





Researcher Resources



ABOUT

NEWS & STORIES

AFFILIATED PROGRAMS

PROJECTS

Home

Background  
& Projects

Calendar

Directions

InfoVideos

Links

Extension  
Expert Search

Publications

Staff

## Northern Michigan FruitNet 2011 Weekly Update NW Michigan Horticultural Research Station

[Nikki Rothwell](#) District Horticulturist   [Erin Lizotte](#) District Fruit IPM/IFP Agent   [Bill Klein](#) Farm Mgr, NWMHRS  
[Duke Elsner](#) Agricultural & Regional Viticulture Agent

August 2, 2011

### GROWING DEGREE DAY ACCUMULATIONS through August 1st at the NWMHRS

Year	2011	2010	2009	2008	2007	2006	21 yr. Avg.
<b>GDD42</b>	2221	2575	1939	2121	2466	2488	2217.4
<b>GDD50</b>	1452	1665	1148	1337	1614	1620	1413.0

### Growth Stages at NWMHRS (August 1 – 1 p.m.)

**Apple:** Red Delicious – 53 mm fruit  
Gala – 44 mm fruit  
Yellow Delicious – 45 mm fruit  
**Pear:** Bartlett: 39 mm fruit  
**Balaton:** Harvested  
**Apricot:** Harvested  
**Plum:** 25 mm fruit  
**Grapes:** Green fruit

### Weather Report

We continue to be dry and hot in the north, but the forecast is for rain today (2 August), potentially with some severe stormy conditions. For the past week, our daytime temperatures have stayed consistent in the mid-80's. With these warm temperatures, our degree day accumulations have slightly exceeded our 21-year average accumulations: 2221 GDD base 42 in 2011 and 2217 base 42 for the 21-year average. The accumulations base 50 are similar, and this season's total thus far is 1452 and the average is 1413. The degree day totals are a bit of surprise considering the cold and wet start to this season. We have had no significant rainfall since 24 June, but as mentioned above, forecasts are predicting ample rainfall for today. Soils are extremely dry at this time.

### Crop Report

Sweet cherry harvest is finished around the region while tart cherries harvest is still underway. Growers in the southern part of the region have wrapped up their tart cherry harvest, and many are applying post-harvest applications. However, to the north, growers are still harvesting. Tart cherry quality continues to be good: fruit are firm but small in size. Yellow leaves in both tart and sweet cherry trees are common across the region. Balaton harvest has started, and the crop loads are variable between orchards. Most apricots have also been harvested. Strawberry growers are renovating their fields now, and raspberry harvest is still underway. In winegrapes, growers are still doing a lot of canopy management, and they will start crop load management in the coming week. Grapevine vigor has been excellent with the early rainfall followed by ample heat. Powdery mildew is just showing up in the region, and growers are concerned with spray coverage as the berry size has increased rapidly, particularly in tight clustering varieties.

### Pest Report

#### Apples

Minimal [apple scab](#) lesions have been reported around the region, particularly on highly susceptible varieties. In abandoned blocks scab lesions are prevalent on the fruit. Still no sign of powdery mildew in apple. Two [apple maggot](#) were caught in the trapline at the Research Station this week; however, area scouts began reporting trap catches 7-10 days earlier than our catch. Apple maggot management should be targeted 7-10 days after detection for most insecticides. For more information on apple maggot management refer to the article, [Managing Apple Maggot with Insecticides](#). [Codling moth](#) emergence continues at a slow pace. [Green apple aphid](#) numbers remain high on foliage and fruit. [Oblique-banded leafroller](#) continue to emerge as adults, though in lower numbers this week. [Spotted tentiform leafminer](#) numbers rebounded this week with traps averaging 100+ moths.

#### Cherries

[Oblique-banded leafroller](#) activity slowed in cherry, with fewer adult moths trapped this week than the past six weeks. The

ending of adult emergence is an indicator that we are past the ideal time for summer generation larvicide applications. [Plum curculio](#) activity continues, we are catching adults in pyramid traps this week and have observed feeding on fruit in the orchards. Second generation [American plum borer](#) emergence continues– delineating between generations can be difficult as trap catches often never reach zero. However this week marked the highest trap catch since the end of May and was the highest catch of the year, which is a good sign that we are at peak flight of second generation APB. [Lesser peach tree borer](#) emergence is slowing with an average of 3 per trap. [Peach tree borer](#) numbers continued to rise this week with an average of 9 per trap.

Emergence of [cherry fruit fly](#) continues at high numbers, with the highest trap catches to date this week (330 in 6 traps). With high populations present, many growers will be applying post harvest sprays in the coming weeks. Recent work has shown that a great deal of cherry fruit fly activity occurs after harvest, and this pest behavior provides an opportunity for management in sites with high populations after harvest. Preliminary research has shown that imidacloprid products, such as Prey and Provado work well at the post-harvest application timing *seven days* after harvest. This spray could be tank-mixed with the post-harvest chlorothalonil application for cherry leaf spot. Refer to MSU Extension Bulletin E-154 [Fruit Management Guide](#) for more information and always carefully read and follow pesticide labels.

[Black cherry aphid](#) activity has still been observed on the terminals of sweet cherry branches. Black cherry aphid feeding curls and stunts leaves and deforms shoot growth. There are a number of effective insecticides for the management of black cherry aphids in sweet and tart cherry, including Provado, Actara, Assail, Beleaf, Voliam flexi, Movento and Leverage (management may be delayed until postharvest). As we approach harvest in some sites, growers should be aware of the pre-harvest intervals of various materials and always read and follow pesticide labels carefully.

