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Northern Michigan FruitNet 2010
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 3, 2010

GROWING DEGREE DAY ACCUMULATIONS through August 2nd at the NWMHRS

Year	2010	2009	2008	2007	2006	2005	20 yr. Avg.
GDD42	2609	1961	2149	2504	2523	2540	2228.1
GDD50	1691	1162	1357	1644	1647	1699	1420.9

CHERRY LEAF SPOT AND THE NEED FOR POSTHARVEST FUNGICIDE APPLICATIONS IN THIS EARLY HARVEST SEASON
Nikki Rothwell, NWMHRS
George Sundin, Plant Pathology

With the cherry season behind us for 2010, growers have inquired about post-harvest management strategy for cherry leaf spot (CLS). In a typical year, we harvest tart cherries in mid-July to mid-August, and a post-harvest fungicide spray is applied within a week of harvest. The intent for this spray is to prevent early defoliation that can lead to reduction in tree winter hardiness, diminished fruit set the following year, and result in poor fruit quality in future seasons. These post-harvest applications are commonly sprayed mid- to late-August, which in most years is effective enough to prevent premature leaf loss in September. In the case of 2010, much of the tart cherry harvest was finished by early July, which leaves almost an extra month to manage for CLS. The following guidelines should help growers when making their post-harvest CLS management decisions.

First, all growers should have made the 'typical' chlorothalonil application just after harvest. If the orchard was clean or fairly clean up until this point, this spray will keep the leaves protected until the first of August. Further fungicide applications will be warranted if conditions remain wet and warm. Long periods of warm, dry weather will keep the CLS fungus in check.

Under CLS-conducive conditions, a second post-harvest fungicide application in early August will further protect the leaves until mid-August, the traditional timing for the post-harvest spray. Again, if the orchards do not already show signs of CLS, this second post-harvest application should protect foliage through to September, and because the CLS fungus grows slowly, the pathogen will not have adequate time to move through its life cycle and result in premature defoliation. On the other hand, if an orchard is already showing signs of leaf drop at this time, a third fungicide application may be warranted at the end of August. Additionally, if conditions in August are wet and warm, even clean orchards may need another fungicide application. Because there are many formulations of chlorothalonil available, growers should check the label for the maximum allowable limit for the season.

WINEGRAPE UPDATE THIS FRIDAY!
Erin Lizotte, District IPM Educator, MSU-E

Don't forget we have a Winegrape IPM Update this **Friday, August 6th from 3-5**. Dr. Paolo Sabbatini, from the MSU Department of Horticulture, will lead this session on canopy and crop load management; of course, there is always time for additional questions and topics! The Ligon farm has graciously offered to host this event and is located at 3130 Old Mission Rd on Old Mission Peninsula. This event is *free* and does not require registration. As always, Parallel 45 will host a wine tasting social following the program so be sure to bring a bottle of your favorite local or homemade wine. For more information, please contact Erin at (231)946-1510.

WEBSITES OF INTEREST

CIAB Raw Product Report (Week 5)

Insect and disease predictive information is available at:
http://www.enviroweather.msu.edu/home.asp

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://www.maes.msu.edu/nwmihort/faxnet.htm

ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2010

Please send any comments or suggestions regarding this site to:
Bill Klein, kleinw@msu.edu

Last Revised: 8-3-10

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August 10, 2010

GROWING DEGREE DAY ACCUMULATIONS through August 9th at the NWMHRS

Year	2010	2009	2008	2007	2006	2005	20 yr. Avg.
GDD42	2826	2130	2355	2725	2735	2772	2420.4
GDD50	1852	1276	1507	1809	1803	1876	1558.3

Growth Stages at NWMHRS (8/9/10- 4:00 pm)

Apple: Red Delicious – 69 mm fruit
Gala – 57 mm fruit
Yellow Delicious – 65 mm fruit
Pear: Bartlett: 50 mm fruit
Plum: 32 mm fruit
Grapes: Green fruit

Weather

It's been hot and humid in the north! Daytime temperatures are in the 80s and nighttime temperatures in the 50s and 60s. We have accumulated 2826 GDD base 42 and 1852 base 50. Our 20-year average is much below the 2010 accumulations: 2420 GDD base 42 and 1558 GDD base 50. Over the past week we have received 1.45' rain at the NWMHRS. Humidity has been higher this season than is typical of the northwest causing some atypical disease issues.

Crop Report

Peach and nectarine harvest is still underway and blackberry harvest is still in swing.

Apples. Apples are sizing well, and growers are concerned about good color with the warm nighttime temperatures.

As we are now in the secondary phase of the **scab infection** cycles, there are a number of fungicides that are effective, including Indar (14-day PHI), Inspire Super (72-day PHI), Captan (0-day PHI), and Ziram (14-day PHI). Captan has the additional benefit of having efficacy against sooty blotch/flyspeck material, which may be an issue this season with the ample rainfall and excess humidity.

We caught 2 **Oriental fruit moth** per trap this week, continuing the trend of a slow steady emergence since June 1. **Obliquebanded leafroller** (OBLR) moth emergence subsided over the past 2 weeks with no moths in the traps; reports of larvae in area orchards have been common. OBLR emergence began on June 7 with egg hatch (the optimal timing for initial treatment) occurring some time ago. If you continue to scout for and locate OBLR larvae, treatments should continue on two week intervals. **Spotted tentiform leafminer** numbers are back up this week with an average of 233 per trap. Still no sign of **apple maggot** in our trap site, but we are approaching the estimated time of peak flight based on degree day accumulations and area growers are reporting trap catches- so keep your eye on traps this week.

Codling moth trap catch has been erratic over the past weeks with just 4 moths trapped over the past 3 weeks. We attribute these moths to second generation emergence based on degree-day accumulations since 1st generation biofix. We set the biofix for second generation flight as 26 July at our site. With degree days accumulating so quickly in this hot weather, an accurate biofix is key to timing treatment properly. Since 26 July, we have accumulated 350DD post biofix, with the ideal timing for larvacide treatments occurring over this past weekend. For more information, refer to the Fruit CAT Alert Article "Codling Moth Management Decision Making, Part III, Second Generation" from August 11, 2009. Refer to the E-154 Fruit Management Guide for more pesticide information, and always read and follow the pesticide label.

Cherries. Cherry leaf spot is present at significant levels, and over the past week, the weather has resulted in significant **leaf spot** infection periods. **Powdery mildew** is also present at significant levels on terminal shoots.

Harvest arrived early for cherry growers in Michigan, and this change in harvest timing may warrant some unique management strategies. During a "typical" season, when harvest time is significantly later, growers apply more cover sprays in the run-up to harvest and apply a single post-harvest fungicide application for cherry leaf spot. Generally, a

single well-timed chlorothalonil (Bravo) application slows the progression of leaf spot infection. Post-harvest applications also help delay defoliation to maintain adequate winter hardiness and to minimize poor fruit quality in the following year. However, due to the early harvest, growers will need to protect trees from infection for a longer period of time after harvest this year. Additionally, growers with powdery mildew pressure may find it necessary to continue management if mildew infection is widespread throughout trees.

Winegrapes. We continue to monitor for **grape berry moth** (GBM) activity and although there was no significant adult trap catch this season, larval webbing and feeding is visible in clusters. At this point in the season, it is easy to spot fruit with active larvae as discoloration of the green berries occurs. Simply peel back the skin to confirm the larvae of grape berry moth inside the fruit. The model predicted that egg laying would begin this past Sunday; however, as we are seeing small larvae feeding, we know that the time for treatment is now, particularly as berries expand and clusters tighten. We typically would like to time treatment earlier and it is still unclear why the model appears to be predicting egg laying so late. This year's hot temperatures and rare weather patterns could be a likely cause of the model's error. If you are seeing active larvae in your vineyard, broad spectrum larvacides should be applied immediately. Growers should not wait to manage based on the model. There are a number of effective berry moth materials, (Imidan, Brigade, Danitol, Baythroid, Altacor, Belt, Voliam flexi and Tourismo are all rated excellent). It is important to note that Imidan, Brigade, Danitol, Baythroid, and Voliam flexi are also good **leafhopper** materials. If you are experiencing substantial leafhopper pressure, these products should work well at this time.

