Northern Michigan FruitNet 2013
Northwest Michigan Horticultural Research Center

Weekly Update

April 30, 2013

GROWING DEGREE DAY ACCUMULATIONS AS OF April 29th AT THE NWMHRC

Year	2013	2012	2011	2010	2009	2008	23yr. Avg.
GDD42	100	419	114	353	177	223	216.2
GDD50	37	210	32	146	68	107	91.7

Growth Stages at NWMHRC (4/29/13, 4:00 p.m.)
Apple: Red Delicious – Green tip
Gala – Green tip
Yellow Delicious – Green tip
Pear: Bartlett: Swollen bud
Sweet Cherry: Hedelfingen: Green tip
Napoleon: Green tip
Gold: Green tip
Tart Cherry: Green tip
Balaton: Green tip
Apricot: Red tip
Grapes: Early scale crack

NORTHWEST REGIONAL REPORT

As warm weather moves in, trees are greening up and growers are preparing to cover green tissue.

The region experienced a warm and pleasant weekend, where the daytime temperatures reached into the low 70s on both Saturday and Sunday. Trees seemed to respond quickly to these warm conditions--green is evident on cherries and most varieties of apples. Growers have also responded to this warm up, and sprayers were heard in apples that have green tissue showing.

Here at the NW Michigan Horticultural Research Center, we have accumulated 100 GDD base 42 and 37 base 50. Prior to the rainfall that started on Monday afternoon, conditions were surprisingly dry given that we still have spots of snow on the ground on north facing slopes. Rain is predicted into today, and the daytime high is forecasted to reach into the mid-70s. Growers with green tissue showing were eager to put on a spray in apples to be covered up prior to the rain. According to the Enviroweather site, we only had 0.08" of rain on Monday here at the station, but Tuesday's forecast is predicting heavy rains today.

<u>Wine Grapes</u>
Bud swell is now detectable on several cultivars, with some reaching scale crack (a slight fuzziness appearing between the bud scales). Some warm weather will really move things along now. This is a good time for dormant applications against powdery mildew. As bud swell continues, it will be time to scout vineyards for climbing cutworms. These are very sporadic pests in our area, but still worth checking for.

MEETING ON VINEYARD DISEASE MANAGEMENT STRATEGIES FOR 2013

When: **Friday, May 3rd**
Time: **3-5 p.m.**
Where: NWMHRC
Presenter: Dr. Annemeik Schilder, Dept of Plant Pathology, MSU
Co-Hosted by: MSUE and Parallel 45 Vines and Wines, Inc.
Informal wine tasting will take place after the meeting. Please share any unique varieties, blends or techniques used.

2013 WEEKLY IPM UPDATES

Many growers are probably wondering when the traditional weekly IPM updates will begin and where they will be held. Because we were not able to fill the IPM position prior to the start of the growing season, we have decided to hold the weekly IPM sessions on **Wednesdays** beginning **May 8th** through **~July 10th** from **1:00-3:00 p.m.** at one location – **the NW Michigan Horticultural Research Center**. We will have to discuss whether or not we will hold an update on July 1 as the NWMHRC will be open for Cherry Connection during this week of the National Cherry Festival.
The format will remain the same as in previous years. Commercial fruit growers are encouraged to bring examples of pests and damage found on the farm to the meetings for identification and discussion. Each week will characterize a different time in the season and distinct weather patterns, which in turn will present a unique set of pest problems and management strategies that will be discussed. These meetings are *free* and do not require registration. Pesticide recertification credits and certified crop advisor continued education credits will be available. For more information, contact Nikki Rothwell at rothwel3@msu.edu or (231)946-1510.

FOLLOW THE NW STATION ON TWITTER (@NWMHRS)

N.L. Rothwell, District Horticulturist, NWMHRC

This new technology can benefit growers as they can receive the most up-to-date information during the busy growing season.

The Northwest Michigan Horticultural Research Station has set up a Twitter account for the region's growers. Twitter is an online networking service that enables users to send and read text-based messages of up to 140 characters known as 'tweets'. We think that Twitter will be a valuable way of communicating important and up-to-date information about events in the orchards and vineyards; these events can be communicated immediately, and growers can receive the information directly on his or her phone, even while in the field. Tweets can be received by growers with smart phones by downloading the Twitter app or as text messages for more traditional cell phones. If growers do not have a cell phone, they can still receive the information online by going to the Twitter website.

