and then multiplying this by 100. If the DH65 reaches 195 (which also means that the EIP is 100), the bacteria have built up to a dangerous level, and a rain or heavy dew at this time will wash the bacterial down into the infection site and cause infection.

The current blossom blight model on Enviroweather also has the capacity to reduce the EIP value under cooler weather conditions by figuring in blossom life. In addition, the model reduces the EIP if the maximum temperature for a day is below 64 F, because the fire blight bacteria require warm temperatures to grow. The EIP value is reduced by 1/3 by one "cool" day, another third by a second consecutive cool day, and to zero with a third. A day with freezing temperatures reduces the EIP to zero. However, once the EIP reaches 200, cool weather no longer reduces the accumulation.

The fire blight model is very different from other pest models in that it is based on degree 'hours' rather than degree 'days'. Since the threshold temperature for fire blight is 65 F, we often go above that temperature for many hours in one day, so it takes a lot less time to collect degree hours above the threshold compared to collecting 'daily' temperatures that average above 65 F. Growers must be particularly diligent about checking the model because when temperatures change drastically during the day, the EIP can rise quickly and warrant a fire flight spray.

Therefore, at this time of the year, we need to be on the lookout for weather conditions that favor fire blight, especially in susceptible varieties (See list of susceptible varieties below). Infection can occur with a small amount of rain (or dew) following a warm period that allows bacterial populations to reach critical levels. The Enviroweather website has a reliable chart growers can use to determine if a fire blight control spray is needed (www.enviroweather.msu.edu). Locate the biofix date (the date bloom first opened **OR** the date a spray was applied to control fire blight) on the top row. Follow that column down to determine Epiphytic Infection Potential (EIP) for that block on each date in the left column. If this number is greater than 100, and the average temperature is greater than or equal to 60 F, this area will be shaded and rain or trauma (high winds or hail) is all that is needed for infection.

At this time of year, it is particularly difficult to gauge fire blight infection potential as we often have warm and rainy weather, but we don't want to 'waste' an antibiotic spray if it is not truly necessary. If the fire blight model's EIP is close to but not at 100, there are a few rules of thumb to determine if an antibiotic application is warranted: 1) a block with a history of fire blight, 2) susceptible varieties, and/or 3) visible cankers are all good reasons to go into a rainy period with an antibiotic spray.

Susceptible Varieties

Gala, Fuji, Jonathan, Rome, Idared, Ginger Gold, Mutsu (Crispin), Rhode Island Greening, Paulared

Interpreting the Enviroweather Chart

First pick the column that best corresponds to the first day blossoms opened in your orchard (see figure). The numbers in the squares gives the EIP (Epiphytic Infection Potential) for these blossoms. Bacterial populations (larger EIP) build on days with temperatures over 65 F. When the EIP reaches 100, a rain or trauma event (strong wind or hail) will initiate a blossom infection. The higher the EIP, the greater is the risk of infection with rain or trauma.

2013		Temperature(F)			Rain		EIP for Biofix Date: (Bloom or spray date)																		
Day	Date	Max	Min	Avg	in.	Chance of rain	5/14	5/15	5/16	5/17	5/18	5/19	5/20	5/21	5/22	5/23	5/24	5/25	5/26	5/27					
Wednesday	5/15	71.3	46.8	59.1	0	--	17	14																	
Thursday	5/16	70.2	44.8	57.5	0	--	34	32	17																
Friday	5/17	58.2	42.8	50.5	0.03	--	23	21	12	0															
Saturday	5/18	75.5	51.7	63.6	0	--	48	46	36	25	25														
Sunday	5/19	85	58.9	72	0	--	100	100	100	88	88	63													
Today's data:																									
Note: Last time reported by station is (8:55-9:00AM)																									
Monday	5/20	Forecast: 78	Actual (2:45-2:50AM): 63.6	70.8	0	72%	162	162	162	162	162	137	74												
Forecast Data																									
Tuesday	5/21	75	58	66.5	--	83%	174	174	174	174	174	174	111	37											
Wednesday	5/22	69	54	61.5	--	79%	186	186	186	186	186	186	123	49	12										
Thursday	5/23	62	48	55	--	57%	82	82	82	82	82	82	82	33	8	0									
Friday	5/24	63	36	49.5	--	2%	41	41	41	41	41	41	41	16	4	0	0								
Saturday	5/25	66	36	51	--	10%	16	16	16	16	16	16	16	16	4	0	0	0							
Sunday	5/26	67	44	55.5	--	33%	16	16	16	16	16	16	16	16	4	0	0	0	0						
Monday	5/27	68	48	58	--	32%	16	16	16	16	16	16	16	16	12	12	12	12	12						

POST SHUCKSPLIT APPLICATIONS OF BRAVO WEATHERSTIK FOR CHERRY LEAF SPOT CONTROL

N.L. Rothwell, NWMHRC

J. Wise, Dept. of Entomology and TNRC

Growers can use Bravo WeatherStik past the typical shucksplit timing on mechanically harvested tart cherries only

Because of fungicide resistance issues and the season-long challenge of controlling cherry leaf spot (*Blumeriella jappii*) (CLS), growers can use the fungicide Bravo WeatherStik past the typical post-shucksplit timing on mechanically harvested tart cherries. The old Bravo label prohibited this fungicide from use past shucksplit, but with new residue information provided by Michigan State University Extension, this label has been changed to provide Michigan tart cherry growers with an additional tool for controlling CLS.