Beetle feeding damage was observed on grape leaf foliage, though the culprit was not identified. We have also received samples of **false Japanese beetle**. False Japanese beetles have a head and thorax that is a dull, metallic green and its wings are brown; these insects are also narrower (more like the shape of a Rose chafer) than the round-looking Japanese beetle. **Japanese beetle** are a more substantial insect with flashier and more distinct colors and patterns, one was been brought into the office this week. Beetles lay eggs underground in grassy areas near vineyards, preferring soil with moisture. The white, C-shaped larvae (grubs) feed on grass and weed roots and overwinter underground in these areas. Japanese beetles can be present from June through September. They feed on the upper leaf surfaces, leaving a lacelike skeleton. Injured leaves may turn brown and die if feeding is severe, but clusters are not attacked. We have observed Japanese beetle hotspots around the region, but typically most growers don't encounter major issues. It is important to keep in mind that healthy, established vines can tolerate a fair amount of feeding and management should be reserved for heavy infestations where defoliation is reaching damaging levels. Japanese beetle traps that are available may attract beetles to vineyards, so their use is discouraged. There are many effective Japanese beetle materials, including; Imidan, Provado-RR, Brigade, Sevin, Danitol, Avaunt, Acatra, Assail, Clutch, Baythroid, Platinum, Mustang Max, and Voliam flexi.

Potato leafhopper adults continue to be trapped at moderate levels, but no nymph or adult activity was observed on vines this week and few growers report the need for management.

Downy mildew has been seen in area vineyards, including those under conventional management programs. We typically see a minimal amount of downy mildew in northwest Michigan, but the humidity this season may be a contributing factor. It is important to keep in mind that the list of fungicides effective against both downy and powdery mildew is short (Abound-reduced risk, Sovran, Serenade Max-OMRI approved, Pritistine-Strobi+boscalid) so even if growers applied fungicides for powdery mildew it may necessary to treat for downy separately. Additional materials active against downy mildew include Abound, Aliette, Prophyt, Phostrol, Bordeaux mix (6lb Cu+6lb hydrated lime), and copper. ProPhyt and Phostrol are your best bet for curative activity; these are highly systemic fungicides and should be applied at maximum rates post infection and also will provide good protection of the fruit from **Phomopsis** where cane and leaf symptoms were spotted and are a concern. Be aware of the potential for phytotoxicity with these products when applied at temperatures above 90°F. **Do not** apply to stressed vines.

Powdery mildew has been slow to arrive this season but is beginning to show up around the area. It is likely that significant powdery mildew infections will be visible at this time, although we have received no reports of severe infections thus far. We are through the critical period for fruit protection, but foliage remains vulnerable. The sterol inhibitor fungicides (Rally, Elite, Vintage, Procure) are commonly utilized for powdery mildew control and Sulfur (OMRI approved) can also be utilized on non-sensitive varieties. Adament (Gem+Elite) is also rated as excellent-be sure you know the actual amount of a.i. you are putting on to ensure you are supplying adequate quantities and not exceeding your season long max. Be sure to rotate the fungicidal mode of action to slow resistance development.

Botrytis has also been spotted, not surprising given the persistent wetting events as of late and the elevated levels of grape berry moth infestation. We typically time botrytis treatments for veraison and preharvest, but if you have botrytis infections on green fruit, management should not be delayed. Under high pressure, treatment may be beneficial at bloom, bunch closing, veraison, and preharvest, particularly in tight clustering varieties. Leaf removal is an important horticultural practice that significantly impacts botrytis. Removing leaves allows for increased air and light penetration and well as more thorough fungicide coverage. As bunch closing is occurring at many vineyards there are a number of effective materials against botrytis including Rovral, Vangard-reduced risk, Endura-reduced risk, Serenade Max-OMRI, Scala-reduced risk, and Elevate-reduced risk.

Symptoms of **leafroll virus** are also visible on area vines. Leaves on vines infected with leafroll virus become yellow or reddish purple as the season progresses; the main veins remain green. By late summer, the leaves start rolling downward and at harvest fruit clusters are small, poorly colored, and low in sugar. The disease does not kill the vine but is chronic and is spread primarily via infected nursery stock and the **grape mealybug**. Within-field spread by mealybug is very slow. If you have sites you would like tested, please contact Erin at taylo548@msu.eud or (231)946-1510.

MANAGING LATE SEASON GRAPE BERRY MOTH
Dr. Rufus Isaacs, Entomology, MSU

With this hot summer, berry moth development is moving along quite rapidly. Recent observations of grape clusters have revealed increasing levels of infestation by grape berry moth larvae, and this reflects infestation by the second generation that laid eggs during mid-late July. The grape berry moth degree day model is also predicting the start of egg laying by the third generation (1,620 GDD) of this pest this week for many regions of southwest Michigan. This is almost two weeks earlier than during 2009, but with this warm season, the start of the third generation at this timing just in advance of veraison suggests that moth phenology is tracking vine development quite closely. Overall, berry moth pressure is higher than last year, and management of this pest during the next month before harvest is critical to ensure that fruit infestation by insects and the associated diseases are not a problem facing growers, processors and wineries. With many Niagara vineyards being harvested after Concords, plantings of this variety will also require more attention than is typical.

Scouting is critical at this time of the season to identify vineyards that require protection from grape berry moth through the rest of the season. Growers with vineyard blocks that have a history of infestation by this pest should take the time to walk through those blocks and assess the level of infestation before deciding whether a spray is required. In vineyards with very low infestation or where early-season frost damage removed most of the crop, the time and expense of a pesticide application is not warranted at this time of the season. Insecticide applications should be limited to vineyard borders where berry moth pressure is highest, to blocks where infestation is developing and a crop will be harvested. With regular vineyard scouting, growers can continue to monitor this pest and make decisions on whether pest populations warrant insecticide control as we go through August and into September.

Maintaining control of grape berry moth requires a combination of good timing, high insecticide activity and excellent cluster coverage. This update will cover each of these issues.

Timing

The late summer generation of grape berry moth typically starts laying eggs in the period just before veraison with increasing egg laying through August and into September. This late-season generation can lead to infestation of harvested clusters and can expose clusters to fruit rots, making it important to reduce injury from this generation. Using crop growth stages provides some adjustment for variation between the seasons, but we also now have the degree day model at www.enviroweather.msu.edu to help refine these timings and ensure optimal timings for control sprays. The model is predicting the start of third generation grape berry moth this week in southwest Michigan. With fewer degree days up north, this point in the insect's development is expected to be reached by the middle to end of next week. This is the predicted start of the third generation egg laying, a timing that is appropriate for growth regulator insecticides such as Intrepid. Growers planning to use a broad-spectrum insecticide should wait for 100-200 growing degree days before applying insecticide to ensure that applications target eggs as they hatch, and so the residual doesn't decline before egg laying peaks. Follow-up application may be needed to maintain control in areas with very high pressure.

In 2010, our degree day accumulations are so far ahead of normal that there is potential for some late-season activity of grape berry moth (a partial fourth generation). The risk of this is lessened by the insect population naturally being triggered by shorter day lengths to enter diapause, where the larvae develop to a pupa, but do not emerge again as adults. Instead, they prepare for the cold winter months and drop to the vineyard floor. During very warm years, some of these larvae may use the warm conditions to bypass the diapause and attempt a fourth generation. We will continue monitoring this pest through August and September to determine whether a fourth generation is possible.

Insecticide activity

When selecting an insecticide, there are many options for berry moth control. Some of these are selective for this pest, while others will also provide control of leafhoppers, Japanese beetles and other insects that can occur at the same time. For details of registered pesticide options, consult MSU Extension publication E-154.