For those interested in 'following' (receiving information) from the NW Station via Twitter, they need to sign up for Twitter online (https://twitter.com/). The steps to sign up are fairly simple to follow: just create a username and click on create account. The next page in the set up process will show you what a 'tweet' is--a short message that contains up to 140 characters. Following people or organizations is the next step, and the Northwest Station's user name is **NWMHRS**. Once this initial information has been entered, followers will have to log into the account, which is the main page where growers can compose a tweet or read tweets, change account settings and information, and choose to follow or un-follow people or organizations. For growers with cell phones, he or she can

download the Twitter app to work with a smart phone or activate Twitter text messaging by entering a cell phone number. Once this information has been entered, growers can receive 'tweets' of important and relevant information as we go through the growing season.
The NW Station will continue to produce traditional email information, through FruitNet, multiple times per week, and MSU E News will also provide timely information during the growing season. We thought this new technology might be another way to communicate with growers, especially when they are on the go during a busy field season. We hope that growers will find this new technology beneficial.

2013 FRUIT INSECTICIDE REGISTRATION UPDATE

Summary of insecticide and miticide label additions, clarifications and corrections to the 2013 MSU Fruit Management Guide (E-154).

Posted on **April 23, 2013, MSUE News,** by **John Wise**, Rufus Isaacs and Larry Gut, Michigan State University Extension, Department of Entomology

Agri-chemical labels and regulations can change quickly, so use this information within the context of each compound's legal label.

Insecticide 2013 label additions, clarifications and corrections

Compound	Label changes/ restrictions	Crop	Target pests
Endosulfan	EPA Phaseout	2013 for pear	
Guthion (Azinphosmethyl)	EPA Phaseout	2013 limited use for pome, cherries, blueberries	
Imidan 70W	2012 label rate change	Tart cherry – reduced to 2.125 lb/acre	
	24C label change pending	Tart cherry – increase rate to 2.5 lb/acre	
Malathion 8F label	2012 label rate change	Blueberry – reduced to1.25 pt/acre on main	
	24C label approved	Blueberry – higher rate of 2.5 pt/acre (2 apps)	
Calypso 4F	Add new crops to label	Stone fruits	Aphids, fruit flies, Japanese beetles, oriental fruit moth, scale and plum curculio
Avaunt 30WG	Add new crops to label	Blueberries, grapes	Fruitworms, beetles
Gladiator	New label	Pome and stone fruits, grapes	

NEW INSECTICIDE LABEL INFORMATION FOR COMPOUNDS LISTED IN 2013 E-154

Michigan State University Extension's 2013 Michigan Fruit Management Guide (E-154) product numbers are in parenthesis ().

Guthion (8) (azinphos-methyl) is no longer labeled for use on peaches, nectarines, plums, caneberries and cranberries. 2012 was to be the final year of the EPA Phaseout of Guthion for apples, pears, cherries and blueberries. *Due to unusual bad weather conditions in 2012, EPA has modified the cancellation order to allow growers to use only existing stocks of AZM in their possession for another year, through Sept. 30, 2013*. *All the required mitigation measures now reflected on AZM labeling will remain in effect during this use. Distribution or sale of AZM after Sept. 30, 2012, remains prohibited.*

The pre-harvest interval (PHI) for apple and pear use is 14 days, with a 21-day PHI if the last application is greater than 2 lbs of Guthion 50 WP per acre. Additionally, growers must observe a 60 foot buffer from permanent bodies of water and occupied dwellings, which do not include farm buildings and barns, and Pick-Your-Own apple growers must observe a pre-harvest interval of 44 days when applying between 2.02 lbs per acre and 3 lbs per acre of formulated product, 39 days when applying 1.2 lbs per acre and 2 lbs per acre of formulated product and 33 days when applying 1.2 lbs per acre or less. The maximum yearly amount of Guthion 50 WP to be applied will be 3 lbs on apples, 3 lbs on pears, 1.5 lbs on blueberries and 1.5 lbs on cherries.