The potential for early defoliation from high levels of [cherry leaf spot](#) early in the season remains a concern. We began seeing significant cherry leaf spot infections early this season, and defoliation is already significant in many blocks, particularly those with foliar bacterial canker infections from the spring that caused leaves to drop last month. Keep in mind that cherry leaf spot is resistant to sterol inhibitor fungicides (Indar, Elite, Orbit) in all the major fruit producing areas of Michigan. This season growers should consider one or two post harvest chlorothalonil applications to retain as many leaves as possible going into fall.

Early bacterial canker symptoms allowed [American brown rot](#) (ABR) infections to become established on green fruit early, hail damage and sites with a history of American brown rot also saw higher than usual ABR infections. Indar should be applied at a 6 fl oz/A rate on most sites, an 8 fl oz/A application rate should only be used if a shift in fungal sensitivity is suspected (only Indar 2F is labeled for increased rates). Surfactants, high water application volumes, full covers and slow speeds are important strategies for American brown rot management. Growers looking to treat for cherry leaf spot and hedge their bets against low American brown rot pressure could utilize Pristine.

### **Grape Report**

Recent hot and dry weather produced rapid growth of mature vines with deep root systems, but young vines without irrigation have started to show signs of drought stress. Hopefully the rains which began today will provide some relief.

Powdery mildew has now appeared in a number of vineyards in the area, mostly as foliar infections. Fruit should become resistant to new infections in the next week or so.

The big sphinx moth caterpillars are out now, watch out for them on 1-3 year old vines that can't tolerate the foliage loss that these beasts can cause. Older vines can normally withstand the defoliation without much impact on the vine.

### **POST HARVEST SPRAYS FOR CHERRY LEAF SPOT**

Nikki Rothwell, NWMHRS

Erin Lizotte, NWMRHS

George Sundin, Plant Pathology, MSU

Cherry leaf spot is the most important fungal disease of tart cherry in Michigan. The leaf spot fungus *Blumeriella jaapii* infects leaves with symptoms first appearing on upper leaf surfaces as small purple spots. As spots accumulate on leaves, the leaves turn yellow and fall. The amount of lesions required causing leaf yellowing and drop is variable. Defoliations that begins before early September reduces the ability of trees to store photosynthate in roots leading to an overall loss of vigor and leaving trees more susceptible to killing by winter injury. Early-defoliated trees also typically exhibit reduced flower bud formation and often set less fruit the following season.

As harvest will be winding down for cherries, many growers will be considering post-harvest applications for cherry leaf spot (CLS). Considering the substantial amount of precipitation early this season, disease pressure is likely higher in most blocks throughout the state. We have observed defoliation in many sites, and our test blocks at the NWMHRS have considerable leaf drop. Growers should be applying a post-harvest application for CLS.

Leaves typically fall from branches a few weeks after they begin to show disease symptoms. Thus, the goal of a cherry leaf spot management program is to maintain a healthy canopy on trees at least through the end of September. This recommendation ensures an adequate amount of leaves on trees into late October and beyond. Because of the wet weather this season, most growers, particularly those with CLS symptoms already present in the orchard, should be using a post-harvest spray to prevent early defoliation.

The fungicide of choice for leaf spot control after harvest is chlorothalonil (Bravo or some equivalent product).

Chlorothalonil provides excellent leaf spot control and is a broad spectrum fungicide, making it a good choice for mitigating fungicide resistance.

### **POST-HARVEST CONTROL OF CHERRY FRUIT FLY**

Nikki Rothwell, NWMHRS

Larry Gut, MSU

Erin Lizotte, NWMHRS

Data collected in Michigan in the past six years shows that cherry fruit fly (CFF) peak emergence occurs after harvest, and some managed orchards have resident populations of this pest (Teixeira *et al.* 2007). The Teixeira (2007) study showed larval infestation in managed orchards was low before harvest and increased immediately after harvest, contributing to

increases in resident populations. This work established that the majority of CFF infesting commercial orchards originate from resident populations, rather than populations outside of the orchard; implications of these findings may result in increases in overall population size within orchards and make CFF control more difficult for growers. Additionally, larger populations can lead to increased periods of adult activity extending the management period. Fruit fly-infested fruit that remain on the tree after harvest represent a source for infestation the following season.

This pattern of increased CFF activity after harvest was detected over several years, and research has shown that a post-harvest application of imidacloprid (Provado, Prey, etc.) has the potential to reduce CFF populations in the following year (Gut, unpublished). This work has been expanded, and current research is underway to determine the effectiveness of these post-harvest treatments at three NW tart cherry orchards. Although the data collection has not yet been completed for the two-year study, the results indicate that a post-harvest imidacloprid application within seven days after harvest may reduce pest population size in the following season.

Many growers are already making a post-harvest application for cherry leaf spot control with the fungicide chlorothalonil (Bravo), and adding a 6oz rate of imidacloprid to the tank mix may be needed in orchards with high post-harvest CFF catches. For instance, we caught the highest numbers of CFF in the NWMHRS trapline this week (300 flies/6 yellow sticky traps), and this number of flies indicate a high population and a post-harvest application would be warranted. To determine if CFF populations are high after harvest, growers should continue to trap for these insects at least two weeks post-harvest. If CFF catch is higher after harvest than pre-harvest, a post harvest application of imidacloprid would be beneficial to reduce the overall population size for the 2012 season. Post-harvest applications should be made within seven days of harvest.

