

Northern Michigan FruitNet 2016 Northwest Michigan Horticultural Research Center

Weekly Update

FruitNet Report – July 8, 2016

CALENDAR OF EVENTS

7/1	Natural enemies, new insecticide options, perimeter spray programs-- Rufus Isaacs, MSU Hawthorne Vineyards on Old Mission Peninsula, 3-5PM
7/13	Income Taxes for Foreign Agricultural Workers (H-2A) NWMHRC, 8AM – 4:30PM
8/25	NWMHRC Open House

What's New?

- **Considerations for hail damaged cherries after the July 8 storms**
 - **SWD Trap Update – July 7, 2016**
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Considerations for hail damaged cherries after the July 8 storms

With the recent storms that moved through NW Michigan, growers need to assess damage to determine future management strategies

N. Rothwell, E. Pochubay, and K. Powers, NWMHRC

Cherry orchards were impacted by 8 July's hail, and growers should carefully weigh options to determine future management strategies. First, growers should assess the level of damage as the outcome of this assessment will determine the next steps. If the damage was fairly extensive, and if the grower has crop insurance, we recommend that

the grower call his or her crop insurance agent as soon as possible. Particularly if the damage was widespread and rendered the crop unmarketable, growers should discuss the options with the crop insurance agency. If the crop is unmarketable, growers should consider minimizing management applications to reduce costs in these blocks. Even with the threat of spotted wing Drosophila (SWD), more insecticide applications will obviously increase costs in a block that will not provide income. Growers need to keep leaves on for next year, so growers should continue to manage for cherry leaf spot. If growers minimize insecticide and fungicide applications, he or she should communicate this decision to neighboring farmers. As we have mentioned in the past, SWD populations can build quickly in unsprayed fruit and move into blocks that are intended for harvest. Growers should also consider removing the crop from the trees to minimize infestation from SWD. More information on removing cherries from the tree and strategies for minimizing SWD infestations are forthcoming based on ongoing trials at the NWMHRC.

Secondly, if the fruit is on the borderline of marketability, we recommend that growers contact their processors to discuss options for this damaged, but potentially harvestable fruit. Processors that have a juice market may want growers to continue managing this fruit for this particular market. Growers should also consider other processors that may be interested in the juice market. However, if the fruit will be used for juice, cherries will likely need to hang for longer to increase brix levels. The longer the fruit hangs, the longer management will be needed. Growers will need to decide if fruit will make it to harvest and be worth the extra sprays and costs associated with these applications. Growers need to be realistic if they can justify continuing management if the crop will not ultimately be marketable in the end.

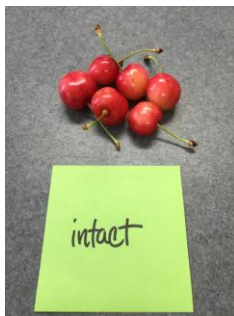
Again, growers should be assessing the level of damage to tart and sweet cherries, particularly if harvest is still quite far off. The NW region is predicted to harvest 165 million pounds of tart cherries, and removing that size of crop even under optimal conditions would have been a challenge. After this storm, there are varying levels of damage to both sweet and tart cherries, and growers need to decide if they will make it to harvest with a marketable crop or if they should stop management now. If the fruit has minor damage, growers will likely be able to manage insects and diseases to make it to harvest time. More intense damage will be more difficult to keep clean moving forward, and growers need to consider if they can make it to harvest with clean, disease-free fruit. If growers chose to move forward with harvesting damaged blocks, the quicker the damaged blocks can be harvested, the better.

Damaged fruit will be more likely to be infested by insects, particularly SWD. Spray programs in damaged blocks will need to be ramped up to prevent infestation. This scenario may be difficult to swallow and particularly challenging for growers as they are already spraying diligently to prevent SWD infestation. However, wounded or cracked flesh of a ripe cherry will provide an easy entry point for SWD egg laying; therefore, growers will need to be even more thorough in managing SWD. Laboratory studies conducted at the NWMHRC have shown that SWD females prefer to lay eggs into cracked or smashed fruit compared to intact fruit (Figure 1).