Imidan 70W (9) (phosmet) is an organophosphate insecticide labeled for use in many fruit crops, including tart cherries. It is phytotoxic on sweet cherries. It provides good broad-spectrum control of many fruit pests in Michigan. To prevent premature product breakdown from alkaline hydrolysis, spray-tank water should be buffered to a pH of 5.0 to 5.5. The maximum yearly allowable amount of Imidan 70 WP per acre is 22 1/8 lbs on apples, 16 lbs on pears, 17 lbs on peaches, 13 lbs on plums/prunes, 6.5 lbs on grapes, 7 1/8 lbs (5 apps) on blueberries, 15.6 lb on cranberries and 7.5 lbs on tart cherries. A 24C application is pending, but expected in May 2013, which proposes for tart cherry to increase the application rate to 2.5 lb/acre.

Malathion 8F (13) (dymethyl dithiophosphate) is an organophosphate insecticide labeled for use in most fruit crops, and it has relatively short residual activity. It is active on a wide range of insect pests and has lower human toxicity than many other organophosphates. New commercial product will include a reduced legal rate of 1.25 pints/acre for use in blueberries, with a maximum of three applications per year, and a five- day interval between sprays. Older product that lists the rate of 1.5 to 2.5 pints per acre can still be legally used.

On raspberries, this insecticide now has a maximum rate of 2 pints per acre, and a minimum of seven days between treatments. A 24C application has been approved for blueberries to increase the application rate to 2.5 pt/acre and two applications per season (total of 5 lb AI), with a seven-day interval between sprays. A 24C application is pending, but expected in May 2013, which proposes for raspberries an application rate of 2 pt/acre and four applications per season.

Calypso (62) (thiacloprid) belongs to a new class of insecticides called neonicotinoids (thianicotinyl subclass). Calypso is registered for use in pome and stone fruits, targeting aphids, leafhoppers, leafminers, psylla, Japanese beetles, plum curculio, *Rhagoletis* fruit flies, oriental fruit moth and codling moth. This material is translaminar (locally systemic), but its residue has a stronger plant surface profile than the other neonicotinoids. Calypso has a broad-spectrum of pest activity, being effective on piercing or sucking insect pests, as well as controlling several internal feeding insects of fruit. The maximum yearly allowable amount of Calypso 4F per acre is 16 oz on pome fruits and 12 oz on stone fruits.

Gladiator (1) (zeta-cypermethrin + abamectin) is an insecticide/miticide that combines two active ingredients as a pre-mix formulated compound. Gladiator is registered for use in pome fruits, stone fruits and grapes targeting mites, leafhoppers, leafminers, leafrollers, psylla, plum curculio, codling moth, oriental fruitmoth, grape berry moth and Japanese beetles. Gladiator holds the combined

performance attributes of the zeta-cypermethrin and abamectin chemistries. The application of this product is recommended with the addition of a non-ionic surfactant to improve leaf penetration. For the purposes of resistance management, after using Gladiator in a given pest generation, products containing either one of zeta-cypermethrin or abamectin shouldn't be used in the subsequent generation. The maximum yearly amount of Gladiator to be applied is 19 oz per season.

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

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IT'S NOT TOO LATE FOR DORMANT SPRAYS IN GRAPES

Dormant fungicide sprays in grapes can help reduce inoculum of Phomopsis, powdery mildew, black rot and anthracnose.

Posted on **April 23, 2013, MSUE News,** by **Annemiek Schilder**, Michigan State University Extension

The cold spring has some advantages; for instance, allowing you to finish your pruning activities in grapes and even throw in some dormant sprays before the season starts. The goal of dormant sprays is to eliminate fungal pathogens that overwinter in or on the woody parts of the vine. While it is not possible to eradicate all inoculum, dormant sprays can kill or debilitate the fungus so it produces fewer spores, reducing disease pressure during the growing season.

Dormant sprays are useful for management of Phomopsis, powdery mildew, black rot and anthracnose. In some years, we have seen a reduction in downy mildew as well, but only with copper sprays. Since the downy mildew pathogen overwinters in leaf residue on the soil, it could be affected by copper residues that land on the soil surface.

In most years, we have seen a benefit from dormant sprays when rating diseases at harvest, but the degree has varied from none to 70 percent. As a rule of thumb, a 30 to 50 percent reduction in disease pressure can be expected on average from a single dormant spray. Results may not be as good in rainy springs, which probably lead to washing off of the material before it is able to do its job.

