Northern Michigan FruitNet 2016
Northwest Michigan Horticultural Research Center

Weekly Update

FruitNet Report – April 26, 2016

CALENDAR OF EVENTS

5/3 – 6/28	**Leelanau County IPM Updates** Jim and Jan Bardenhagen's Farm (details below)
5/3 – 6/28	**Grand Traverse County IPM Updates** Wunsch Farms (details below)
5/4 – 6/29	**Antrim County IPM Updates** Jack White Farms (details below)
5/4 – 6/29	**Benzie County IPM Updates** Blaine Christian Church (details below

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What's New?

- **Growing Degree Day Accumulations as of April 25, 2016**
- **Northwest Michigan Fruit Regional Report – April 26, 2016**
- **Miticides options for controlling mites in fruit**
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GROWING DEGREE DAY ACCUMULATIONS AS OF April 25, 2016 AT THE NWMHRC

Year	2016	2015	2014	2013	2012	2011	26 Yr. Avg.
GDD42	190	139	77	46	405	96	174.5
GDD50	77	50	19	10	206	28	71.2

2016 Growth Stages as of 4/25/16

Bartlett Pear – Late bud burst

Potomac Pear – Ear. green cluster

Mac – ½" green

Gala – Ear. tight cluster

Red Delicious – ½" green

HoneyCrisp – ¼" green

Montmorency – Green tip

Balaton – Bud burst

Hedlfingen – Late green tip

Gold – Late green tip

Napolean – Ear. bud burst

Riesling – Scale crack

Northwest Michigan Fruit Regional Report – April 26, 2016

Temperatures are predicted to be cooler than normal. Despite green tissue visible on most tree fruits, development will move slowly for the next seven-10 days.

Nikki Rothwell and Emily Pochubay

Weather and Crop Report

Despite the warm weather in the southern part of the state, northwest Michigan was cool throughout the weekend and cool temperatures are predicted to continue into the near future. Tree development has progressed albeit slowly over the past week. Most growers have at least one to two sprays on apples where green tissue is showing; there are more rains in the forecast and tissues should continue to be protected. Development is slow in cherries. There is still some pruning underway, but growers

should be aware of pruning sweet cherries under these cool and wet conditions. Bacterial canker is a disease that is favored by cold and wet.

Growers are reporting hail damage from last August's storm. Unfortunately, some growers may need to remove younger trees that may not survive, likely as a result of the hail damage and the cold winters prior to this year. There is little we can do to help these trees other than pruning out the cankers and applying foliar fertilizers to try to keep the trees healthy. Canker is a particular concern in damaged sweet cherries, particularly in recent cold and wet conditions, but there are no sprays that will protect from this bacterial disease.

Date Collected	Time Collected	Rod 1	Rod 2	Avg # Spores
4/21/16	1:30 PM	NA	10	10
4/25/16	9:30 AM	37	50	43.5
4/26/16	8:15 AM	9	4	6.5

Tree planting continues across the region. Even with our sandy soils, the ground is fairly wet after the recent rain events. We received a little over a quarter inch of rain on Sunday and just over a half inch of rain on Monday. Rain is predicted to continue today, and small chances of rain continue for the remainder of the week. We have accumulated 190GDD base 42 and 77GDD base 50. If the predicted cool temperatures are accurate, we may hit sweet cherry bloom around May 6th or 7th. However, there are considerable differences in predicted temperatures for the different weather forecasts.

Pest Report

Table 1. Apple scab spore discharge

The northwest region kicked off primary apple scab season last week, and the NWMHRC set biofix on 18 April. Since biofix timing, there has been one infection period on 21 April, and there is currently an ongoing infection period that began on Sunday 24 April. Fortunately, many growers were covered prior to both of these infection events. We are monitoring for scab spore discharge and this year's scab site represents a commercial McIntosh orchard with a high level of inoculum. The orchard was infected during the primary scab season last year, and the grower managed secondary scab infections for the remainder of the season. During the recent scab infection periods for this season, we found a total of 10 spores discharged on 21 April and 87 spores discharged following Sunday into early Monday rain (Table 1). Few spores were discharged during Monday-Tuesday morning rain (Table 1). Cool temperatures and less development time between rain events on Monday and Tuesday likely contributed to a lower spore discharge. Although this week's forecasted temperatures are cooler, scab spores will continue to develop at temperatures above 32 degrees F. Therefore, there will be sufficient time between now and the next rain for spore development. Additionally, there will be new growth and substantial green tissue present that should be protected prior to future rain.

As mentioned previously, cool wet weather is a concern for possible bacterial canker infections and because there is no effective treatment currently available, many growers are putting pruning on hold until we have drier conditions.

Enviroweather is currently reporting a low cherry leaf spot infection for the Benzonia location. However, because susceptible green tissue (i.e. open stomata on the bract leaves) is not yet present, cherry leaf spot is not a concern at this time.