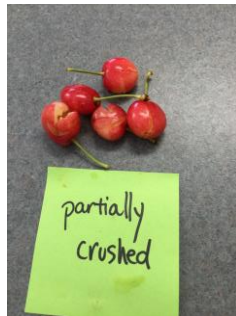
Damaged Fruit and SWD Fruit Infestation Trial

Methods: Ripening fruit were collected from sweet cherry trees on 22 June 2016. Fruit was dividing into nine treatments:

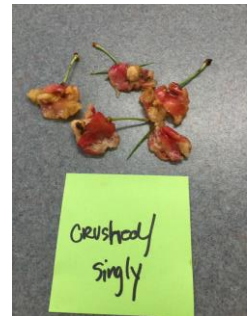
- 1) intact fruit
- 2) partially crushed/cracked by gently squeezing between fingers
- 3) crushed and laid singly
- 4) crushed and laid in pile



Trt 1



Trt 2



Trt 3



Figure 2. Fruit in bioassay containers.

To simulate mechanically crushing or mashing of fruit by a farm implement we positioned fruit in front of truck tires in the orchard row and drove over the piles of fruit (Figure 1). Some fruit was picked up singly and others in piles (see photos). All fruit was brought back to the lab and set up into bioassay containers. Each treatment was replicated five times

where five fruit were added along with five male and five female SWD. Bioassay containers are allowed to sit at room temperature for 10 days before the number

of newly emerged SWD are counted. Results show that cracked fruit that was squeezed gently by hand had the most SWD that survived until adulthood; they could produce multiple generations in this fruit (Figure 3). These fruit would be similar to fruit that was cracked or damaged by hail in the recent storm. Therefore, we conclude that cracked fruit, such as those that are damaged or cracked by hail are preferred by SWD and can rapidly increase the SWD populations in an orchard. Cracked fruit are the most susceptible fruit to SWD infestation.

Additionally, damaged fruit will be more susceptible to diseases, such as American brown rot and Alternaria. American brown rot (ABR) is a particular concern in blocks that have been damaged. If the fruit will not be harvested, justifying the cost of continuing



Figure 1. Driving over fruit to simulate mechanical crushing.

management programs is difficult. On the other hand, minimizing the potential for brown rot in orchards this season will reduce inoculum for next season. An SDHI fungicide (Merivon or Luna Sensation) tank mixed with Captan is the best option for controlling ABR at this point in the season. However, one spray may not provide enough control through harvest, particularly if harvest goes long. In this case, growers should follow the SDHI application with 12oz of Indar tank mixed with Captan. Again, cracked fruit are more susceptible to ABR infection than intact fruit.

Lastly, the current restriction on the tart cherry crop is 29%, and as a result, fruit may have been put on the ground even without the recent damage. However, we remind growers that the fruit used for diversion needs to be marketable. The level of damage may influence the decision if the crop is marketable or not. We recommend that if growers intend to divert partial or whole blocks, they continue to adequately manage for insects and diseases to ultimately have marketable cherries.

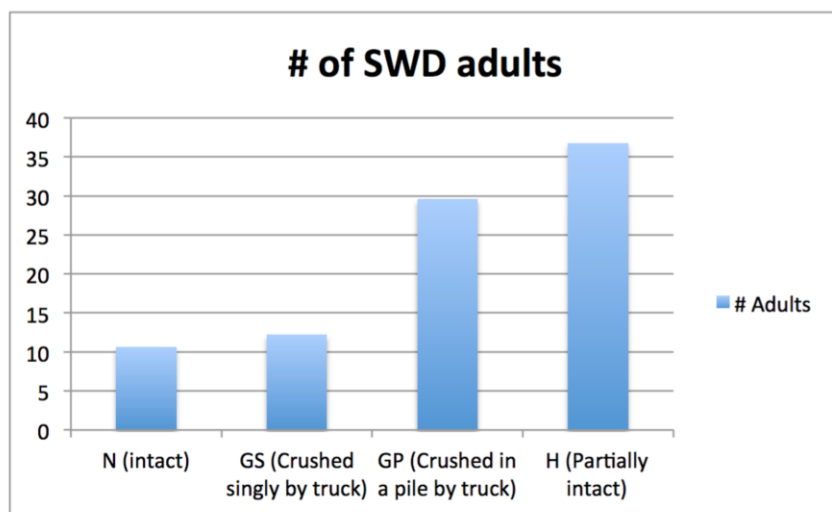


Figure 3. Number of SWD adults in damaged and non-damaged cherries

Apple growers need to cover for trauma blight in areas that received hail and or high winds

Hail hit areas north of Suttons Bay and south of Northport-Omena in Leelanau County, Yuba area and more northerly areas in Antrim County, and some spotty areas near Maple City and Glen Arbor around 11:30 AM today (8 July). We have received reports of 3/4 inch to golf ball sized or larger hail that lasted between three to 10 minutes in these locations. Some other areas throughout the region received high winds and heavy rain during today's storms.