To cover your bases, two dormant sprays may be applied, in early and late spring or fall and spring. Dormant sprays should not be used as a stand-alone disease control measure, but can aid in reducing disease pressure during the season.

Products that can be used as dormant sprays are Lime Sulfur or Sulforix, Cuprofix or any other copper product, Sulfur (liquid form recommended), and JMS Stylet Oil or other dormant oil. Sticky formulations that don't wash off readily are best. Application during a dry period and not right before a rainstorm can aid efficacy. Sulforix is calcium polysulfide (similar to Lime Sulfur) that has a lower rate of application.

I usually equate 1 gallon of Sulforix to 5 gallons of Lime Sulfur, and 2 gallons of Sulforix to 10 gallons of Lime Sulfur. Both products are corrosive to equipment and care must be taken to protect eyes and skin from exposure. Some growers spray PAM or oil on equipment prior to use of Lime Sulfur or Sulforix to protect against corrosion and facilitate washing off spray residues. An early-season spray of Manzate or Penncozeb (at 1 to 2 inches of shoot growth) will likely act similarly to a dormant spray by killing Phomopsis as it starts sporulating on old wood.

To get the maximum benefit out of dormant sprays, it is important to ensure thorough coverage of the trunk and canes and to spray every row. Airblast sprayers may not be the best means of application of

dormant sprays; tower sprayers or boom sprayers spraying down onto the cordons from above may be better. In any case, closing off nozzles as needed and focusing nozzles on the cordons, lowering air intake, slowing down and spraying at a moderately low volume (e.g., 20 to 30 gpa) will allow better coverage of the canes while keeping the product fairly concentrated. Don't use a high spray volume as it will dilute the product and result in run-off.

Dr. Schilder's work is funded in part by MSU's AgBioResearch.

SPOTTED WING DROSOPHILA MANAGEMENT AND CONTROL TOOLS FOR SMALL FRUIT GROWERS

MSU Extension's small fruit program is offering classroom and hands-on training to help successfully identify, monitor and manage spotted Wing Drosophila.

Posted on **April 25, 2013, MSUE News,** by **Carlos García-Salazar**, Michigan State University Extension, and Rufus Isaacs Michigan State University Extension, Department of Entomology

Michigan's small fruit industry includes approximately 20,900 acres of blueberries, 750 acres of strawberries and around 500 acres of brambles, mainly raspberries, according to the Michigan Fruit Inventory 2011-2012. According to the USDA National Agricultural Statistics Service, in 2012 Michigan's blueberry production was 87 million pounds, approximately 18 percent of the U.S. total and the farm level value was $122.7 million. On the other hand, strawberry production was 3.3 million pounds on 650 harvested acres with a farm level value of $4.8 million. For raspberries, there are not statistics available for production and farm value of production; however, there is an increased interest in raspberry production thanks to the "Buy Local" promotion. More people are buying fresh berries at local farms, increasing the importance of U-pick operations for the local economy.

Michigan State University Extension is serving this continually growing small fruit industry with technical assistance, training and educational programs to maintain this industry as an important source of income and employment. Pest problems and restrictions imposed by environmental concerns are among the multiple challenges small fruit growers need to overcome every year to maintain their competitiveness.
Since 2008, growers of berry crops in the West Coast states have reported higher costs of production due to spotted wing Drosophila (SWD), and there is also greater risk of having fruit rejected due to contamination.

Since its arrival in the eastern United States, growers of many berry crops have had significant challenges to manage SWD, but there are effective pest control tools that growers can use to meet the market demands for insect-free berries.

In 2012, Michigan's berry growers (mainly blueberry and raspberry growers) reported similar challenges. In addition to fruit losses, the cost of combating this pest impacted substantially the growers' economy since they had to invest an extra $100 to $200 per acre in pest control.
In response, the MSU Extension small fruit program offered small fruit growers a series of meetings and workshops to help them monitor, identify and manage the spotted wing Drosophila threat. From April 25 to November 2012, MSU Extension offered four classroom and hands-on workshops. During those events, growers received training materials with training notes for further review and were

given the opportunity to handle fresh SWD specimens for identification and familiarization with the pest using dissection microscopes and hand lenses (see pictures at the end of this article).