#### Literature Cited

Teixeira, L. A .F., R. Isaacs, and L. J. Gut. 2007. Habitat-Specific Flight Period in the Cherry Fruit Fly *Rhagoletis cingulata* (Loew) (Diptera: Tephritidae), Environ. Entomol. 36(6): 1339-1348.

#### **WEBSITES OF INTEREST**

##### **CIAB Weekly Raw Product Report – Week 4**

<http://www.cherryboard.org/Week42011.pdf>

##### **Trapline Counts from the NW Michigan Horticultural Research Station**

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

##### **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**

<http://www.ipmnews.msu.edu/fruit/>

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

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

[ACTUAL AND PREDICTED DEGREE-DAY  
ACCUMULATIONS SINCE MARCH 1, 2011](#)

##### **Please send any comments or suggestions regarding this site to:**

Bill Klein, [kleinw@msu.edu](mailto:kleinw@msu.edu)

Last Revised: 8-2-11

**Home | Site Map | Contact | Indicia | Logos**  
AgBioResearch • 109 Agriculture Hall • East Lansing, MI 48824 • Ph: 517-355-0123

© 2010 Michigan State University Board of Trustees





Researcher Resources



ABOUT

NEWS & STORIES

AFFILIATED PROGRAMS

PROJECTS

Home

Background  
& Projects

Calendar

Directions

InfoVideos

Links

Extension  
Expert Search

Publications

Staff

## Northern Michigan FruitNet 2011 Weekly Update NW Michigan Horticultural Research Station

[Nikki Rothwell](#) District Horticulturist  
[Erin Lizotte](#) District Fruit IPM/IFP Agent  
[Bill Klein](#) Farm Mgr, NWMHRS  
[Duke Elsner](#) Agricultural & Regional Viticulture Agent

August 9, 2011

### GROWING DEGREE DAY ACCUMULATIONS through August 8th at the NWMHRS

Year	2011	2010	2009	2008	2007	2006	21 yr. Avg.
GDD42	2449	2790	2099	2330	2692	2706	2410.4
GDD50	1624	1824	1252	1490	1784	1782	1549.9

### Growth Stages at NWMHRS (August 8 – 1:30 p.m.)

**Apple:** Red Delicious – 55 mm fruit  
Gala – 46 mm fruit  
Yellow Delicious – 47 mm fruit  
**Pear:** Bartlett: 40 mm fruit  
**Plum:** 28 mm fruit  
**Grapes:** Green fruit

### Weather Report

The weather continues to be warm in the north. We are now used to 80-degree days, although somewhat cooler temperatures are predicted for this week, at least for a few days. In terms of degree days, we have moved ahead of our 21-year average, but by very few degree days. In 2011, we have accumulated 2449 base 42 and 1624 base 50. Rainfall across the region was variable, which seems to be a theme this season. At the NWMHRS, we received 0.43" inches of rain on Saturday. However, other weather stations in the area did not record any significant rainfall.

### Crop Report

Tart cherry harvest is winding down, and most growers anticipate finishing by the end of this week. Fruit quality is still holding up, but we are picking out lighter than our estimated 135 million pounds in northwest Michigan. The majority of our harvest has been reported, and we are still under our estimate for the season. Sweet cherry harvest is completed. Raspberry harvest is also winding up for the year. Apricot harvest is underway, and peaches are anticipated to be picked around the third week of August. Winegrapes are looking good at this time if growers had good timing and coverage for powdery mildew. Growers that missed the window or had too much foliage for good coverage are fighting this disease at this time. Most canopy management has been completed, and vine growth has been incredible with the early water followed by the heat.

### Pest Report

#### Cherry

Trap counts for most insects have decreased this week as all blocks where we hang our traps have been harvested. Obliquebanded leafroller numbers are down, and we averaged just over one moth per trap this week. In the lesser peachtree borer traps, we caught an average of 3 moths per trap. Peachtree borer trap count was highly variable this week: 20 in one trap while the remaining five traps had only 1-5 moths. We are still catching American plum borer, and our average number of moths per trap was almost five. The big decrease this week was in our cherry fruit fly traps, where we caught eight flies on two traps, which is down considerably from the high of last week. Two-spotted spider mites are present on inner cherry leaves, but are far fewer in orchards that did not have good weed control this season. Cherry leafspot is ubiquitous in regional orchards, and growers need to be applying a post-harvest control spray to keep leaves on the trees for as long as possible heading into the fall.

#### Apple

We caught very few insects in the one abandoned block of apples this week. Due to REI, we will be checking the grower-standard block later this week. Codling moth numbers were low in the untreated block, and we only caught one moth in two traps. We caught no obliquebanded leaf roller or apple maggots in this block. Very few Oriental fruit moths were caught, and spotted tentiform leafminer numbers were down this week.

### Grape Report

Recent hot weather produced rapid growth of mature vines with deep root systems, but young vines without irrigation have started to show signs of drought stress. Recent rains have helped a bit, but our long-term rainfall totals remain below normal thanks to a very dry July.