The selective insecticide Intrepid has shown good effectiveness against berry moth in small plot and vineyard-scale trials, and we have tested it in the mid-season timings in July and August at the 12 oz rate and at 8 oz/acre. Although this is more expensive than many standard insecticides, the product lasts a long time (two to three weeks depending on the rate) and is resistant to wash-off. This helps make it an effective tool to use against the high pressure of egg laying by berry moth seen late in the season, when maintaining control would otherwise require multiple sprays. This works on the molting system of the moth larvae and therefore allows biological control to remain active. However, because it is selective, Intrepid will not control leafhoppers or beetles. It also has a 30-day PHI, so many growers have been using this in their programs a month or more before harvest to protect clusters while they get ready for the harvest activities. Use of Intrepid has also reduced the number of infested berries and the number of diseased berries in samples taken at harvest. Intrepid is quite stable under hot conditions and resistant to wash-off once sprayed providing good residual control.

There are many broad-spectrum insecticides available for berry moth control, including a number of pyrethroids that provide inexpensive control and that have broad insect activity. These provide effective control of moths, eggs, and larvae of grape berry moths. They have relatively short residual control in the hotter summer weather when growers might be spraying for the third generation of grape berry moths. In our trials with Danitol, Baythroid, and Capture, the lower rates of these products declined in activity against grape berry moth after nine days. If using a pyrethroid to control grape berry moth along with Japanese beetle in the hot sunny conditions of August, using the full rate will provide the best residual control, but no more than 10-14 days control should be expected. Despite the temptation to look only at the price per acre when making decisions, be sure to rotate this class with other chemical classes to avoid resistance developing. This means that growers should rotate out of this group of insecticides (Baythroid, Danitol, Capture, Mustang Max, or any generic pyrethroids) and use an alternative chemical class the next time an insecticide is used. Sevin or Imidan (buffered to pH 6) are both in different chemical classes. Be aware that Imidan now has a **14 day** re-entry interval in grapes. There are also many effective reduced-risk insecticide options. These include Intrepid that was mentioned earlier, and also Altacor and Belt that have high activity on moth larvae. Altacor has also demonstrated activity on Japanese beetles in recent trials this summer, reducing feeding damage to leaves, and it provides control of grape berry moths with a 3-4 oz rate with a 14-day pre-harvest interval. Assail is a neonicotinoid insecticide that has moderate activity on grape berry moth and will also provide control of leafhoppers and Japanese beetles.

Coverage

Getting **cluster** coverage with your spray material is essential for berry moth control. This is important for getting full activity from broad-spectrum insecticides and even more important if applying any of the newer chemistries that must be eaten to be effective. As the canopy becomes denser after bloom, increase the water volume and slow down to ensure the pesticide has a chance to contact the pest. Juice grape canopies have many layers of leaves during the late summer, making it hard to penetrate to the clusters, but this is essential if the insecticide is to work against grape berry moth. If the spray doesn't hit the cluster, a significant investment of time and money is being wasted. Spraying every row is another important component of ensuring that your clusters are well covered.

To illustrate this, our research in a mature Niagara vineyard found that an airblast sprayer operated at 20 gallons of water

per acre gave only half the control of grape berry moths in August compared with one running at 50 GPA. We have also seen that vineyards treated using alternate row spraying at 20-30 gallons of water per acre have poor control of berry moth, likely due to the spray material not reaching both sides of the clusters.

One way to test your coverage is to spray water or SURROUND WP kaolin clay through the sprayer in a test run. Immediately after spraying (with water) or after the spray has dried (for the kaolin), lift the canopy of the sprayed and adjacent rows to see where the material hits the cluster. If there are untreated berries, these are sites where a berry moth larva could avoid the treatment and survive. These results emphasize the need to calibrate your sprayer and adjust through the season to ensure it is getting good cluster coverage, because it can make a big difference for control.

NW RESEARCH STATION OPEN HOUSE SCHEDULE – AUGUST 19, 2010

Tree Fruit
Conference Room

3:00-3:20 Continuing to investigate the potential for new cherry harvesting equipment
Dr. Ron Perry, Dept. of Horticulture, MSU

3:20-3:40 Travel to new high density Montmorency planting, 20-acres

3:45-4:30 Pruning, training, and irrigation of new high density planting
Dr. Nikki Rothwell, NWMHRS

4:30-5:00 Fruiting walls and high quality sweet cherries
Dr. Greg Lang, Dept. of Horticulture, MSU

Winegrapes
Vineyard

3:00-3:45 Controlling disease in the vineyard with minimum inputs
Dr. Annemiek Schilder, Dept. of Plant Pathology, MSU

3:45-4:30 Organic options for insect control in northern Michigan vineyards
Dr. Rufus Isaacs, Dept. of Entomology, MSU

4:30-5:00 Q and A

5:15-6:00 Social hour with wine tasting

6:00 Dinner by *Ethnic Garden Catering*

Following the afternoon sessions, a social hour with wine tasting with local wines will take place. Dinner will be catered by Ethnic Garden Catering and will feature local fruits and vegetables; the dinner cost is $15 per person. To reserve tickets for the wine tasting and dinner, call the Leelanau County Extension office at 231-256-9888 or email to msue45@msu.edu. Reservation deadline is **August 16.**

The Northwest Station Open House is hosted by the Michigan Agricultural Experiment Station, Michigan State University Extension, the Leelanau Horticultural Society, the Northwest Michigan Horticultural Research Foundation, and Parallel 45.

SO WHAT DOES IT TAKE TO GET YOUR FARM MAEAP VERIFIED?

Come learn about the Michigan Agriculture Environmental Assurance Program at the NW Michigan Horticultural Research Station open house **Thursday, Aug 19,** from **1:00 to 3:00.** From 1:00 - 2:00, you will learn about the risk assessment tools available to you through the Michigan Water Stewardship Program and learn details about requirements for verification within the MAEAP program. At 2:00, we will drive to Scott and Penny Emeott's farm, Cherry View Farms LLC, which is located within a mile of the Research Station at 9610 E. Bingham Rd. We will then tour the farm headquarters and will highlight some of the conservation practices implemented to reduce risk on the farm and satisfy MAEAP requirements. Refreshments will be provided at the farm tour part of this program. Please RSVP to Dan Busby at 231.883.9962 or dbusby@gtcd.org

LIMITING BIRD DAMAGE IN FRUIT CROPS MEETING

We invite Michigan fruit growers to attend all or part of the following meeting:

Limiting Bird Damage in Fruit Crops: A Planning Program to Identify Research Directions for the Future
August 25-27, 2010
NW Michigan Horticultural Research Station, Traverse City, Michigan

Growers might be particularly interested in attending on the afternoon of Aug. 25 when a panel discussion will take place. During the panel, growers will share their experiences with bird damage with a group of researchers. Our goal, as researchers, is to develop a research agenda to tackle this important problem.

Schedule overview

Afternoon, evening Aug. 24……Out-of-town Participants Arrive

Morning, Aug. 25……Visits to Orchards

Afternoon, Aug. 25……**Panel discussion with Growers**

Morning, Aug. 26……Presentations by Researchers

Afternoon, Aug. 26……Identification of Research Priorities

Morning, Aug. 27……Planning for Proposal Development

Afternoon, Aug. 27 and morning, Aug. 28……Out-of-town Participants Depart

**3:00-4:30 with social hour to follow

If you plan to attend, please contact Catherine Lindell, lindellc@msu.edu, 517-884-1241, Erin Lizotte, taylo548@msu.edu, or Nikki Rothwell at rothwel3@msu.edu for details.