In 2013, we are offering similar training. So far we have successfully concluded two out of three workshops programmed for this berry season. Training has been conducted at the MSU Trevor Nichols Research Center in Fennville, Mich., and at the Ottawa County Fillmore Complex in West Olive, Mich. The next training session will be offered on May 2 at the Lake Michigan College, South Haven Campus in South Haven, Mich. In order to provide maximum personal attention to trainees, the number of participants has been limited to 30 per session. For more information, please call or email Judy Hanson at 616-994-4580 or hanson26@anr.msu.edu .

We believe that combination of classroom and hands-on training of commercial growers, including underserved and minority growers, private consultants and IPM practitioners will make the difference in limiting the extent of the SWD threat in 2013.

Dr. Isaacs' work is funded in part by MSU's AgBioResearch.

WHERE DO YOU GO FOR MSU APPLE AND CHERRY INFORMATION?

Your input is needed for updating websites for commercial apple and cherry information.

Posted on **April 30, 2013, MSUE News,** by **Amy Irish-Brown**, and Nikki Rothwell, Michigan State University Extension

There have been many new methods adopted by Michigan State University Extension in recent years to deliver timely and accurate information to the commercial fruit industry. Two resources that have been around for a few years include the apple and cherry resource websites (www.apples.msu.edu and www.cherries.msu.edu). While these sites are good resources and provide quality information, they are in need of a little sprucing up to keep up with new technology.

A small group of MSU staff received funding from Project GREEEN to make these changes. In order to make these sites resources that work for your industry, we would greatly value your input through a short survey. You can take the survey now at www.surveymonkey.com/s/FruitWebsitesFeedback. It shouldn't take more than five minutes of your time and your input will assist us in creating a more valuable resource for you and your farm. Thank you!

SPRING – SUMMER SCHEDULE OF GRAPE AND WINE WEBINARS

These webinars are free, but you must register for them separately in advance, by 12:00PM Noon EST on the day prior to each webinar. See registration links below or on the attached flyer. A web link and instructions will be sent to registrants prior to each event.

All webinars are from 1:30-2:30PM EST, and each speaker will answer your questions live, time permitting.

- **April 17**
  Annemiek Schilder: Early-season disease management (registration deadline April 16 @ 5:00PM EST)
  Link to recording: **https://connect.msu.edu/p62cuy37yvd/**
- **May 1**
  Dan McCole: Understanding Michigan's tasting room visitors (registration deadline April 30 @ 5:00PM EST)
  Register here: http://store.chateauchantal.com/store/product/3229/MSU-Webinar-TRm-Visitors/
- **June 26**
  Rufus Isaacs: Grape berry moth management (registration deadline June 25 @5:00PM EST)
  Register here: http://store.chateauchantal.com/store/product/3230/MSU-Webinar-GrapeB-Moth/

Hope to see you online,

Paul Jenkins
Small Fruit Education Coordinator

TARGET TILLAGE TO PROTECT THE SOIL

Timing and intensity of spring tillage can have long-term impacts on soil health.

Posted on **April 25, 2013, MSUE News,** by **James DeDecker**, Michigan State University Extension

Every year about this time (late April), a deep agrarian urge to turn the soil takes hold of many. Tillage has epitomized a farmer's relationship with the land for nearly 10 millennia and, until recently, spring tillage was considered an essential tool for weeding, amendment incorporation and seedbed preparation prior to planting. However, soil scientists and growers are becoming increasingly aware of the long-term negative impacts mechanical disturbance can have on soil health.

Tilling destroys soil's natural structure, breaking-up colloids and collapsing macro pores. The short-term result is a warmer, aerated and competition-free environment suited to seed germination. Yet, the fine particles and small pores characteristic of tilled soil are ultimately unstable, leaving fields vulnerable to erosion and compaction over time.

Tillage can also alter soil ecosystems. Research has shown that decomposition rates often increase behind the plow, hastening the breakdown of soil organic matter and subsequent release of carbon dioxide into the atmosphere. Organic matter loss paired with the drying effect of tillage dramatically limits soil water holding capacity and moisture available for plant growth.