**Powdery mildew** has now appeared in a number of vineyards in the area, mostly as foliar infections. I've had reports of heavy infections, but not many vineyards fall into this category. Fruit should become resistant to new infections in the next week or so.

**Grape berry moth** flight is continuing, and berry injury from larval feeding is getting easier to find in many vineyards.

The big **sphinx moth** caterpillars are out now, watch out for them on 1-3 year old vines that can't tolerate the foliage loss that these beasts can cause. Older vines can normally withstand the defoliation without much impact on the vine. Two species are common, the Pandora Sphinx and Hog Sphinx.

Numerous **aphid** colonies were found on the terminal growth of Riesling vines at one vineyard in Leelanau County. These are very infrequently found in NW Michigan. Some colonies were being tended by ants. Predatory **syrphid fly larvae** were on duty as well.

Some stippling from **leafhoppers** has been seen, but very few **potato leafhoppers** are present in managed vineyards at the moment.

A number of relatively insignificant **lepidopteran leafrollers** and **leaf miners** are now present in vineyards.



### WEBSITES OF INTEREST

#### CIAB Weekly Raw Product Report – Week 5

<http://www.cherryboard.org/Week52011.pdf>

#### Trapline Counts from the NW Michigan Horticultural Research Station

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

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

<http://www.ipmnews.msu.edu/fruit/>

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

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

[ACTUAL AND PREDICTED DEGREE-DAY  
ACCUMULATIONS SINCE MARCH 1, 2011](#)

Please send any comments or suggestions regarding this site to:

Bill Klein, [kleinw@msu.edu](mailto:kleinw@msu.edu)

Last Revised: 8-9-11





Researcher Resources



ABOUT

NEWS & STORIES

AFFILIATED PROGRAMS

PROJECTS

Home

Background  
& Projects

Calendar

Directions

InfoVideos

Links

Extension  
Expert Search

Publications

Staff

## Northern Michigan FruitNet 2011 Weekly Update NW Michigan Horticultural Research Station

[Nikki Rothwell](#)

District Horticulturist

[Erin Lizotte](#)

District Fruit IPM/IFP Agent

[Bill Klein](#)

Farm Mgr, NWMHRS

[Duke Elsner](#)

Agricultural & Regional Viticulture Agent

August 19, 2011

### Growth Stages at NWMHRS (August 16 – 9:00 a.m.)

**Apple:** Red Delicious – 59 mm fruit

Gala – 48 mm fruit

Yellow Delicious – 49 mm fruit

**Pear:** Bartlett: 43 mm fruit

**Plum:** 29 mm fruit

**Grapes:** Green fruit

### PEST REPORT

#### Cherry

**Oblique-banded leafroller** numbers rebounded this week, and we caught up to 38 moths in a single trap. **Lesser peachtree borer** emergence continues at a slow pace, and **greater peachtree borer** trap counts remain variable. We are still catching **American plum borer**. **Cherry fruit fly** numbers remain low relative to higher pressure in past weeks. **Plum curculio** are still active on some area canopies. **Two-spotted spider mites** are present on inner cherry leaves, but are far fewer in orchards that did not have good weed control this season. **Cherry leaf spot** is ubiquitous in regional orchards, and growers need to be applying a post-harvest control spray to keep leaves on the trees for as long as possible heading into the fall.

#### Apple

The big news this week is the high numbers of **codling moth** in the traps around northern Michigan. We often don't see a clear distinction between first and second generation in the north, but this week's trap catches might be this season's high catch and indicate that the majority of the population are at the adult stage at this time. The vast majority of insecticides used for summer CM control are aimed at killing larvae. Options for controlling CM larvae include conventional contact poisons, like the organophosphate (OP) compounds, Guthion and Imidan, and a number of pyrethroid insecticides. However, many orchards in the region have confirmed OP-resistance (and pyrethroid cross resistance), so these materials will not be effective. There are a number of new lepidopteron materials available (see the E154 spray guide). These materials primarily target newly emerging larvae and are typically applied at the start of second generation egg hatch. The CM model predicts this will occur around 1,250 GDD50 after the initial biofix was set (based on a May 31 biofix we have already accumulated 1,700 GDD50). *However, the actual onset of second generation egg hatch is highly dependent on when (and if) the fruit were infested in a particular orchard by first generation larvae. Thus, the best way to predict second generation egg hatch is to calculate the GDD's after the first consistent catch of second generation moths in pheromone traps.* Egg hatch will start following the accumulation of 250 GDD50 after second generation moth activity is detected. Additionally, if pyrethroids are still effective in an orchard, they are even less effective in the summer for second generation CM compared to early season use. Again, growers should be aware that resistance to the OP compounds has been detected in Michigan orchards throughout the state, and the levels of resistance detected were high enough that sole reliance on OP's is not likely to provide sufficient control. Refer to the E-154 fruit management guide for specific chemistries. Always read and follow all pesticide labels carefully.

### SPOTTED WING DROSOPHILA CATCHES ARE PICKING UP: MAINTAIN MONITORING IF FIELDS ARE STILL RIPENING Spotted wing Drosophilas in Michigan are increasing as 30 more were trapped over the past week. Continue to scout fields and check your traps.