Catherine Lindell	Erin Lizotte	Nikki Rothwell
Associate Professor	IFP/IPM District Educator	District Horticulturalist
Dept. of Zoology/CGCEO	MSU Extension	NWMHRS Coordinator
Michigan State University		MSU Extension

LOOKING FOR LOCAL FARM PRODUCTS FOR SCHOOLS

Schools in Grand Traverse, Benzie, and Manistee counties are looking for local farm sources of a variety of produce and other farm products. Please contact them soon if you are interested, and click to the following links for more information: The Traverse City Area Public Schools is seeking written price quotes for a variety of fruits and vegetables, with a **deadline of noon, Aug. 27.** To learn more, check out this link at the Michigan Land Use Institute's *Taste the Local Difference* Local Food Exchange.
The Frankfort-Elberta Area, Benzie County Central, and Onekama Consolidated Schools together are seeking a wide variety of fruits, vegetables, eggs, meat, honey, and maple syrup. View their local food wish list at the Exchange here.
You'll find important contact information at each of those links.
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Senior Policy Specialist
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Michigan Land Use Institute
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SASKATOON GROWING AND MARKETING WORKSHOP

DATE: Saturday, **August 28,** 2010

TIME: 9 – 11 am

LOCATION: Jacob's Farm, 7100 West M-72, Traverse City (3.5 miles from West Grand Traverse Bay)

COST: $10 per person (payable at the door), includes snacks and materials

AGENDA:
9 am Coffee, Juice, Saskatoon Berry Snacks

9:20 am Discussion Related To Selection, Growing, And Marketing Of Saskatoons In The Northern Lower Peninsula, *Steve Fouch, MSU Extension-Benzie County*

10:15 am Tour Of Saskatoon Plantings At Jacob's Farm And Future Plans

11 am Program Ends

Sarah Lutz, Midwest Saskatoon Project, will be on hand to talk about the early September shipment of plants from Canada and options growers are being offered

Please **RSVP** by calling MSU Extension-Benzie County, 231/882-0025,Monday-Friday, 8:30 am - Noon and 1 - 5 pm

SMALL WIND WORKSHOPS
Lynn Hamilton, Visiting Assoc. Professor, Dept of Ag & Resource Economics, MSU

A series of small wind workshops for the general public throughout the state will be held, and you are welcome to attend any of these workshops that are convenient for you. They are *free,* no pre-registration is necessary. The agenda, schedule and location of the workshops can be found below.

2010 Small Wind Presentation Schedule

Date	County	Time	Meeting Space
Tuesday, Aug. 24	Alpena	6:30- 9:30 p.m.	AlpenaCommunityCollegeCenter 106 665 Johnson St., Alpena, MI
Wednesday, Aug. 25	Delta	6:30- 9:30 p.m. (Eastern Time)	BayCollege Heirman University Center Room 952 Escanaba, MI
Monday, Aug. 30	Washtenaw	6:30- 9:30 p.m.	Washtenaw MSUE Office

			705 N. Zeeb Rd Ann Arbor, MI
Thursday, Sept. 2	Lapeer	6- 9 p.m.	Lapeer MSUE Office 287 W. Nepessing St Lapeer, MI
Wednesday, Sept. 8	Clinton	6- 9 p.m.	Smith Hall ClintonCounty Fairgrounds 800 Sickles St. St. Johns, MI
Thursday, Sept. 9	Berrien	9:30 a.m. -12:30 p.m.	SW Michigan Research and ExtensionCenter 1791 Hillandale Road, Benton Harbor, MI
Thursday, Sept. 9	Branch	6:30- 9:30 p.m.	4-H Cabin 251 Sprague St. Coldwater, MI

Small Wind - Will it Work for You?

AGENDA
Presenters: Dr. Steve Harsh and Dr. Lynn Hamilton, Michigan State University Department of Agriculture, Food, and Resource Economics

Welcome, Introductions and Announcements – County Extension Educators (10 minutes)

What's New in Renewable Energy Policy? (25 minutes)
Recent state and federal laws have had made wind energy a much better investment than in the past- we'll update you on these new incentives.

Steps to a Successful Small Wind Project (45 minutes)
We've developed a new Michigan-specific checklist of factors to consider before investing in a wind turbine; this will help you decide if wind will work for you.
Handouts: Small Wind Checklist and Wind Turbine Buyer's Guide

Break (10 minutes)

Economics of Small Wind (40 minutes)
We'll present case studies using our small wind economic model and Michigan wind data collected from our anemometer loan program to show what factors really make a difference in whether small wind pays for itself.

-Short break to allow people who won't meet REAP requirements to exit, if they choose- (5 minutes)

USDA REAP program (30 minutes)
The 2008 Farm Bill includes millions of dollars in funding for renewable energy and energy efficiency projects for farms and rural small businesses. The Renewable Energy for America Program provides grants of 25% of the cost of adopting these technologies (up to $500,000). Congress has $70 million each year for 2011 and 2012.

Questions and Wrap-up (15 minutes)

WEBSITES OF INTEREST

CIAB Raw Product Report (Week 6)

Insect and disease predictive information is available at:
http://www.enviroweather.msu.edu/home.asp

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://www.maes.msu.edu/nwmihort/faxnet.htm

ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2010

Please send any comments or suggestions regarding this site to:
Bill Klein, kleinw@msu.edu

Last Revised: 8-10-10

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Northern Michigan FruitNet 2010
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 17, 2010

Weather

The weather is giving us a bit of relief this week with cooler temperatures and lower humidity. Its Daytime temperatures have been in the 70's and nighttime temperatures in the 60's. We have accumulated 3039 GDD base 42 and 2020 base 50. Our 20-year average is much below these 2010 accumulations: 2617 GDD base 42 and 1698 GDD base 50. On Saturday, we received 0.05" rain at the NWMHRS.

Crop Report

Apples. The big news in the past weeks has been the **apple maggot** trap catches. Last week, area scouts reported significant trap catches (upwards of 40 flies per trap at some locations) followed by very minimal catches this week. Additionally, the trapline at the Station has not been catching apple maggot in apple—but in cherry fruit fly traps. Either way, the apple maggot emergence is obviously well under way. See the included article on apple maggot monitoring and management for more information.

Cherries. Cherry leaf spot is present at significant levels, and over the past week, the weather has resulted in significant leaf spot infection periods. **Powdery mildew** is also present at significant levels on terminal shoots. As harvest arrived early for cherry growers, this change in harvest timing may warrant unique post-harvest management strategies. During a "typical" season when harvest time is significantly later, growers apply more cover sprays in the run-up to harvest and apply a single post-harvest fungicide application for cherry leaf spot. Generally, a single well-timed chlorothalonil (Bravo) application slows the progression of leaf spot infection. However, due to the early harvest, growers will need to protect trees from infection for a longer period of time after harvest this year.

Winegrapes. We continue to monitor for **grape berry moth** (GBM) activity, and although there has been no significant adult trap catch this season, larval webbing and feeding is visible in clusters. At this point in the season, it is easy to spot fruit with active larvae as green berries are discolored. To confirm if GBM larvae are inside the fruit, peel back the skin of the berry. We typically would like to time treatment to target egg laying; unfortunately, the model did not appear to accurately predict egg laying this season. This year's hot temperatures and rare weather patterns could be a likely cause of the model's error. If growers are seeing active larvae in the vineyard, broad spectrum larvacides may be applied. There are a number of effective berry moth materials, (Imidan, Brigade, Danitol, Baythroid, Altacor, Belt, Voliam flexi and Tourismo are all rated excellent). It is important to note that Imidan, Brigade, Danitol, Baythroid, and Voliam flexi are also good leafhopper materials, if you are experiencing substantial **leafhopper** pressure, these products should work well at this time.

Beetle feeding damage continues to be observed on foliage, though the culprit was not identified. We have also received samples of *false* **Japanese beetle**. False Japanese beetles have a head and thorax that is a dull, metallic green and its wings are brown; these insects are also narrower (more like the shape of a Rose chafer) than the round-looking Japanese beetle. **Japanese beetle** are a more substantial insect with flashier and more distinct colors and patterns, one was been brought into the office this week. Beetles lay eggs underground in grassy areas near vineyards, preferring soil with moisture. The white, C-shaped larvae (grubs) feed on grass and weed roots and overwinter underground in these areas. Japanese beetle adults can be present from June through September. They feed on the upper leaf surfaces, leaving a lacelike skeleton. Injured leaves may turn brown and die if feeding is severe, but clusters are not often attacked. We have observed Japanese beetle in hotspots around the region in previous years, but typically most growers do not have to control for Japanese beetle. It is important to keep in mind that healthy, established vines can tolerate a fair amount of feeding, and management should be reserved for heavy infestations where defoliation is reaching damaging levels. Japanese beetle traps that are available may attract beetles to vineyards, so their use is discouraged. There are many effective Japanese beetle materials, including; Imidan, Provado-RR, Brigade, Sevin, Danitol, Avaunt, Acatra, Assail, Clutch, Baythroid, Platinum, Mustang Max, and Voliam flexi.