Trauma blight caused by fire blight bacteria is a concern in blocks that were damaged by hail and in apple and pear blocks that experienced high winds. Leaves blown onto the ground in orchards is a good indication that winds were high enough to cause concern for trauma blight. Orchards of particular concern are those that had fire blight infections earlier in the season. To minimize the effects of trauma blight, growers should begin applying streptomycin as soon as possible; this application should be applied within 12 hr of the storm. We recommend rates between 1.0-1.5 lb per acre. The high rate should be used in valuable varieties and in blocks that had fire blight this season. We remind growers to begin covering the most valuable varieties first. Copper can be incorporated

in the tank or as a stand alone in blocks where there is streptomycin resistance. Copper applications could result in fruit finish concerns, and growers should be cautious when using copper in blocks that have marketable fresh market fruit. According to label, Kasumin applications are not permitted after petal fall. Apogee will not be useful at this time. Lastly, Mycoshield will not provide any assistance in controlling trauma blight.

SWD Trap Update – July 7, 2016

Catch Date	Location	Crop	Total No. of SWD
5/31	Centerville Twshp.	Tart Cherry	1
6/16	S. of Suttons Bay	Tart Cherry	1
6/17	Old Mission	Woodlot	2
6/20	M-72 W corridor	Tart Cherry	2
6/21	Old Mission	Sweet and Tarts	3
6/21	Elk Lake Rd.	Wild Raspberry	1
6/22	N. of Suttons Bay	Tart Cherry	1
6/22	Eastport	Wild Cherry	1
6/24	Northport-Omena	Tart Cherry	3
6/27	M-72 W corridor	Tart Cherry	7
6/27	Benzie	Tart Cherry	1
6/27	Benzie	Gooseberry	1
6/28	Elk Lake Rd.	Tart Cherry	1
6/28	Centerville Twshp.	Tart Cherry	1
6/28	Old Mission	Honeysuckle, Sweet Cherry, Tart Cherry	5
6/29	Elk Lake Rd.	Tart Cherry	2
6/29	Yuba		1
6/29	S. of Suttons Bay	Tart Cherry	2

6/29	Bingham	Mulberry, Raspberry	3
6/29	East Leland	Strawberry	2
6/29	Centerville Twshp.	Sweet Cherry	3
7/5	Northport-Omena	Tarts	6
7/5	East Leland	Sweets, Mulberry	7
7/5	Centerville Twshp.	Tarts	5
7/5	E. of Suttons Bay	Sweets	2
7/6	Manistee	Tarts	20
7/6	Benzie	Tarts, honeysuckle, sweets, raspberry, grape	27
7/6	M-72 W corridor	Tarts	6
7/6	Northport-Omena	Tarts	1
7/6	Old Mission	Tarts, honeysuckle, sweets, grapes	9
7/6	Elk Lake Rd	Tarts	2
7/6	Centerville Twshp	Sweets	2
7/6	S. of Suttons Bay	Sweets, tarts, raspberry, mulberry	10
7/6	East Leland	Strawberry	2
7/6	Kewadin	Tarts	1
7/6	S. of Elk Rapids	Tarts	1
7/7	M-72 corridor	Tarts	1

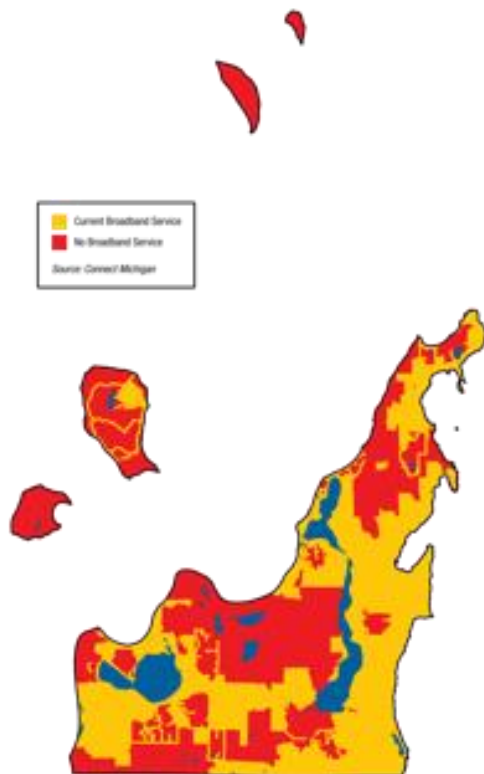
 = New catches

Total catches per region:

Centerville Twshp. - 12
S. of Suttons Bay - 14
Old Mission - 19
M-72 W corridor - 16
Elk Lake Rd. – 6
N. of Suttons Bay – 1
Eastport - 1
Northport-Omena - 10
Benzie – 29
Yuba – 1
Bingham – 3
East Leland – 11
E. of Suttons Bay – 1
Manistee – 20
S. of Elk Rapids - 1

Leelanau Peninsula Economic Foundation Technology Committee Seeks Community Input!