Published August 16, 2011

Rufus Isaacs and Steve Van Timmeren, Michigan State University Extension, Department of Entomology

Widespread monitoring in commercial fruit farms across Michigan by Michigan State University research and Extension staff has so far detected spotted wing Drosophila (SWD) at only a small proportion of the hundreds of sites where traps are deployed. The pattern that we are seeing from this monitoring has three main components.

1) SWD is active in the regions of the state that had the highest catches last year (detected so far in Van Buren, Ottawa



and Allegan counties in 2011) and again at some of the farms with high counts in 2010.

2) It is being suppressed by many of the typical insect management programs being applied for blueberry maggots and Japanese beetles.

3) SWD becomes most active in mid-late summer. The current weather conditions of daily high temperatures in the 70s are ideal for reproduction and growth of this pest, and so we expect trap catches to climb in the coming weeks.

Catches of SWD are increasing at a few of the sites we are monitoring and the patterns of detection are providing insight into where SWD are most likely to be found. The majority of sites where SWD has been detected are in traps in wild areas close to crop fields, indicating a risk to fields from the outside by this new pest. The catches over the past week indicate that activity of SWD is increasing; the average number of flies trapped has gone up, and the number of sites with catches has increased. This is clearly seen by finding 30 SWD (11 females, 19 males) in monitoring traps over the past week, whereas we had only trapped 15 flies in the previous weeks this summer.

The flies trapped this week have been found in yeast traps and not in the standard apple cider vinegar baited traps. These captures have mostly been at sites where the fruit are ripe, suggesting that the yeast can compete better with the ripening fruit than the apple cider vinegar. However, for this season we still recommend that scouts and consultants use the apple cider vinegar traps because these have been reliable for trapping this pest in previous studies in Michigan and in other regions. If you are interested in trying the yeast traps, the recipe we are using is:

4 Tbsp. sugar: 1 Tbsp. Red Star active dry yeast: 12 oz. water, with about an inch depth of this mixture per trap.

The yeast traps catch many more "other" species, creating a challenge for sorting through the other insects to look for SWD. Accurate identification is important and we have found native fly species this season that have some similar characteristics to SWD. Our approach has been to look for the spot on the wing **AND** the dark combs on the foreleg to identify male SWD, and for female SWD it is still critical to look at the ovipositor. This can be challenging without a microscope, so we still encourage scouts and consultants to send samples to [MSU Diagnostics Services](#) if they have a question. Images of the main features for identification of SWD can be found at [MSU IPM Program's Spotted Wing Drosophila website](#).

In our monitoring of alternate hosts for SWD in Michigan fruit farms, this week we have also detected SWD reared out of wild blackberries. These fruit were collected in the adjacent habitat and in weeds at a non-managed crop field. This highlights the importance of wild hosts for this insect's ability to reproduce, as well as the importance of controlling perennial fruiting weeds inside crop fields. As the fall approaches, make plans to control weeds such as wild blackberry, wild raspberry, Virginia creeper, wild grape and other plants that will provide alternative sites for SWD egg-laying.

Our research team is actively engaged in testing insecticides for SWD control in Michigan blueberries this summer. We are in the middle of some trials where insecticides are applied in the field and then the treated shoots are brought back to a laboratory and exposed to SWD flies at different times after the application. Based on the results of our most recent field assays, we have found that one-day-old residues of Delegate (6 oz.), Imidan (1.33 lb.) and Malathion (32 oz.) have the highest activity against SWD. Lannate (1 lb.) and Entrust (2 oz.) had intermediate levels of activity, whereas Mustang Max (4 oz.) and Pyganic (64 oz.) had low activity. Growers should use this information plus the pre-harvest interval (PHI) restrictions, and any potential MRL considerations, when making decisions regarding which insecticide to use to protect fruit against SWD. For example, Delegate and Imidan have three-day PHIs in blueberry, whereas Malathion has a one-day PHI.

*Dr. Isaacs's work is funded in part by [MSU's AgBioResearch](#).*

#### **REMINDER – NW OPEN HOUSE & EQUIPMENT SHOW**

Just a reminder that the Annual Open House is being held next Thursday, August 25th at the NW Michigan Horticultural Research Station. (see agenda below) If you plan on attending the dinner, please **RSVP BY THIS MONDAY, AUGUST 22** to 231-256-9888 or [msue45@msu.edu](mailto:msue45@msu.edu); so that we can give an accurate count to the caterer.

#### **Northwest Michigan Horticultural Research Center Annual Open House Thursday, August 25, 2011**

The Northwest Michigan Horticultural Research Center Open House will be held Thursday, **August 25, 2011**. The equipment show and grounds open at 1:00 pm. The educational sessions for tree fruit and winegrapes will run concurrently and will begin at 3:00 pm. Sessions will conclude with a social hour at 5:15 pm and dinner at 6:00 pm.

The Leelanau Horticultural Society is hosting an equipment show that will feature many local and regional equipment and supply vendors. These vendors will be set up at the NWMHRS and will be available from 1pm through the dinner hour.

The Northwest Station Open House is hosted by AgBioResearch, Michigan State University Extension, the Leelanau Horticultural Society, and the Northwest Michigan Horticultural Research Foundation. The education sessions are *free* and open to all who would like to attend. Tickets for the social hour and dinner are \$15 per person and can be reserved by calling the Leelanau County Extension office at 231-256-9888 or purchased at the door. This year, dinner will be provided by *Ethnic Garden Catering* and will feature local food from the region.

