

# Northern Michigan FruitNet 2015

## Northwest Michigan Horticultural Research Center

### Weekly Update

FruitNet Report - June 23, 2015

### CALENDAR OF EVENTS

#### 2015

- 5/5 – 7/7**     **Leelanau County IPM Updates**  
Bardenhagen Farm
- 5/5 – 8/?**     **Grand Traverse County IPM Updates**  
Wunsch Farm
- 5/6 – 7/8**     **Antrim County IPM Updates**  
Jack White Farms
- 5/6 – 7/8**     **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, MI
- 6/30**           **CIAB Grower Meeting**  
Milton Township Hall, Kewadin, MI
- 6/30**           **CIAB Grower Meeting**  
NW Michigan Horticultural Research Center, Traverse City, MI

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### GROWING DEGREE DAY ACCUMULATIONS AS OF June 22, 2015 AT THE NWMHRC

| Year | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 25 Yr. Avg. |
|------|------|------|------|------|------|------|-------------|
|------|------|------|------|------|------|------|-------------|

|              |      |      |      |      |      |      |        |
|--------------|------|------|------|------|------|------|--------|
| <b>GDD42</b> | 1087 | 1015 | 1046 | 1511 | 1025 | 1404 | 1126.5 |
| <b>GDD50</b> | 611  | 583  | 618  | 912  | 575  | 814  | 642.8  |

## Growth Stages at NWMHRC (June 22, 2015, 11 a.m.)

**Apple:** Red Delicious – 24 mm fruit

Gala – 23 mm fruit

Yellow Delicious – 21 mm fruit

**Pear:** Bartlett: 21 mm fruit

**Sweet Cherry:** Hedelfingen – 16 mm fruit

Napoleon – 14 mm fruit

Gold – 14 mm fruit

**Tart Cherry:** 13 mm fruit

**Balaton:** 13 mm fruit

**Apricot:** 28 mm fruit

**Grapes:** Riesling – 10" – 16" shoots

## Northwest Michigan Fruit Regional Report – June 23, 2015

*Fruit is sizing across the region, and the warmer and drier weather is welcomed after long ongoing wetting events*

Emily Pochubay and Nikki Rothwell

### Weather Report

The storm that was predicted for last night, 22 June, skirted by the region, and thus far we have not heard of any reports of hail nor tornados—thankfully. We did receive some rainfall (<0.1") on Monday afternoon, and we had no more rain overnight. The wind picked up into the night and early morning, but a sunny and clear day is predicted for today. We have also heard that most of the fruit growing regions around the western part of the state were not negatively impacted by yesterday's storms. We have accumulated 1087 GDD base 42 and 611 GDD base 50. These numbers remain comparable but are falling slightly behind our 25-year averages: 1126 GDD base 42 and 643 GDD base 50. There is rain in the forecast for Thursday, but the weekend is predicted to be sunny and warm.

### Crop Report

The Michigan Guesstimate will take place on 24 June in Grand Rapids where we will have the official estimates for all of the fruit crops for the 2015 season. In general, the tart cherry crop in northwest Michigan is estimated to be 75-85 million pounds. West Central is estimating their crop to be in the 32 million pound range, and the southwest crop seems to be growing and is now estimated to be 31 million pounds. The sweet cherry crop continues to ripen, and most fruit is losing the green color. We are also in the midst of June drop in sweets, and we hope that cherries that were not pollinated continue to drop as we approach harvest. The apple crop is sizing, and we are observing more frost scars in developing fruit.

## Pest Report

Conditions finally dried up throughout the region with the exception of a little rain last Wednesday, a light sprinkle on Saturday (that was so minimal that it was not recorded on the Enviro-weather station), and rain yesterday (22 June) afternoon. As a result of drier conditions, we have had few reported infection periods, which has been a welcomed break from seemingly ongoing wetting events this season.