Potato leafhopper adults continue to be trapped at moderate levels, but no nymph or adult activity was observed on vines this week and few growers report the need for management. **Downy mildew** has been seen in area vineyards, including those under conventional management programs. We typically see a minimal amount of downy mildew in northwest Michigan, but the humidity this season may be a contributing factor. It is important to keep in mind that the list of fungicides effective against both downy and powdery mildew is short (Abound-reduced risk, Sovran, Serenade Max-OMRI approved, Pritistine-Strobi+boscalid) so even if growers applied fungicides for powdery mildew, it may necessary to treat for downy separately. Additional materials active against downy mildew include Abound, Aliette, Prophyt, Phostrol, Bordeaux mix (6lb Cu+6lb hydrated lime), and copper. ProPhyt and Phostrol are the best options for curative activity;

these are highly systemic fungicides and should be applied at maximum rates post infection. These fungicides will provide good protection of the fruit from **Phomopsis** where cane and leaf symptoms also are a concern. Be aware of the potential for phytotoxicity with these products when applied at temperatures above 90°F, and these products should not be applied to stressed vines.

Powdery mildew (PM) has been slow to arrive this season but is beginning to show up around the area. It is likely that significant powdery mildew infections will be visible at this time, although we have received no reports of severe infections thus far. The sterol inhibitor fungicides (Rally, Elite, Vintage, Procure) are commonly utilized for powdery mildew control and Sulfur (OMRI approved) can also be utilized on non-sensitive varieties. Adament (Gem+Elite) is also rated as excellent. Be sure you know the actual amount of a.i. you are putting on to ensure you are supplying adequate quantities and not exceeding your season-long max. Be sure to rotate the fungicidal mode of action to slow resistance development. Keep in mind that these fungicides are protectants and will not eradicate PM already present on the leaves.

Botrytis has also been observed, not surprising given the humid conditions and elevated levels of grape berry moth infestation. We typically time botrytis treatments for veraison and preharvest, but if growers have botrytis infections on green fruit, management should not be delayed. Under high pressure treatment may be beneficial at bloom, bunch closing, veraison, and preharvest, particularly in tight clustering varieties. Leaf removal is an important horticultural practice that significantly impacts botrytis. Removing leaves allows for increased air and light penetration as well as more thorough fungicide coverage. As bunch close is occurring at many vineyards, there are a number of effective materials that are effective against botrytis including Rovral, Vangard-reduced risk, Endura-reduced risk, Serenade Max-OMRI, Scala-reduced risk, and Elevate-reduced risk.

Symptoms of **leafroll virus** are also visible on area vines. Leaves on vines infected with leafroll virus start out yellow and then a reddish purple color as the season progresses; the main veins remain green. By late summer, the leaves start rolling downward and at harvest fruit clusters are small, poorly colored, and low in sugar. The disease does not kill the vine but is chronic and is spread primarily via infected nursery stock and the **grape mealybug**. Within-field spread by mealybug is very slow. If you have sites you would like tested, please contact Erin at taylo548@msu.eud or (231)946-1510.

*****REMINDER*****

NW RESEARCH STATION OPEN HOUSE
AUGUST 19, 2010

Tree Fruit
Conference Room

3:00-3:20 Continuing to investigate the potential for new cherry harvesting equipment
Dr. Ron Perry, Dept. of Horticulture, MSU

3:20-3:40 Travel to new high density Montmorency planting, 20-acres

3:45-4:30 Pruning, training, and irrigation of new high density planting
Dr. Nikki Rothwell, NWMHRS

4:30-5:00 Fruiting walls and high quality sweet cherries
Dr. Greg Lang, Dept. of Horticulture, MSU

Winegrapes
Vineyard

3:00-3:45 Controlling disease in the vineyard with minimum inputs
Dr. Annemiek Schilder, Dept. of Plant Pathology, MSU

3:45-4:30 Organic options for insect control in northern Michigan vineyards
Dr. Rufus Isaacs, Dept. of Entomology, MSU

4:30-5:00 Q and A

5:15-6:00 Social hour with wine tasting

6:00 Dinner by *Ethnic Garden Catering*

Following the afternoon sessions, a social hour with wine tasting with local wines will take place. Dinner will be catered by Ethnic Garden Catering and will feature local fruits and vegetables; the dinner cost is $15 per person. To reserve tickets for the wine tasting and dinner, call the Leelanau County Extension office at 231-256-9888 or email to msue45@msu.edu. Reservation deadline is **August 17.**

The Northwest Station Open House is hosted by the Michigan Agricultural Experiment Station, Michigan State University Extension, the Leelanau Horticultural Society, the Northwest Michigan Horticultural Research Foundation, and Parallel 45.

SO WHAT DOES IT TAKE TO GET YOUR FARM MAEAP VERIFIED?

Come learn about the Michigan Agriculture Environmental Assurance Program at the NW Michigan Horticultural Research Station open house **Thursday, Aug 19,** from **1:00 to 3:00.** From 1:00 - 2:00, you will learn about the risk assessment tools available to you through the Michigan Water Stewardship Program and learn details about requirements for verification within the MAEAP program. At 2:00, we will drive to Scott and Penny Emeott's farm, Cherry View Farms LLC, which is located within a mile of the Research Station at 9610 E. Bingham Rd. We will then tour the farm headquarters and will highlight some of the conservation practices implemented to reduce risk on the farm and satisfy MAEAP requirements. Refreshments will be provided at the farm tour part of this program. Please RSVP to Dan Busby at 231.883.9962 or dbusby@gtcd.org

MONITORING AND MANAGEMENT STRATEGIES FOR APPLE MAGGOT
John Wise, MSU Trevor Nichols Research Complex
David Epstein, MSU IPM Program
Larry Gut and Luís Teixeira, Entomology

Apple maggots overwinter as pupae and are developmentally ready to emerge as adults in early summer (900 growing degree days base 50). Adult fly emergence is often delayed; however, if soils are dry, peak emergence generally occurs between 1400 and 1700 growing degree days but is highly dependent on site-specific weather conditions. June weather conditions in 2009 were generally cooler than normal, so apple maggot emergence is delayed on a calendar basis compared to normal. Because of frequent precipitation events in June, creating moist soil conditions, a moderate to heavy apple maggot adult emergence is expected in July.

Monitoring adult apple maggot flight is key to effective management of this pest. Adult activity can be monitored using yellow sticky boards with ammonium bait, or a red sphere trap covered with an adhesive and baited with synthetic fruit volatile. The yellow trap is most useful during the pre-oviposition period when newly emerged females are actively feeding. The red sphere trap is effective throughout the season, because it mimics the ripening fruit that flies are attracted to during egg-laying. Comparisons of the two trap types in Michigan have revealed that the red sphere baited with fruit volatiles is the most effective, consistently catching three to four times more flies. Traps should be placed on the south-facing side of trees in perimeter rows because most flies are expected to be immigrating from wild hosts outside the orchard. Optimally, traps should be checked twice weekly starting just before 900 GDD base 50ºF until the first fly is captured, then once a week thereafter to indicate the end of the flight.

Identifying apple maggot generally requires the use of a 10X hand lens. Adults are dark flies, approximately 6 mm in length. The most characteristic feature of the fly is the dark pattern on their wings (Figure 1). These wing-banding patterns are used to differentiate between fruit fly species. Apple maggot has four distinct black bands toward the wing tips, as seen in this illustration. Further identifying characteristics for the apple maggot include a white spot on the back of the thorax, and white bands across the top of the abdomen.