#### **Schedule**

12:30 – 2:30 **MAEAP Phase I and the Michigan Safe Food Risk Assessment Program**  
Dan Busby, Water Stewardship Program Coordinator, GT SCD

#### **Concurrent Tree Fruit Session – 3:00 p.m.**

##### **Horticulture**

#### **High Density Montmorency Planting: Big, Healthy Trees in Year Two**

Drs. Nikki Rothwell, Greg Lang, and Ron Perry

**New Cherry Rootstock Planting**

Dr. Amy Iezzoni

**New Cherry Cultivar Planting at High Densities**

Dr. Ron Perry

*Plant Pathology***Update on Fungicide and Bactericide Trials Conducted at NWMHRS**

Dr. George Sundin, Dr. Nikki Rothwell, and Erin Lizotte

**Concurrent Winegrapes Session – 3:00 p.m.***Horticulture***Update on Winegrape Cultivar Planting at NWMHRS: Vines Looking Great in 2011**

Drs. Paolo Sabbatini, Nikki Rothwell, and

Duke Elsner

*Plant Pathology***Weather and Winegrape Disease Control  
for the 2011 Season.**

Dr. Annemiek Schilder

**Bunch Rot Control and the Heat of July**

Dr. Annemiek Schilder

We hope to see you on the 25th!

**WEBSITES OF INTEREST****CIAB Weekly Raw Product Report – Week 6**

<http://www.cherryboard.org/Week62011.pdf>

**Trapline Counts from the NW Michigan Horticultural Research Station**

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

Insect and disease predictive information is available at:

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

**60 Hour Forecast**

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

Information on cherries is available at the new cherry website:

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

**Fruit CAT Alert Reports**

<http://www.ipmnews.msu.edu/fruit/>

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

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

**ACTUAL AND PREDICTED DEGREE-DAY**

**ACCUMULATIONS SINCE MARCH 1, 2011**

**Please send any comments or suggestions regarding this site to:**

Bill Klein, [kleinw@msu.edu](mailto:kleinw@msu.edu)

Last Revised: 8-19-11

**Home | Site Map | Contact | Indicia | Logos**

AgBioResearch • 109 Agriculture Hall • East Lansing, MI 48824 • Ph: 517-355-0123

© 2010 Michigan State University Board of Trustees







Researcher Resources



ABOUT

NEWS & STORIES

AFFILIATED PROGRAMS

PROJECTS

Home

Background  
& Projects

Calendar

Directions

InfoVideos

Links

Extension  
Expert Search

Publications

Staff

## Northern Michigan FruitNet 2011 Weekly Update NW Michigan Horticultural Research Station

[Nikki Rothwell](#) District Horticulturist  
[Erin Lizotte](#) District Fruit IPM/IFP Agent  
[Bill Klein](#) Farm Mgr, NWMHRS  
[Duke Elsner](#) Agricultural & Regional Viticulture Agent

August 23, 2011

### GROWING DEGREE DAY ACCUMULATIONS through August 22nd at the NWMHRS

Year	2011	2010	2009	2008	2007	2006	21 yr. Avg.
<b>GDD42</b>	2828	3222	2497	2705	3075	3085	2780.2
<b>GDD50</b>	1891	2144	1538	1753	2056	2049	1808.0

### Growth Stages at NWMHRS (August 22 – 10:00 a.m.)

**Apple:** Red Delicious – 62 mm fruit  
Gala – 52 mm fruit  
Yellow Delicious – 53 mm fruit  
**Pear:** Bartlett: 46 mm fruit  
**Plum:** 33 mm fruit  
**Grapes:** Veraison

### Weather Report

Temperatures seem to moving toward fall, with sunny warm conditions during the day and cool overnight conditions. Daytime temperatures still reach into the 80's, and we dip down into the mid-50's and 60's overnight. Overall, we have accumulated 2828 GDD Base 42 and 1891 Base 50—we are slightly ahead of our 21-year average for degree day accumulations. We are still extremely dry across much of the north, but last weekend, some isolated areas did receive rain. At the NWMHRS, we receive 0.32" of rain on 13 August, and prior to that event, we had ~0.7" of rain at the beginning of August, and only one rain event in July: 0.48". Soils are very dry at this time.

### Crop Report

Tart and sweet cherry harvest is officially over in the north. Tart cherry harvest was much lighter than estimated, and so far, 91.9 million pounds have been harvested this season. We anticipate a bit more fruit to be reported in week seven, but we will not reach 135 million pounds as estimated. Peach harvest is beginning for early varieties, but Red Havens are likely a week away from now. Apple harvest has not begun here in the north, but apples are coloring nicely.

### Cherry

**Plum cuculio** can still be found feeding in tart cherry orchards—particularly in blocks with fruit still hanging. **Oblique-banded leafroller** adult emergence continues, and this second generation flight has been surprisingly protracted. **Lesser peachtree borer** and **American plum borer** emergence continues at low levels; **greater peachtree borer** numbers were variable with up to 10moths/trap, depending on site. **Cherry fruitfly** catch continues in high pressure sites, but at very low numbers. **Aphid** activity is down at this time. **Cherry leaf spot** infection and defoliation continues around the region, and growers should remember that retaining leaves through September helps minimize winter mortality following early defoliation. **Powdery mildew** is present, particularly on vigorous shoots.