We have observed cherry leaf spot (CLS) conidia on the undersides of infected leaves, and most orchards have CLS infection at this time. We have received reports of moderate to high levels of CLS infection in a few orchards as a result of recent wet weather that has been challenging for to keep tissue covered. Preventing the spread of CLS conidia to adjacent tissue is critical for preventing high levels of CLS and pre-mature defoliation. There is a chance for rain possibly overnight Wednesday into Thursday and again over the weekend. Most growers will need to recover tissue before the coming rain. Growers should use caution if they are planning to use copper this week as phytotoxicity could be a concern if temperatures are high this weekend; some forecasts showed a high of 80 degrees. Powdery mildew is apparent in untreated cherries at the research station at this time.

Apple scab spore catches at our monitoring site have remained low (<1 per spore rod) following wetting periods in the last two weeks. At this time, the apple scab model on Enviro-weather is reporting that 96% of spores have been discharged since the NWMHRC biofix of 19 April. Primary apple scab ended in southeast Michigan two weeks ago and in west-central Michigan last week; it is likely that most orchards in the northwest are also at the end of primary apple scab at this time. However, we caution more northerly growers that primary may not be over in those areas as spore discharge according the Northport Enviro-weather station is lagging behind the NWMHRC at 91% discharge with biofix of 23 April. We have observed symptoms of low levels of apple scab infections on leaves and fruit and growers with orchards that were infected with apple scab during primary will need to continue managing this disease to prevent the spread of secondary infections.

Overall there has been little insect activity in the trap line at the research station since last Tuesday. Borer activity continues to be relatively low; we found 0.3 American plum borer/trap, 4 lesser peachtree borer/ trap, and we still have not caught greater peachtree borer at the station. The next possible borer management timing should be targeted for later season LPTB when GPTB become active. Obliquebanded leafroller began emerging this week and we found one moth in a pheromone baited delta trap on Monday, 22 June. Rose chafers activity is ongoing and some growers have sprayed for these beetles in the last few weeks. Although we previously caught codling moth for two consecutive weeks and set biofix for 9 June, we did not catch codling moth this week.

Cherry fruit fly traps should be up in cherry orchards, and as a reminder, traps should be placed in the upper 3<sup>rd</sup> of the tree canopy, along orchard edges, and in visible locations (i.e. in areas with high sunlight reflection, southern exposure, etc.). We have not detected cherry fruit fly at the research station at this time, but expect that this pest will become active soon.

Spotted wing drosophila (SWD) were not detected in any of the 71 traps currently out in northwest Michigan last week. The first SWD detected in the state was found in Benzie County on 11 June and this SWD was a female fly captured in a Trece lure baited trap. Sweet and in some areas tart cherries are ripening and are at straw-colored stage. Previous research at the NWMHRC has shown that straw-colored cherries are susceptible to SWD egg-laying. Growers, consultants, and scouts should put SWD

traps up in orchards at this time if they are planning to monitor for SWD this season. Furthermore, most of the first detections of SWD in the state-wide monitoring network have been female flies, thus positive identification of both male and females is critical for early detection of the flies. We welcome those who are monitoring for SWD to bring suspected SWD specimens to the NWMHRC for identification and confirmation of the species.

## **Grapes**

Duke Elsner

Many vinifera vineyards are looking better after a week of good shoot growth. Bloom has started on some varieties of vinifera and hybrids. The small, delayed shoots arising from injured canes higher in the canopy are still growing, but these will likely wither if we get into a warm or dry period, or when their demand for vine resources increases after fruit set. It should be very obvious now which sites are going to make a good recovery and which ones will suffer long-term consequences.

Injury from rose chafer adults has been very minor thus far, as the population of this insect appears to be low this year. Rose chafer adult activity should peak soon and be essentially over in about two weeks. The feeding injury of the first generation of green fruitworms is over. The second generation of these insects are rarely important in vineyards. Potato leafhopper populations have remained low in the Grand Traverse region.

No symptoms of powdery or downy mildew have been reported as of yet.