Few insect pests have been active in the recent cool weather. We found an average of 18 green fruit worm moths in traps at the station this week.

Wine Grapes

Duke Elsner

Several cold days during the last week has kept the progression of bud development to a minimum. There is still plenty of time for dormant treatments against powdery mildew. No pest activity has been seen yet, but beneficials like ladybeetles and spiders have been seen on the warmer days.

The next "First Friday" meeting, co-hosted by Parallel 45 Vines & Wines, will be held on May 6, 3-5 pm at 2 Lads Winery on Old Mission Peninsula. Mark Ledebuhr of Application Insight, will be presenting information on sprayer rate controllers, drift management, and visualizing deposition patterns.

Saskatoons

Duke Elsner

Late last week most fruiting buds were in the full green stage. Progression to tight cluster and white tip can be very rapid if just a few warm days occur.

The 2016 pesticide recommendations for saskatoons are now available through my office—contact me at elsner@msu.edu to receive them by a return email.
I am seeking grower assistance in tracking bud, flowering and fruit developmental stages in order to improve crop management and IPM practices in saskatoons. You can participate even if you only have a few bushes. You can request a document called "Saskatoon bud and fruit developmental stages" directly from me at elsner@msu.edu. All you need to do is record the dates your plants reach the listed developmental stages and send in the information at the end of the season.

Looking for Input from all Businesses Including Farms in Leelanau County

You and your business are important to the vitality of the Leelanau Peninsula, and the newly-created Leelanau Peninsula Economic Foundation wants to hear from you. What's going well for you in your business? What issues keep you up at night? How can a non-profit economic enabler like the LPEF help businesses in Leelanau County thrive?

The LPEF is conducting a brief e-survey to learn about your dreams, challenges, and your suggestions concerning what they should focus on as they work to strengthen the economic vitality of Leelanau businesses and communities.

Please take a few moments to click on the link below to share your thoughts. The survey's completely anonymous and should take less than 10 minutes of your time.

Thank you,

Leelanau Peninsula Economic Foundation Board

http://www.surveygizmo.com/s3/2631180/LPEF-Leelanau-Business-Survey-2016

Measuring spotted wing Drosophila impacts – your help needed!

This survey will help researchers identify impacts of spotted wing Drosophila (SWD) on fruit growers and look for new management tactics and programs, improved insecticide efficacy and SWD training.

Posted by **Rufus Isaacs**, and Larry Gut, Michigan State University Extension, Department of Entomology, MSUE News

Michigan State University researchers are part of a recently funded project, "**Sustainable Spotted Wing Drosophila (SWD) Management for United States Fruit Crops,"** and the team is surveying fruit growers with two goals:

1 Measure the impact of SWD throughout the United States.
2 Guide our project activities over the next four years.

This five-year project, coordinated by North Carolina State University, is developing national research and extension projects to minimize the impacts of SWD. They include new management tactics and programs, improved insecticide efficacy for SWD and

information and training on SWD for growers, extension agents and others. In order to achieve this and ensure the research and extension efforts match the needs of growers, the project is collecting information on the impacts of SWD on fruit growers, current management practices and preferences, and your requirements for better management of SWD. Participation is voluntary and the survey does not collect personally identifying information. The data will only be analyzed and reported in aggregate form.

We would like to get feedback from as many growers as possible! So, please complete the survey here: **Sustainable SWD Management Grower Survey**
Contact me at isaacsr@cns.msu.edu for additional information.

https://survey.ncsu.edu/swd/

Funding for this project is provided by the National Institute of Food and Agriculture, U.S. Department of Agriculture Specialty Crops Research Initiative under Agreement No. 2015-51181-24252.

2016 IPM Update Schedule

Emily Pochubay and Nikki Rothwell
Michigan State University Extension

Tree Fruit IPM Updates beginning the first week of May through mid-July (as needed) will highlight management of the seasons current potential pest challenges dictated by weather and pest biology. Attendees are encouraged to bring examples of pests and damage found on the farm to these workshops for identification and discussion. Workshops will be held weekly in Leelanau and Grand Traverse counties and bi-weekly in Antrim and Benzie counties. Tree fruit growers are welcome to attend meeting at any of the locations and times that are most convenient (see below). These workshops are free and do not require registration. We are looking forward to seeing you in a few weeks! For more information, please contact Emily Pochubay (pochubay@msu.edu), 231-946-1510.