### Apple

The big news this week is the high numbers of **codling moth** in the traps around northern Michigan over the last 10 days. We often do not see a clear distinction between first and second generation in the north, but this week's trap catches are 2011's highest catch; these numbers indicate that the majority of the population are now at the adult stage. The majority of insecticides used for summer CM control target larvae. Options for controlling CM larvae include conventional contact poisons, like the organophosphate (OP) compounds and a number of pyrethroid insecticides. However, apple growers should be aware that resistance to the OP compounds has been detected in Michigan orchards throughout the state, and the levels of resistance detected were high enough that sole reliance on OP's for CM control will not provide sufficient control. In addition, populations resistant to OP compounds may also be resistant to pyrethroids. There are also a number of new lepidopteron materials available (see the E-154 spray guide). These materials primarily target newly emerging larvae and are typically applied beginning at the start of second generation egg hatch. The CM model predicts this will

occur around 1,250 GDD50 after the initial biofix was set (based on a May 31 biofix we have already accumulated 1,700 GDD50). However, the actual onset of second generation egg hatch is highly dependent on when (and if) the fruit were infested in a particular orchard by first generation larvae. Thus, the best way to predict second generation egg hatch is to calculate the GDD's after the first consistent catch of second generation moths in pheromone traps. Egg hatch will start following the accumulation of 250 GDD50 after second generation moth activity is detected. Pyrethroid insecticides appear to be less effective in the summer for second generation CM compared to early season use for first generation control. Refer to the E-154 fruit management guide for specific chemistries. Always read and follow all pesticide labels carefully. **Oblique-banded leafroller** also continue to emerge at low level (2/trap).

#### Winegrapes

Veraison has started for many cultivars. Warm days and cool nights have already provided some good color development on the earliest red varieties. Drought conditions have slowed shoot growth a bit; hedging has been less challenging this year compared to the last couple of years.

**Powdery mildew** has been reported from many sites, infection levels vary greatly. Both foliar and fruit infestations are common. Fruit infections are most likely from infections during bloom or early berry development. In general, good canopy management has really helped keep powdery mildew to low levels, but where the foliage is too dense, it has become a problem.

**Berry moth** trap catches remain at zero for the last week at the NW Research Center.

#### **REMINDER – NW OPEN HOUSE & EQUIPMENT SHOW**

Just a reminder that the Annual Open House is being held next **Thursday, August 25th** at the NW Michigan Horticultural Research Center. (see agenda below) If you plan on attending the dinner, please call 231-256-9888 or [msue45@msu.edu](mailto:msue45@msu.edu) to see if tickets are still available.

#### **NW Michigan Horticultural Research Center Annual Open House**

The Northwest Michigan Horticultural Research Center Open House will be held Thursday, **August 25, 2011**. The equipment show and grounds open at 1:00 pm. The educational sessions for tree fruit and winegrapes will run concurrently and will begin at 3:00 pm. Sessions will conclude with a social hour at 5:15 pm and dinner at 6:00 pm.

The Leelanau Horticultural Society is hosting an equipment show that will feature many local and regional equipment and supply vendors. These vendors will be set up at the NWMHRS and will be available from 1pm through the dinner hour.

The Northwest Station Open House is hosted by AgBioResearch, Michigan State University Extension, the Leelanau Horticultural Society, and the Northwest Michigan Horticultural Research Foundation. The education sessions are *free* and open to all who would like to attend. Tickets for the social hour and dinner are \$15 per person and can be reserved by calling the Leelanau County Extension office at 231-256-9888 or purchased at the door. This year, dinner will be provided by *Ethnic Garden Catering* and will feature local food from the region.

#### **NW RESEARCH STATION OPEN HOUSE & EQUIPMENT SHOW AUGUST 25, 2011**

##### **Schedule**

12:30 – 2:30 MAEAP Phase I and the Michigan Safe Food Risk Assessment Program

Lunch & Meeting hosted by Dan Busby  
Water Stewardship Coordinator, GT SCD

##### **Conference Room**

##### Concurrent Tree Fruit Session

Sessions to take place in the field at various locations (wagon available)

3:00-3:30 High Density Montmorency Planning: Big, Healthy Trees  
In Year Two

Drs. Nikki Rothwell, Greg Lang, and Ron Perry

3:30-4:00 New Cherry Rootstock Planting  
Dr. Amy Iezzoni

4:00-4:40 Update on Fungicide and Bactericide Trials Conducted at NWMHRC  
Dr. George Sundin, Dr. Nikki Rothwell, and Erin Lizotte

4:40-5:15 New Cherry Cultivar Planting at High Densities  
Dr. Ron Perry

##### Concurrent Winegrape Session

The educational sessions will be held in the NWMHRC vineyard

3:00-4:00 Weather and Winegrape Disease Control for the 2011 Season  
Dr. Annemiek Schilder

Bunch Rot Control and the Heat of July  
Dr. Annemiek Schilder

4:00-5:15 Update on Winegrape Cultivar Planting at NWMHRC: Vines  
Looking Great in 2011  
Drs. Paolo Sabbatini, Nikki Rothwell, and Duke Elsner

5:15-6:00 Social Hour with Wine Tasting

6:00- Dinner by *Ethnic Garden Catering* and Leelanau Horticulture

## **TOMATO RINGSPOT VIRUS TESTING AVAILABLE**

Dr. Bill Shane has received a grant from the Michigan State Horticulture Society to conduct a project to test Michigan orchards for tomato ring spot virus in fall 2011 and he is interested to see if growers would like to have one or more orchards tested.