If you have a vineyard site that has suffered severely from the winter cold, you may be able to take advantage of some of the provisions of the Tree Assistance Program (TAP) which is administered by the USDA Farm Service Agency. TAP provides financial assistance to qualifying orchardists and nursery tree growers to replant or rehabilitate eligible trees, bushes, and vines damaged by natural disasters. More information on the TAP program can be found at [http://www.fsa.usda.gov/FSA/newsReleases?area=newsroom&subject=landing&topic=pfs&newstype=prfactsheet&type=detail&item=pf\\_20140415\\_distr\\_en\\_tap14.html](http://www.fsa.usda.gov/FSA/newsReleases?area=newsroom&subject=landing&topic=pfs&newstype=prfactsheet&type=detail&item=pf_20140415_distr_en_tap14.html).

Growers who are considering assistance should contact Kathy Kozlowski, the County Executive Director for the Farm Service Agency in Antrim, Leelanau and Grand Traverse Counties at (231) 941-0951 Ext. 2.

## **Saskatoons**

Duke Elsner

Some fruits are beginning to color; a close look at these may reveal that many of these berries have some sort of injury from internal feeding insects. Healthy berries are still quite green on the shaded side. Rose chafer adults are still feeding on leaves. Larvae of green fruitworm and pyramidal green fruitworm are done with feeding now.

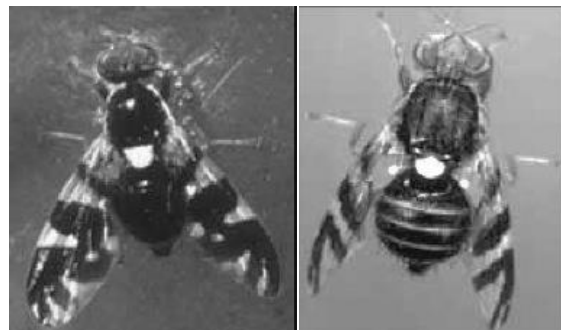
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## **It's Time to Begin Monitoring for Cherry Fruit Fly**

Emily Pochubay and Nikki Rothwell, MSU Extension Educators

## Pest Biology and Life Cycle

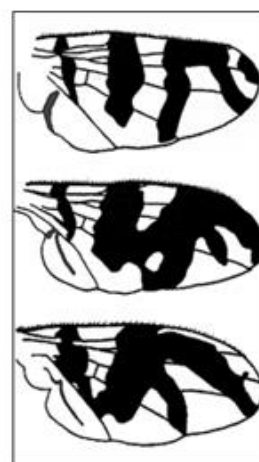
Two species of true fruit flies in the Tephritidae family attack sweet and tart cherries in Michigan: the typically more abundant cherry fruit fly (*Rhagoletis cingulata*), and the black cherry fruit fly (*Rhagoletis fausta*). Adult flies of both species are approximately 4.5 mm with black bodies, yellow to brown colored heads and legs, and a light colored dot on the flies' back. Possibly the most prominent characteristic of these flies are the black markings on the wings which can be used to differentiate Tephritidae fruit flies. The cherry fruit fly's wing has a black pi symbol ( $\pi$ ) shape with a black partial circle marking on the tip of the wing. The black cherry fruit fly has thicker black bands that extend to the wing margin.



Black cherry fruit fly

Cherry fruit fly

In early summer, the adult flies emerge from their puparium where the maturing fruit fly overwintered since the previous fall. After emergence, adults spend approximately 10 days in a pre-egg laying feeding period. After mating, female cherry fruit flies puncture the skin of fruit and lay an egg inside of the fruit. Maggots (or larvae) hatch from eggs and feed inside of the ripening fruit. This is a serious concern in cherries due to the industry standard of zero tolerance for larvae in fruit.