The greater the number of traps deployed per block, the greater the confidence level in basing treatment decisions on fly catch. Place at least two traps along borders that historically have been a source of infestation. Proper trap maintenance is crucial to trap effectiveness. Over time, the adhesive can be fouled by leaves, twigs, other insects and debris. Remove debris and insects each time traps are checked. The adhesive should then be evenly redistributed. In determining control treatment timing, on-farm fly catches should be used in conjunction with regional trapping information. Basing treatment decisions solely on regional information may lead to unnecessary insecticide applications. If you employ a good trapping program, a control treatment for apple maggot is not warranted until flies are captured on your farm. If flies are trapped on-farm, and a regional trap catch was recorded prior to the on-farm fruit fly capture, the treatment should be timed based on the earlier regional capture. This conservative approach is the best way to ensure that the control is applied prior to egg hatch. Chemical control of apple maggot is focused almost entirely on the adult with the goal of preventing egg-laying.

Upon emergence, there is an eight to 10 day period before female flies begin to lay eggs. During this time, they are searching for nutritional sources needed to become sexually mature. After female flies complete this pre-oviposition period and have mated, they will seek out fruit for egg-laying. They lay eggs just under the skin of ripening fruit with a needle-like ovipositor, making visual detection of the puncture wound difficult to distinguish from lenticels on the apple surface. Fly larvae, called maggots, hatch from eggs within a week and begin to feed in the flesh of the fruit. Maggot infestations will sometimes cause fruit to abort, but often the fruit will hang till harvest. Mature maggots drop out of fruit and enter the ground, where they pupate, starting the next generation's life cycle.

Control of the apple maggot has been traditionally achieved with organophosphate insecticides, like Guthion and Imidan, but some label or processor restrictions may limit their use near harvest. Synthetic pyrethroid compounds like Asana, Warrior, Danitol, Decis, Battalion, Mustang Max and Baythroid XL are also toxic to adult fruit flies, but are generally viewed to be moderately effective because they have a shorter field residual. There are several new reduced-risk and OP-replacement insecticide products that include apple maggot on their labels. The neonicotinoids Calypso, Clutch, Provado and Assail are labeled for apple maggot control. All three have performed well against apple maggot in small plot field-performance trials. Calypso and Assail have also performed well in on-farm trials conducted in Michigan over the past few years. The Spinosyn compounds Delegate and Entrust are highly active on apple maggot when ingested, but have shown to be only fair control materials in field trials with high pest pressure, thus are labeled for apple maggot suppression only. The new Diamide material Altacor is similarly active on apple maggot, and is labeled for population suppression.

GF120 NF Fruit Fly Bait (spinosad) is registered on pome fruits for control of apple maggot and is listed by the Organic Materials Review Institute (OMRI) for use in organic production. Because the primary route of entry is through ingestion, applying this product during the fruit fly pre-oviposition period is important for optimal performance. GF120 must be applied with specialized equipment, and is designed for low-volume application by air. Field efficacy data is encouraging, but we have limited experience with this novel tool to date.

The use of Surround WP for fruit fly control is based on creating a protective barrier between the plant and the pest that 1) reduces host recognition of the pest, and 2) prevents adult oviposition (egg-laying). Because it is not toxic to adult flies like conventional contact poisons, complete coverage of the plant is critical. Multiple applications are typically needed to attain initial coverage; further sprays may be necessary to respond to wash-off from rain or excessive wind. Field trials indicate that when adequate coverage is maintained, excellent fruit protection can be achieved.

LIMITING BIRD DAMAGE IN FRUIT CROPS MEETING

We invite Michigan fruit growers to attend all or part of the following meeting:

Limiting Bird Damage in Fruit Crops: A Planning Program to Identify Research **Directions for the Future**
August 25-27, 2010
NW Michigan Horticultural Research Station, Traverse City, Michigan

Growers might be particularly interested in attending on the afternoon of Aug. 25 when a panel discussion will take place. During the panel, growers will share their experiences with bird damage with a group of researchers. Our goal, as researchers, is to develop a research agenda to tackle this important problem.

Schedule overview

Afternoon, evening Aug. 24.....Out-of-town Participants Arrive

Morning, Aug. 25.....Visits to Orchards

Afternoon, Aug. 25.....**Panel discussion with Growers**

Morning, Aug. 26……Presentations by Researchers

Afternoon, Aug. 26……Identification of Research Priorities

Morning, Aug. 27……Planning for Proposal Development

Afternoon, Aug. 27 and morning, Aug. 28……Out-of-town Participants Depart

**3:00-4:30 with social hour to follow

If you plan to attend, please contact Catherine Lindell, lindellc@msu.edu, 517-884-1241, Erin Lizotte, taylo548@msu.edu, or Nikki Rothwell at rothwel3@msu.edu for details.

Catherine Lindell	Erin Lizotte	Nikki Rothwell
Associate Professor	IFP/IPM District Educator	District Horticulturalist
Dept. of Zoology/CGCEO	MSU Extension	NWMHRS Coordinator
Michigan State University		MSU Extension

Apple Maturity Testing at the NWMHRS

This year the NWMHRS will be testing apples for maturity. Results will be sent via fax and email to past apple maturity list subscribers and results will be put on the pome fruit section of the code-a-phone (947-3063). The maturity newsletter and code-a-phone will be updated weekly on Wednesdays. If you have not received this information in the past and wish to subscribe to the list, please contact the NWMHRS (946-1510 or nwmihort@msu.edu).
If you are interested in having your fruit tested, drop off a 10 – 12 fruit sample at the NWMHRS on Mondays, if possible. The fruit should be picked randomly from the outside portion of the trees and should be large in size and free of blemishes with the stem attached.

SASKATOON GROWING AND MARKETING WORKSHOP

DATE: Saturday, **August 28,** 2010

TIME: 9 – 11 am

LOCATION: Jacob's Farm, 7100 West M-72, Traverse City (3.5 miles from West Grand Traverse Bay)

COST: $10 per person (payable at the door), includes snacks and materials

AGENDA:
9 am Coffee, Juice, Saskatoon Berry Snacks

9:20 am Discussion Related To Selection, Growing, and Marketing Of Saskatoons In The Northern Lower Peninsula, *Steve Fouch, MSU Extension-Benzie County*

10:15 am Tour Of Saskatoon Plantings At Jacob's Farm and Future Plans

11 am Program Ends

Sarah Lutz, Midwest Saskatoon Project, will be on hand to talk about the early September shipment of plants from Canada and options growers are being offered

Please **RSVP** by calling MSU Extension-Benzie County, 231/882-0025, Monday-Friday, 8:30 am - Noon and 1 - 5 pm

WEBSITES OF INTEREST

CIAB Raw Product Report (Week 7)

Insect and disease predictive information is available at:
http://www.enviroweather.msu.edu/home.asp

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

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August 24, 2010

GROWING DEGREE DAY ACCUMULATIONS through August 23rd at the NWMHRS

Year	2010	2009	2008	2007	2006	2005	20 yr. Avg.
GDD42	3249	2517	2738	3106	3108	3144	2784.4
GDD50	2163	1550	1778	2079	2064	2135	1809.3

Growth Stages at NWMHRS (8/24/10- 7:30 a.m.)

Apple: Red Delicious – 70 mm fruit
Gala – 61 mm fruit
Yellow Delicious – 70 mm fruit
Plum: 37 mm fruit
Grapes: Veraison

Weather
We have had pleasant weather here in the north for the past few weeks. We hit a week of the mid- to high 80's, but the last week we have had daytime temperatures in the 70's. Overall, we are still well ahead of our 20-year average. So far this season, we have accumulated 3249 GDD base 42 and 2163 GDD base 50. We had a big rain on 22 August with 1.79" of rain here at the station. We have had 3.4" of rainfall this August.

Crop Report
The cherry season is complete for 2010. The major news is that northwest Michigan will be unregulated for this season, which will bring challenges for all sectors of the industry. Growers are harvesting pears now, and we are finished with Bartletts here at the station. Red Haven harvest is finished in the north, and growers with late ripening peach varieties are still picking the fruit, overall quality and size are good. Apples are sizing, and growers are picking Paula Reds and spot picking Gingergolds. Grapes are at veraison, and winemakers and grape growers are particularly excited about the warm season and expect a quality vintage.