The goal is to help producers learn if tomato ringspot virus is a problem in their orchards. Tomato ring spot virus causes reduced yields, decline and death of fruit trees. Impact of the virus is generally worse on stone fruit trees, but tomato ring spot is a significant problem in some orchards and not in others. The only way to know if the virus is present is to test for it.

For this survey, we will come to your farm and collect dandelion leaves from the orchard floor. Dandelions are good hosts for tomato ringspot virus and are relatively easy to test for the presence of the virus. The samples will be tested for tomato ringspot virus at the SW Michigan Research and Extension Center using enzyme-linked immunosorbent assay, using a Pathoscreen kit from AgDia.

The cost is \$10 per sample to cover costs of the test kits, transportation, and labor. This cost is relatively low because we will be sampling many orchards at the same time and because of the partial grant.

The deadline for signup for sampling in 2011 is September 15th. Once we have received your form we will contact you to determine when and where sampling will take place.

See the accompanying signup form. For questions contact me at:

Bill Shane

269-208-1652 cell

### **Signup for Survey for detection of Tomato Ringspot Virus in Michigan Orchards in 2011**

If you are interested in having your orchards surveyed for tomato ringspot virus please fill out and return this form to:

2011 Orchard Virus Survey

Attn: Bill Shane

SW Michigan Research & Ext Center

1791 Hillandale Rd

Benton Harbor, MI 49022

Fax 269-944-1477.

NAME \_\_\_\_\_ BUSINESS \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_

COUNTY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

PHONE \_\_\_\_\_ CELL PHONE \_\_\_\_\_

FAX \_\_\_\_\_ E-MAIL \_\_\_\_\_

How many orchard blocks do you wish to have sampled? \_\_\_\_\_ (see note below\*)

What is the best way to contact you (& when if by telephone)?

We will bill you for the samples at the time we mail you the report of the results.

\*For each sample we will collect five dandelion leaves, each leaf from a different plant. We recommend two samples per five acres so that the degree of tomato ringspot virus infestation can be judged.

### **Frequently Asked Questions:**

#### **What orchard blocks should I have sampled for tomato ringspot virus?**

Answer: Older orchards that are scheduled for removal and replanting, problem orchards where tree decline is happening for unknown reasons, sites that have had fruit trees for many years.

#### **Can I clean up an orchard that has a tomato ringspot virus infestation?**

Answer: If tomato ringspot virus is present, an aggressive broadleaf weed control program can help reduce spread to trees not yet infected. This information helps you know whether fumigation, alternate crops and cover crops should be done to reduce the virus and its hosts. Once a tree is infected with tomato ringspot virus, it cannot be cured. We will provide recommendations with your report.

#### **Should I sample small fruit for tomato ringspot virus?**

Answer: Red raspberry and blackberries can be severely affected by tomato ringspot virus, but black raspberry is not.

#### **Can I get by with a single sample per orchard block?**

Answer: If the orchard or bramble patch is less than 5 acres, a fewer number of samples is okay. With a larger orchard, more samples increases the power of the survey. If the amount of tomato ringspot virus in a block is small, or distribution is scattered, a single sample may miss detecting the virus.

#### **How likely is it that I have a tomato ringspot problem in my fruit site?**

Answer: In a survey done in southwest Michigan in 2010, 48% of the samples (dandelions) from stone fruit orchards were positive for tomato ringspot virus. Some orchards had high levels of virus, while others had little or no detectable virus.

#### **How is tomato ringspot virus spread?**

Answer: Tomato ringspot virus spreads easily in seed of infected dandelion and certain other weeds. The dagger nematode is needed to move the virus into a healthy plant. Nematodes thrive in sandy soils, but not in sites with heavy ground because the small particles of clay inhibit nematode movement.

**You will be sampling dandelions—what does this tell me about my trees?**

Answer: If you have an orchard with dandelions infected with tomato ring spot virus, chances are the fruit trees are or will be eventually be infected except in heavy soils where the nematodes do not survive well.

**UPDATE ON PREDICTED APPLE HARVEST DATES**

Phil Schwallier and Amy Irish Brown, Extension Educators

It appears that our predicted apple harvest dates might be a few days ahead of the actual maturity for some areas of the state. Some early apple varieties were picked a few days later than expected and Red Haven peach harvest was behind by a few days. ReTain applications can be delayed a few days but this is not critical. Retain applied according to the original predicted harvest dates will be well within the application timing for optimum results. If you have not applied yours 30 days before harvest treatment, consider delaying the application an extra 3 days. Delayed maturity may be due to apple set fruit on later and secondary bloom, heavy crop load, and perhaps extreme summer temperatures.

**WEBSITES OF INTEREST****CIAB Weekly Raw Product Report – Week 7**

<http://www.cherryboard.org/Week72011.pdf>

**Trapline Counts from the NW Michigan Horticultural Research Station**

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

**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**

<http://www.ipmnews.msu.edu/fruit/>

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

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

[ACTUAL AND PREDICTED DEGREE-DAY  
ACCUMULATIONS SINCE MARCH 1, 2011](#)

**Please send any comments or suggestions regarding this site to:**

Bill Klein, [kleinw@msu.edu](mailto:kleinw@msu.edu)

Last Revised: 8-23-11