Leelanau County

Location: Jim and Jan Bardenhagen, 7881 Pertner Road, Suttons Bay
Dates: May 3, 10, 17, 24, 31; June 7, 14, 21, 28
Time: 12PM – 2PM

Grand Traverse County

Location: Wunsch Farms, Phelps Road Packing Shed, Old Mission
Dates: May 3, 10, 17, 24, 31; June 7, 14, 21, 28

Time: 3PM – 5PM

Antrim County

Location: Jack White Farms, 10877 US-31, Williamsburg (south of Elk Rapids on the southeast side of US-31)
Dates: May 4, 18; June 1, 15, 22, 29
Time: 10AM – 12PM

Benzie County

Location: Blaine Christian Church, 7018 Putney Rd, Arcadia, MI 49613
Dates: May 4, 18; June 1, 15, 22, 29
Time: 2PM – 4PM

RecycleSmart Household Hazardous Waste Drop-Off – Upcoming Dates

Growers can bring back pesticides of any quantity to any county, free of charge

Leelanau's HHW Collections are taking place on May 14, July 9, August 27, and October 8.
http://www.leelanau.cc/downloads/hhw_flyer_2016_final_1.pdf

Antrim has two events this year: May 14 and August 6:
http://www.antrimcounty.org/hazardous.asp

Benzie is holding two HHW Collections on June 25 and July 23:
http://www.benzieco.net/Household%20Hazardous%20Waste%20Brochure%202016.pdf

Household hazardous waste products should be handled with care when preparing them for transport to the drop-off event. Keep products in original containers and don't mix products together. Keep containers tightly sealed, packed in a box in an upright, stable position. Transport HHW as far away as possible from you in your vehicle, such as in the bed of a pick up or car trunk.

Items accepted at the HHW collection events include: oil-based paint, latex paint, solvents, automotive fluids, household cleaners, lawn and garden chemicals, pesticides, batteries, fluorescent light bulbs and more.

Small businesses, organizations and schools may qualify to dispose of HHW at a drop-off event. Visit RecycleSmart.info for details about Conditionally Exempt Small Quantity Generator (CESQG) specifications.

For more information, visit www.RecycleSmart.info or call the RecycleSmart Hotline at 231- 941-5555.

Prebloom blueberry meetings scheduled in southwest Michigan for 2016

Two blueberry management meetings are scheduled for April 21 in South Haven and April 28 in West Olive.
Posted on **April 19, 2016** by **Mark Longstroth**, and Carlos Garcia-Salazar, MSUE News

Duke flower buds at bud burst, also called pine cone. Photo by Mark Longstroth, MSU Extension.

The first blueberry management meetings for blueberry growers in 2016 have been scheduled for southwest Michigan in Van Buren and Ottawa counties. The first meeting in **Van Buren County is Thursday, April 21**, from 5:30 to 8 p.m., at Haven Harvesters, 165 Veterans Blvd, South Haven, MI 49090. This meeting is sponsored by Haven Harvesters LLC and New Age/Landmark Laboratories, who are providing a light supper at the beginning of the meeting. There will be talks on early season insect, disease and

weed control, frost control and irrigation by Michigan State University Extension fruit specialists and educators. Also at this meeting will be an update from Tom Payne of the North American Blueberry Council/US Highbush Blueberry Council

The **Ottawa County meeting is Thursday, April 28**, from 5:30 to 8 p.m. at the Ottawa County Fillmore Complex, 12220 Fillmore Street, West Olive, MI 49460. The agenda is similar to the first meeting, with talks on using sprinklers to reduce freeze injury during bloom, early season blueberry diseases, insect and weed control, and a discussion of water sampling for food safety. Light snacks and refreshments will be provided.

Two Michigan pesticide applicator recertification credits will be available to attendees for both meetings. No registration is necessary for either meeting, which are open to all blueberry growers and consultants in southwest Michigan.

Message for MAEAP Partners and Supporters

The MAEAP Incentives Task Force, developed by the MAEAP Advisory Council, has created a survey for all farmers (both MAEAP-verified and not MAEAP-verified). The survey seeks to identify the incentives and challenges for participating in MAEAP. We encourage your organization to share the message below with your farmer/grower members. The highlighted sections of the message below can be customized and filled in with your organization's name to accompany the survey link that you forward to your members.

The survey should only take 3-5 minutes.

The deadline for the survey to be completed is: April 24
Survey link: http://bit.ly/MAEAPSurvey

If you have any questions, please contact Emily Reinart with Michigan Farm Bureau at 517-679-5337 or ereinar@michfb.com.

Miticides options for controlling mites in fruit

Many options are available for mite control in fruit crops.
Posted by **John Wise**, Rufus Isaacs and Larry Gut, MSUE News

Mites can be significant pests of fruit crops. There are many miticides available for control of European red mites (ERM), twospotted spider mites (TSSM), cyclamen mites

(CM) and rust mites (RM), as well as apple and pear rust mites, pear blister mites, plum nursery mites and blueberry bud mites. However, according to Michigan State University Extension, their performance characteristics are not all alike.

The following table is designed to summarize several key variables that can help you determine which miticides are optimal for your integrated pest management program.