Cherry fruit fly

Black cherry fruit fly

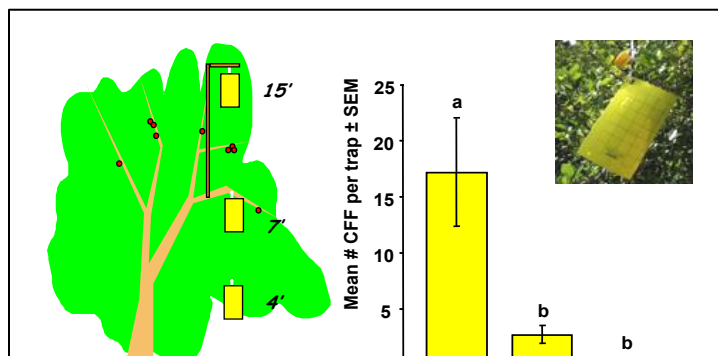
Apple maggot

## Monitoring

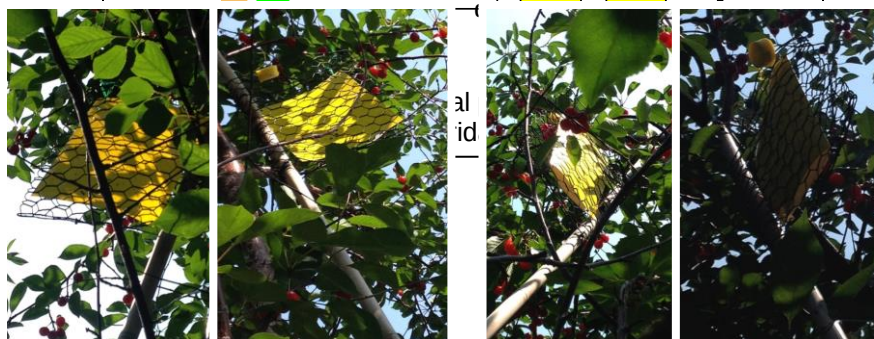
Yellow sticky traps baited with ammonia acetate attached to a tree branch with a twist-tie are used to monitor for cherry fruit flies. At the research station, we place one tablespoon of ammonium acetate powder into a small container with a hole on one side; these containers are attached to the sticky trap with a twist-tie.

Previous research conducted by researchers at Michigan State University demonstrated that the number of cherry fruit flies caught in traps increases as the height of trap placement in the tree canopy increases.

Here at the station, we attach cherry fruit fly traps to bamboo poles (like the poles used to hang codling moth delta traps) to hang traps high in the tree canopy. The poles have a flexible plastic cage in which we place the baited yellow sticky trap; the cage prevents leaves and fruit from getting stuck to the trap. Adding a flexible hooked end to the pole also helps to secure the trap high in the tree canopy. Finally, remember to **remove all sticky traps from trees prior to shaking** at harvest time to avoid sticky material on cherries.



During the 2014 season, the NWMHRC received funds from the

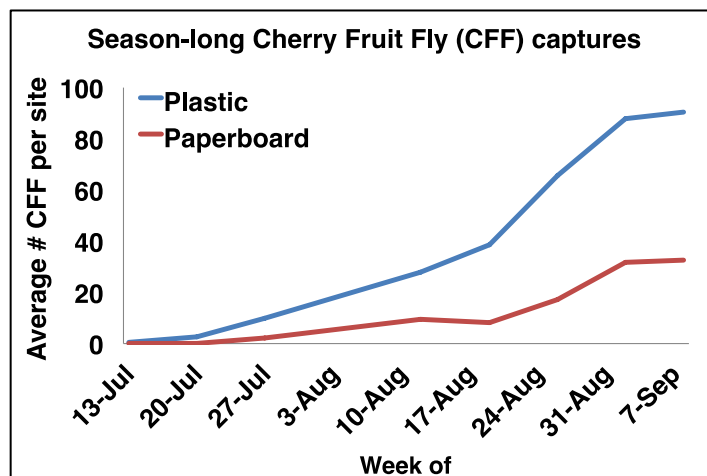


Plastic

Paperboard

Michigan Cherry Committee to observe cherry fruit fly detections on ammonium acetate baited plastic yellow sticky strips versus ammonium acetate baited paperboard yellow sticky traps. Both trap types were purchased and are currently available from Great Lakes IPM, Inc. This study was conducted on-farm at five grower cooperator sites in NW MI. Five traps of each type were compared at each of the sites, and all traps were attached to bamboo poles, as described previously. The number of cherry fruit fly caught on each of the traps was documented beginning in June through post harvest in September. Traps were removed just prior to harvest and placed back into trees after harvest was completed in the block.