The structure of soil under conventional tillage (left) degrades quickly when exposed to water. Soil under conservation tillage (right) forms stable aggregates that resist erosion. Photo credit: Chesapeake Bay Program

All of these concerns have spurred the development of reduced tillage cropping systems in recent decades. Herbicides, tolerant crop varieties and innovative equipment now make it possible to control weeds and plant a field without upsetting the ground. Michigan State University Extension research on tillage effects on soybean yields in Michigan has demonstrated that no-till cropping systems can also yield as well as conventional systems. This spring, no-till may be an especially attractive option for Michigan growers thanks to a winter of multiple freeze-thaw cycles that loosened soils across the Midwest.

Yet, there are cropping systems and situations where few alternatives to tillage are available. For example, when tillage is minimized, crop stover often builds-up on the soil surface. A certain amount of surface residue protects against erosion and excessive soil drying, but too much can keep soils wet and cool, complicating early-season field work. Shallow tillage is often the only practical way to manage this excess of surface residue.

The production of certain crops, like potatoes, requires significant soil disturbance. Innovative systems have been developed to reduce tillage in potato production, but conventional seedbed preparation, hilling and harvest operations used by the majority of growers move a lot of soil.
Tillage is also necessary in organic cropping systems. Without viable chemical control options, organic growers rely on tillage to kill and incorporate weeds or cover crops. In these and other circumstances where spring tillage cannot be avoided, it is important to consider how the timing and intensity of operations can be managed to minimize any negative impact. The points below offer some practical guidance to sorting this out.

Timing

- Before tilling, check soil moisture to a few inches below the anticipated tillage depth to make sure the field is sufficiently dry.
- It is hard to be patient, but tilling too early increases the likelihood of soil compaction, non-uniform soil moisture, crusting and clodding.
- When tilling for seedbed preparation, a single pass just prior to planting will maximize moisture uniformity and minimize water loss from the seed zone compared to multiple passes.
- Each additional spring tillage pass increases the potential for soil erosion, compaction and excessive drying while also adding to production costs.
- Intensity

- If primary tillage was completed in the fall, consider no-till options for weed control and planting this spring.
- When tillage is necessary, choose the least aggressive implement and run it as shallow as possible to meet your objectives.

References

- Agronomist: Winter weather loosened soil; no-till a viable option, Purdue Agriculture News
- Spring Tillage Preparation, Iowa State University Extension Integrated Crop Management News
- Just say no to spring tillage, NRCS advises, Carbon County Utah Sun Advocate.
- Timing of Tillage Crucial to Crops, Soil Science Society of America

NEW 2013 LEELANAU COUNTY PLAT BOOKS NOW AVAILABLE

The Leelanau County 4-H Youth Association announces the arrival of the 2013 Leelanau County Plat Book. The county plat book is a handy publication used by recreation enthusiasts, sportsmen, business people, those interested in real estate and the general public. The 2013 edition, produced locally by the Land Information Access Association (LIAA), includes county road maps, landowner information, village street maps, public parks and lake accesses, and inland lake bottom topography.

Revenue from the plat book helps hundreds of local youth attend citizenship and leadership events, participate in 4-H summer camps and train volunteers to work effectively with children.

The 2013 Leelanau County Plat Book sells for $35 is available at the MSU Extension/4-H office in the Leelanau County Government Center at 8527 E Government Center Drive or by mail order online at www.msue.msu.edu/leelanau. There is also a USB memory stick with a pdf version of the plat book available for $45. For more information, contact the MSU Extension office at 231-256-9888.

AG CONTAINER RECYCLING FOR GRAND TRAVERSE AREA

American Waste is offering **free** recycling of your pesticide containers at their recycling facility at 280 Hughes Drive in Traverse City. Containers must be triple-rinsed and can be dropped off during normal business hours. Just check in at the scale house before dropping off and tell them you are with Farm-A-Syst. For questions, call 231-943-8088 or visit their website www.americanwaste.org .

WEBSITES OF INTEREST

Insect and disease predictive information is available at:
http://enviroweather.msu.edu/homeMap.php

60 Hour Forecast
http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous46ktvc

Information on cherries is available at the new cherry website:
http://www.cherries.msu.edu/

Fruit CAT Alert Reports have moved to MSU News
http://news.msue.msu.edu