Miticides to use on fruit crops to target certain mite pests.					
Compound	**Fruit crop**	**Mites**	**Life stage target**	**Seasonal timing**	**Residual control**
Superior, Stylet Oils	All fruit crops	ERM, RM	Egg/larvae	Early (pre-bloom)	2-6 weeks
Lime-Sulfur	Pome, stone, blueberry	RM[2]	Motiles*	Early (delayed-dormant)	2-6 weeks
Dimilin	Pear	RM	Motiles*	Early (pre-bloom)	2-6 weeks
Savey	Pome, stone	ERM	Egg/larvae	Early***	8-12 weeks
	Pone, stone, caneberry, strawberry	TSSM	Egg/larvae	Mid (or threshold)**	6-8 weeks)
Onager	Stone fruits	TSSM	Egg/larvae	Mid (or threshold)**	6-8 weeks
Apollo	Pome, cherry, peach	ERM	Egg/larvae	Early***	8-12 weeks
		TSSM	Egg/larvae	Mid (or threshold)	6-8 weeks
Agri-Mek	Pome, stone, grape	ERM, RM	Motiles*	Early****	8-12 weeks
	Pome, stone, strawberry, grape	TSSM	Motiles*	Mid (or threshold)	6-8 weeks
ABBA	Pome, plum, grape, strawberry	ERM, RM	Motiles*	Early****	8-12 weeks
		TSSM	Motiles*	Mid (or threshold)	6-8 weeks

Agri-Flex	Pome, grape	ERM, RM	Motiles*	Early****	8-12 weeks
Gladiator	Pome, stone, grape	ERM, RM	Motiles*	Early****	8-12 weeks
		TSSM	Motiles*	Mid (or threshold)	6-8 weeks
Zeal	Pome, stone fruits	ERM	Egg/larvae	Early (or threshold)**	8-10 weeks
	Pome, stone, strawberry, grape	TSSM	Egg/larvae	Mid (or threshold)**	6-8 weeks
Envidor	Pome, plum, grape	ERM	Egg, motiles*	Early (or threshold)**	8-10 weeks
	Stone fruits	TSSM	Egg, motiles*	Mid (or threshold)	6-8 weeks
Nexter	Pome, stone1, grape	ERM, RM	Motiles*	Mid (or threshold)**	6-8 weeks
		TSSM	Motiles*	Mid (or threshold)**	6-8 weeks
Portal	Pome	ERM, RM	Motiles*	Mid (or threshold)**	6-8 weeks
		TSSM	Motiles*	Mid (or threshold)	6-8 weeks
Nealta	Pome, grape	ERM	Motiles*	Mid (or threshold)**	6-8 weeks
		TSSM	Motiles*	Mid (or threshold)	6-8 weeks
Magister	Cherries	TSSM	Eggs, motiles*	Mid (or threshold)	3-5 weeks
Kanemite	Pome	ERM	Motiles*	Mid (or threshold)**	6-8 weeks
	Pome, strawberry	TSSM	Motiles*	Mid (or threshold)	6-8 weeks
Acramite	Pome, peach, plum	ERM	Motiles*	Mid (or threshold)**	6-8 weeks
	Pome, peach, plum, grape, strawberry	TSSM	Motiles*	Mid (or threshold)	6-8 weeks
Danitol	Apple, grape	ERM	Motiles*	Mid (or threshold)**	4-6 weeks
	Apple, grape, strawberry	TSSM	Motiles*	Mid (or threshold)	4-6 weeks
Brigade	Pear	ERM	Motiles*	Mid (or threshold)**	4-6 weeks
	Pear, grape, strawberry, caneberry	TSSM	Motiles*	Mid (or threshold)	4-6 weeks
Hero	Blueberry, caneberry, strawberry	TSSM	Motiles*	Mid (or threshold)**	4-6 weeks
Oberon	Strawberry	TSSM	Eggs, motiles*	Mid (or threshold)	4-6 weeks
Vandex	Pome, stone	ERM	Motiles*	Mid (or	4-6 weeks

				threshold)**	
	Pome, stone, grape, caneberry, strawberry	TSSM	Motiles*	Mid (or threshold)	4-6 weeks
Endosulfan	Strawberry	CM	Motiles*	Mid (or threshold)**	2-6 weeks
Sulforix	Pear, blueberry	RM2	Motiles*	Late (post-harvest)	2-6 weeks

* Motile forms include mite larvae, nymph and adult stages.
** Optimally used petal fall through August when mites reach threshold.
*** Optimally used pre-bloom through first cover.
**** Optimally used petal fall through second cover.
1 300 day pre-harvest interval (PHI) for cherry.
2 Including pear blister mite.

Drs. Wise, Isaacs and Gut's work is funded in part by MSU's AgBioResearch.

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