Pest Report

Apples. The apple maggot traps at the Research station remain empty this week, however area scouts report significant trap catches continuing, indicating that apple maggot emergence is still under way. European red mites and plum nursery mites are being reported at high levels in some area orchards.

Cherries. Cherry leaf spot is present at significant levels, and defoliation is significant in sites where infection was able to establish itself early on. Generally, a single well-timed chlorothalonil (Bravo) application slows the progression of leaf spot infection. Post-harvest applications also help delay defoliation to maintain adequate winter hardiness and to minimize poor fruit quality in the following year. However, due to the early harvest, growers will need to protect trees from infection for a longer period of time after harvest this year. Minimally, the goal is to keep 50% leaf retention through September to reduce the risk of winter injury, this level of defoliation does not necessarily prevent adverse effects on fruit quality etc. High levels of two-spotted spider and European red mites have also been reported and observed in area cherry orchards, it is important to keep in mind that thresholds for mites increase as the season goes on and growers should quantify the population to determine if management is warranted. For example, 10-15 mites per leaf can be tolerated in cherry during August.

Winegrapes. We appear to be in a holding pattern in terms of diseases and pests, with no major developments over the past week. We caught no adult grape berry moth (GBM) this week, but significant larval webbing and feeding damage is still visible in clusters. We conducted a brief survey of area vineyards on Friday, and GBM larvae are at higher levels than we have seen historically. If you are seeing active larvae in your vineyard, broad spectrum larvacides may be applied. There are a number of effective berry moth materials, (Imidan, Brigade, Danitol, Baythroid, Altacor, Belt, Voliam flexi and Tourismo are all rated excellent). It is important to note that Imidan, Brigade, Danitol, Baythroid, and Voliam flexi are also good leafhopper materials, if you are experiencing substantial leafhopper pressure these products should work well at this time. Potato leafhopper adults continue to be trapped at moderate levels, but no nymph or adult activity was observed on vines this week and few growers report the need for management.

Downy mildew continues to be reported by growers, including those utilizing conventional management programs. We typically see a minimal amount of downy mildew in northwest Michigan, but the humidity this season may be a contributing factor. It is important to keep in mind that the list of fungicides effective against both downy and powdery mildew is short (Abound-reduced risk, Sovran, Serenade Max-OMRI approved, Pritistine-Strobi+boscalid) so even if growers applied fungicides for powdery mildew it may necessary to treat for downy separately. Powdery mildew was slow to arrive this season, but we have received reports of isolated severe infections in some area vineyards, these sites are being tested for fungicide resistance. Botrytis has been spotted, not surprising given the persistent wetting events as of late and the elevated levels of grape berry moth infestation. We typically time botrytis treatments for veraison and preharvest, but if you have botrytis infections on green fruit, management should not be delayed. Leaf removal is an important horticultural practice that significantly impacts botrytis. Removing leaves allows for increased air and light penetration and well as more thorough fungicide coverage. There are a number of effective materials against botrytis including Rovral, Vangard-reduced risk, Endura-reduced risk, Serenade Max-OMRI, Scala-reduced risk, and Elevate-reduced risk.

Symptoms of leafroll virus are also visible on area vines. Leaves on vines infected with leafroll virus become yellow or reddish purple as the season progresses; the main veins remain green. By late summer, the leaves start rolling downward and at harvest fruit clusters are small, poorly colored, and low in sugar. The disease does not kill the vine but is chronic and is spread primarily via infected nursery stock and the grape mealybug. Within-field spread by mealybug is very slow. Crown gall and nutrient deficiencies can produce similar foliar symptoms, so growers should not assume that leafroll virus is the cause. If you have sites you would like tested, please contact Erin at taylo548@msu.edu or (231)946-1510.

MITES SHOWING UP AROUND MICHIGAN

Nikki Rothwell, NWMHRS
John Wise, TNRC

With the warm temperatures this season, we have observed high levels of two-spotted spider mites (TSSM) and European red mites (ERM) in cherry and apple orchards around the state. In the case of cherry trees, growers have many options for mite control as it is post-harvest, but apple growers need to be aware of miticide PHI's as we are just beginning to pick apples.

ERM adults laid eggs on spurs, shoots, and limb crotches last fall, and these eggs will serve as the starting point for this year's spring mite population. Growers that did not apply a 2009 miticide in orchards with high ERM populations should have conducted apple pre-bloom monitoring for mites this season, and if ERM eggs numbers were high, a pre-bloom (early) miticide application should have been made. If scouting reports indicate a high level of mite eggs and no miticides were applied earlier this spring, growers will likely battle ERM on apple fruit as nymphs can build to high numbers and feed extensively causing considerable damage.

In cherries, post-harvest management of TSSM is common, particularly with the old miticides and their limited PHI's. Control of TSSM is important to maintaining healthy foliage into the fall to ensure quality fruit production the following year. Overwintering adults and immatures move to rough areas of tree bark or in leaf litter in early to mid-September and once this overwintering migration begins, control actions are no longer warranted. Growers should look at the base of cherry trees for webbing where the TSSM will accumulate at ground level. Additionally, TSSM will turn an orange color as they move to overwinter, and they may be mistaken for ERM.

Orchards with high TSSM populations in August should have been marked for scouting next May or June, which is earlier than would be warranted under typical conditions. We have seen high populations of TSSM in both sweet and tart cherry this year with the warm temperatures, and if growers did not treat prior to harvest, many will likely apply a post-harvest miticide.

We also want to remind growers about rotating miticide compounds. Mites can develop resistance to commonly used pesticides so growers should choose their products based on rotation as well as price. Because of costs of miticides, the most economical option is appealing, but keep in mind that overuse of a particular compound will likely lead to resistance issues. We are fortunate to have a number of miticide products available for tree fruit, and a list is provided in Table 1 below.

We also recommend that scouts/growers document the levels of predacious mites in orchards. If healthy populations of mite predators exist, they will continue to feed on plant parasitic eggs and nymphs. To measure predacious mites, scouts/growers should collect a 100-leaf sample and count the numbers of each of the predator mite species. The three most important predaceous mites are *Amblyseius fallacis* (Phytoseiidae), *Agistemus fleschneri* (Stigmaeidae), and *Zetzellia mali* (Stigmaeidae) (see "A Pocket Guide for IPM Scouting in Michigan Apples" – E-2720 for pictures). Predaceous mites are smaller than adult ERM, but they can be seen with a hand lens and typically move very quickly across leaf surfaces.

Compound Trade Name***	Mode of Action	Life-stage Activity	Mite Species Controlled**	Residual Activity
Savey, Onager, Apollo, Zeal	Mite growth inhibitors	egg/larvae	TSSM, ERM	8-10 weeks
Nexter, Portal	Electron transport Inhibitors (METI I)	motiles*	TSSM, ERM, PNM	6-8 weeks
Acramite	unknown	motiles*	TSSM, ERM	6-8 weeks
Kanemite	Electron transport Inhibitors (METI III)	motiles*	TSSM, ERM	6-8 weeks
Agri-mek	Chloride channel activator	motiles*	TSSM, ERM	8-12 weeks

Envidor	Lipid synthesis inhibitor	eggs, motiles*	TSSM, ERM, PNM	8-10 weeks
Vendex	ATP synthesis inhibitor	motiles*	TSSM, ERM	4-8 weeks

* Motile forms include mite larvae, nymph and adult stages.
** TSSM - two spotted spider mite, ERM – European red mite, PNM – plum nursery mite.
*** Check the label to determine the specific fruit crops that each compound is labeled for use.

DATE CHANGE FOR WINEGRAPE IPM UPDATE!

After requests from growers, we have shifted the **final** Winegrape IPM Meeting in northwest Michigan from September 3rd to **September 2nd** (a Thursday) to avoid the holiday weekend. Please note that this meeting will run from **10am-12 pm**. We will meet at Larry Mawby's tasting room located at 4519 S Elm Valley Road near Suttons Bay. Please help us spread the word about this change in plans. Dr. Rufus Isaacs will be on hand to discuss insects of interest and pesticide recertification credits will be available. This program is *free,* open to the public, and does not require registration. For more information, contact Erin Lizotte at 231-946-1510. We hope to see you there!