High-speed Internet and broadband capabilities can no longer be considered a “luxury.” Indeed, Internet is considered a utility and a critical necessity for schools, families, libraries, business owners, and emergency services personnel.



The Leelanau Peninsula Economic Foundation (LPEF) Technology Committee has partnered with *Connect Michigan* to survey Leelanau County residents and stakeholders to identify needs and priorities. The survey will be helpful to efforts designed to identify areas lacking broadband access and for developing mechanisms to promote expansion of services via attracting additional providers.

Connect Michigan has worked with providers to identify Internet needs throughout Michigan. In the image below, the areas shaded in red represent unserved, or inadequately served Leelanau residents. Areas shaded in yellow, according to Connect Michigan, have at least some level of broadband availability. As depicted, significant portions of Leelanau County are without adequate service.

**Figure 1. Leelanau County
broadband availability, 2/2016**

The Technology Committee's Chair, Commissioner Patricia Soutas-Little, says, "Broadband is vital for so many businesses and residents. Leelanau County has such a diverse landscape, knowing current accessibility and resident needs, will help us plan for the future."

The Committee is striving to have survey result tabulated in early September. Survey results will be used to develop action plans and work with potential providers to address gaps and improved service goals. The Survey is open until September 3 and only takes ten minutes to complete. You can take the survey as a resident, business owner, or as a designated representative of another organization. The survey is available online at <http://www.connectmycommunity.org/leelanau-peninsula/> or a paper copy can be obtained from any library or by calling the Leelanau Peninsula Chamber of Commerce at (231) 994-2202. For additional information about his effort, contact Patricia Soutas-Little at (231) 218-8496.

Income Taxes for Foreign Agricultural Workers (H-2A) – Meeting

Meeting Dates and Times:

Tuesday, July 12, 2016

Ottawa County Fillmore Complex Main Conference Room 12220 Fillmore Street West Olive, MI 49460

Wednesday, July 13, 2016

MSU Northwest Michigan Horticultural Research Center 6686 S. Center Highway Traverse City, MI 49684

Michigan's agricultural industry has been seeing a decline in recent years of the traditional labor resources that have been used in the past. The use of the H-2A Guest Worker Program has seen a significant increase in use recently with continued significant growth in coming years. With this increase there is a need for legal and tax professionals to have an understanding on how to prepare taxes for H-2A guest workers, common pit-falls and challenges.

This Continuing Education Program will provide a four hour presentation with three hours of hands-on workshop to help tax professionals understand how tax law impacts foreign agricultural workers and their employers and give them a better understanding of the challenges faced by tax professionals, employers and the workers themselves as they strive to comply with federal and state tax laws.

The information included also applies to all taxpayers who use ITINs when filing tax returns and/or have spouses and/or dependents living outside the United States.

This program will use IRS Publications 519 and 51 and others as a guide throughout this training. Participants will gain an understanding of tax preparation for H-2A Guest Workers, the appropriate method to fill-out an ITIN documentation/application, how to appropriately calculate the time a guest worker has been “in country” over the past 3-years to determine the correct tax documentation needed to be filed in the present tax year. Participants will also receive an overview of the tax deductions, credits available and not available to H-2A Guest Workers.

This program will also discuss payroll and tax withholding issues and responsibilities of an Employer and H-2A Laborer that all tax and legal professionals should be aware of when working with their clients.

Registration fee is \$125.00 per person which includes lunch, refreshments, handouts and materials. **Register online** by July 8, 2016 at <http://events.anr.msu.edu/H2ATaxPrepWorkshop/>. Online registration offers payment by credit card or check. Or to register by mail, mail completed registration form at right with check payment no later than July 5. Please indicate the location you would like to attend.

More information can be found in the attached PDF flyer.

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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:

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

Information on apples:

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

Information on grapes:

<http://grapes.msu.edu>

Fruit CAT Alert Reports:

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