We found that at four of the five sites, cherry fruit flies were detected first on the plastic baited traps compared with the paperboard traps. Furthermore, higher numbers of cherry fruit fly were detected on the plastic traps than on the paperboard traps overall (Kruskal-Wallis,  $p=0.05$ ). Similar results were found when Yee et al. (2014) observed detections of the Western cherry fruit fly – a similar relative of the cherry fruit flies in Michigan – on baited yellow plastic and paperboard sticky traps. Yee et al. (2014) concluded that the plastic traps are more visible to the Western cherry fruit fly because sunlight can penetrate through the plastic traps thereby illuminating both sides of the trap and making it more visible to the flies. Paperboard traps do not allow sunlight to pass through them and are less visible. Hence, the amount of trap area that was visible was directly related to the number of flies that were caught.



### Management

When considering management of these flies, cherry fruit fly and black cherry fruit fly are treated as one species because their life cycles are nearly identical and control measures that are effective for one of the species are effective for both species. Cherry fruit fly control is targeted at the adults during the pre-egg laying feeding stage. Therefore, monitoring for the first emergence of cherry fruit flies is critical for determining when to take action. In the MSU E-154 Michigan Fruit Management Guide Exirel, Imidan, Actara, Assail, Admire Pro, and the pre-mix insecticides, Voliam Flexi and Voliam Xpress are rated 'excellent' against cherry fruit fly, and some pyrethroid insecticides and Delegate are rated 'good.' Exirel, Imidan, and Delegate are also excellent against spotted wing drosophila (SWD) and using chemistries that are effective for both cherry fruit flies and SWD when SWD is a concern could help to save on spray costs.

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## IPM Update Cookout and Schedule Change

Emily Pochubay and Nikki Rothwell, NWMHRC

We are pleased to announce that the Northwest Michigan Horticultural Research Center and the Michigan Agricultural Environmental Assurance Program will host a cookout to celebrate northwest lower Michigan's top-notch fruit industries! We invite the area's growers and consultants to these cookouts which will be held in Leelanau and Grand Traverse Counties next Tuesday, June 23<sup>rd</sup> during

regular IPM Update times: 12-2 PM in Leelanau and 3-5 PM in Grand Traverse. The following week, cookouts will be held during the regular IPM Update times on Wednesday July 1<sup>st</sup> in Antrim from 10 AM-12 PM and Benzie from 3-5 PM. These cookouts are sponsored in-part by funds provided by Great Lakes Integrated Sciences and Assessments.

Additionally, as many of you are already aware, please note the changes to upcoming IPM Update meeting dates. Due to a scheduling conflict, the IPM Update meetings for July 14<sup>th</sup> and 15<sup>th</sup> have been cancelled. We apologize for any inconvenience as a result of this cancellation, and to account for this change, additional IPM Updates have been or will be scheduled. Please see below for details on dates and times of these additional meetings. Thank you all for your continued support of the NWMHRC, MSU Extension, and Michigan's fruit industries!

#### **\*NEW IPM Update Schedule**

##### **Leelanau County**

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

Dates: June: 23 (cookout), June 30 **July: 7\* Final meeting**

Time: 12PM – 2PM

##### **Grand Traverse County**

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

Dates: June: 23 (cookout), June 30 **August\* Final meeting date TBD**

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: July: 1 (cookout), **8\* Final meeting**

Time: 10AM – 12PM

##### **Benzie County**

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

Date: July: 1 (cookout), **8\* Final meeting**

Time: 2PM – 4PM

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## **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

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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>