In 2011, Dr. John Wise worked with the Michigan cherry industry and Syngenta to determine the levels of residues of chlorothalonil, the active ingredient of Bravo, on machine harvested cherries that had spent time on a cooling pad. This situation simulates what a grower would do in the 'real world': harvest tart cherries into water and place on a cooling pad for a time period before delivering fruit to the processor. The study confirmed that when tart cherries were harvested and handled in water, they had less chlorothalonil residue than fruit not harvested in water.

As a result of this work, the Michigan Dept. of Agriculture and Rural Development granted a Section 24 (c) special local need registration for allowing use of Bravo WeatherStik past the old shucksplit timing on mechanically harvested tart cherries that are handled in water. *However, to ensure that post-shucksplit applications do not result in illegal residues (<0.5ppm), there are use restrictions that growers must follow:*

1. The minimum pre-harvest interval (PHI) is 21 days.
2. Cherries must be mechanically harvested.
3. Cherries must spend at least 2 hours on the cooling pad.
4. The initial flow rate on the cooling pad must be 8-10 gallons of water per minute (gpm). After this period, the flow rate can be reduced to 4-6gpm.
5. Rinse water generated during the cooling process must not drain or channel toward aquatic areas.
6. Cherries cannot be used fresh; they must be processed by a commercial processor.
7. This special registration is for Bravo WeatherStik only! Even though there are other generics of chlorothalonil available, this label applies only to Bravo WeatherStik.
8. This special registration cannot be used on cherries harvested dry for the juice or other markets; fruit must be harvested in water and cooled on a cooling pad.
9. Cooling pad rules need to be followed explicitly—the MSU data that were collected specified fruit would be on a cooling pad for two hours, so the resulting regulations were based on this information. Even if a grower cools cherries for a shorter amount of time, this time specification is important to follow to remain in compliance.
10. Growers should check with his/her processor if fruit is to be harvested in a special manner (i.e. dry) if the grower wants to take advantage of this special registration.
11. ****Important step!** Growers that want to use this special registration must go through a training affidavit online at the MDARD website and complete steps 2 and 3 (www.michigan.gov/cherrysln). If a grower participated in this special use label last year, he or she *WILL HAVE to go through the training affidavit process again* due to some language issues on the 2012 affidavit. The new affidavit will be available on the MDARD website at the URL above by May 24, 2013. The language of the Bravo WeatherStik label states that to use this product post-shucksplit, a grower must sign this affidavit *EVERY YEAR*.

If growers do not have access to a computer, please call Nikki @ 231-946-1510 for assistance.

To reiterate, growers need to follow these steps to ensure that they will be in compliance of this special use label. Cherries that are harvested 21 days after the last application of Bravo WeatherStik *will* have illegal residues—growers must follow label carefully to ensure the residues on fruit are reduced to a legal level (<0.5ppm). Illegal residues would violate federal law and would have serious consequences for the grower, processor, and the Michigan cherry industry as a whole.

MSU Extension Agriculture and Agri-Business Institute to host seminar presentations for the **NWMHRC Fruit Production Educator Position** (formerly the IPM position)

May 23, 2013

4:00 P.M.

Nathaniel Walton

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5:00 P.M.

Emily Pochubay

20 Minute Presentation with 10-15 Minute Q & A

Seminar Topic:

"Collaborating to deliver cutting edge integrated crop management (ICP) information to Michigan's tree fruit industry"

Seminars presented at Northwest Michigan Horticultural Research Center

6686 S. Center Highway, Traverse City, MI 49684

Everyone is welcome to attend these important seminars

VINEYARD WEED ID and MANAGEMENT WORKSHOP

June 6 - SW Michigan (SWMREC) - 11:30am-5:30pm

June 7 - NW Michigan (NWMHRC) - 11:30am-5:30pm

\$25 per person, includes lunch, handouts and 4 RUP credits. For information on the guest speakers and registration, please see [attached 2-page flyer](#).

INPUT REQUESTED FOR NEW AND IMPROVED WEBSITES

Got opinions or feedback for updating MSU's apple and cherry websites?

We will be rehauling www.cherries.msu.edu and www.apples.msu.edu during the next few months to better serve the needs of growers. Whether you are a regular web user or new to these sites, please give us your perspective through the brief survey at

www.surveymonkey.com/s/FruitWebsitesFeedback

[Read an article about this effort.](#)

WEBSITES OF INTEREST

Insect and disease predictive information is available at:

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

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/>

Fruit CAT Alert Reports have moved to MSU News

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

www.agbioresearch.anr.msu.edu