Native Plant Strips for Pollinator & Natural Emeny Conservation Demonstration - September 2nd
Click HERE For Details

CHICAGO PUBLIC SCHOOLS LOOKING FOR MICHIGAN PRODUCE
Great opportunity for Michigan farmers to help supply Chicago Public Schools with Michigan produce. More information about the produce needed and their amounts can be found in the attached Request for Information(proposal) or at http://www.familyfarmed.org/wp-content/uploads/2010/07/RFI-7-14.pdf
If you have any questions, contact:

Jean Saunders
Chartwells-Thompson Hospitality
Ph: (773) 722-4964
Jean.Saunders@Compass-usa.com

Jim Slama
Family Farmed
Ph: (708)763-9920
jimslama@familyfarmed.org

Emily (Buckham) Beutel
Communications Manager
Michigan Food & Farming Systems - MIFFS
Bringing Farmers and Communities Together
172 Natural Resources Building
East Lansing, MI 48824
Ph: (517) 432-0712
Fx: (517) 353-7961
www.miffs.org

MIGRANT HOUSING GRANT APPLICATIONS DUE AUGUST 31
The Michigan Department of Agriculture (MDA) has received approval from the U.S. Department of Labor National Farmworker Jobs Program for its 2010-2011 migrant labor housing construction grant program. It is anticipated that nearly $375,000 will be available for 25 migrant labor housing construction grants. These grants are available on a 50/50 match basis with a maximum grant of $15,000.
If you are interested and can commit to completing construction by June 30, 2011, you will need to complete the a three page Grant Application Form and return it to MDA by **August 31, 2010.**
For questions or a copy of the required application form contact your local Extension office, or your migrant labor housing inspector or the Lansing office at 517-241-1174.

FREE **PROGRAMS FOR GROWERS**

Renewable Energy for the Small Farm
Tuesday, September 7, 6:30 p.m.-9:30 p.m.
NW Michigan Horticultural Research Station, *6686 S. Center Hwy (Co. Rd 633)*

Renewable energy technologies and efficiency can offer energy independence, bolster a farm's bottom line, or create new revenue sources. Learn about small-scale wind and solar, farm-scale biodiesel, hosting a lucrative community wind project, and USDA funding.

Presenters: Jim Sluyter, MLUI; Tom Karas, Michigan Energy Alternatives Project; Jim Barnes, EcoBuilding Products; Alan Anderson, USDA Rural Development; William Koucky, NW Michigan Biodiesel LLC

Food Safety on the Farm*Wednesday, September 22, 6:30 p.m.-9:30 p.m.*
Student Center, Baker College, *9600 East 13th Street, Cadillac, MI 49601*

Food safety is a major concern for buyers and consumers. Explore ways to assure that your farm is producing clean, safe food and learn how new food safety legislation may affect your farm.

GAP Audit Field Trip
Thursday, September 23, 9 a.m.-11 a.m.
Bardenhagen Farms, *7881 E. Pertner Rd., Suttons Bay*

More and more buyers use Good Agricultural Practice (GAP) Audits to confirm agri-food safety on the farm. See how a GAP audit is conducted and what the auditor will look for on this field trip. If you have a GAP manual, bring it along. Participation limited; please pre-register early!

Presenters for Food Safety and GAP: Phil Tocco, MSU Extension Educator. Dan Busby, Michigan Water Stewardship Program Coordinator, will also be on the Food Safety program agenda.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to: USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD).

Accommodations for persons with disabilities may be requested by contacting Jim Sluyter at 231-941-6584 by *September 1 t*o make arrangements. Requests received after this date will be fulfilled when possible.

Michigan Land Use Institute *Get Farming!* is part of the Michigan Land Use Institute's *Taste the Local Difference* program and is produced in collaboration with USDA Risk Management Agency, USDA Rural Development, MSU Extension, and the NW Michigan Horticultural Research Station.

For more information or to pre-register, call Jim Sluyter at the Michigan Land Use Institute, 231-941-6584, ext. 15, or jimsluyter@mlui.org.

LOOKING FOR LOCAL FARM PRODUCTS FOR SCHOOLS

Schools in Grand Traverse, Benzie, and Manistee counties are looking for local farm sources of a variety of produce and other farm products. Please contact them soon if you are interested, and click to the following links for more information:
The Traverse City Area Public Schools is seeking written price quotes for a variety of fruits and vegetables, with a **deadline of noon, Aug. 27.** To learn more, check out this link at the Michigan Land Use Institute's *Taste the Local Difference* Local Food Exchange.
The Frankfort-Elberta Area, Benzie County Central, and Onekama Consolidated Schools together are seeking a wide variety of fruits, vegetables, eggs, meat, honey, and maple syrup. View their local food wish list at the Exchange here.
You'll find important contact information at each of those links.

Diane Conners
Senior Policy Specialist
Food and Farming
Michigan Land Use Institute
-- - --
231-941-6584 ext. 16
Fax: 231-929-0937
diane@mlui.org
-- - --
148 E. Front St. Suite 301
Traverse City, MI
49684-5725
-- - --
www.mlui.org
www.localdifference.org

SASKATOON GROWING AND MARKETING WORKSHOP

DATE: Saturday, **August 28,** 2010

TIME: 9 – 11 am

LOCATION: Jacob's Farm, 7100 West M-72, Traverse City (3.5 miles from West Grand Traverse Bay)

COST: $10 per person (payable at the door), includes snacks and materials

AGENDA:
9 am Coffee, Juice, Saskatoon Berry Snacks

9:20 am Discussion Related To Selection, Growing, And Marketing Of Saskatoons In The Northern Lower Peninsula, *Steve Fouch, MSU Extension-Benzie County*

10:15 am Tour Of Saskatoon Plantings At Jacob's Farm And Future Plans

11 am Program Ends

Sarah Lutz, Midwest Saskatoon Project, will be on hand to talk about the early September shipment of plants from Canada and options growers are being offered

Please **RSVP** by calling MSU Extension-Benzie County, 231/882-0025,Monday-Friday, 8:30 am - Noon and 1 - 5 pm

SMALL WIND WORKSHOP
Lynn Hamilton, Visiting Assoc. Professor, Dept of Ag & Resource Economics, MSU

A series of small wind workshops for the general public throughout the state will be held, and you are welcome to attend any of these workshops that are convenient for you. They are *free,* no pre-registration is necessary. The agenda and schedule for the general public workshops are copied below.

2010 Small Wind Presentation Schedule

Date	County	Time	Meeting Space
Tuesday, Aug. 24	Alpena	6:30- 9:30 p.m.	AlpenaCommunityCollegeCenter

			106 665 Johnson St., Alpena, MI
Wednesday, Aug. 25	Delta	6:30- 9:30 p.m. (Eastern Time)	BayCollege Heirman University Center Room 952 Escanaba, MI
Monday, Aug. 30	Washtenaw	6:30- 9:30 p.m.	Washtenaw MSUE Office 705 N. Zeeb Rd Ann Arbor, MI
Thursday, Sept. 2	Lapeer	6- 9 p.m.	Lapeer MSUE Office 287 W. Nepessing St Lapeer, MI
Wednesday, Sept. 8	Clinton	6- 9 p.m.	Smith Hall ClintonCounty Fairgrounds 800 Sickles St. St. Johns, MI
Thursday, Sept. 9	Berrien	9:30 a.m. -12:30 p.m.	SW Michigan Research and ExtensionCenter 1791 Hillandale Road, Benton Harbor, MI
Thursday, Sept. 9	Branch	6:30- 9:30 p.m.	4-H Cabin 251 Sprague St. Coldwater, MI

Small Wind - Will it Work for You?

AGENDA
Presenters: Dr. Steve Harsh and Dr. Lynn Hamilton, Michigan State University Department of Agriculture, Food, and Resource Economics

Welcome, Introductions and Announcements – County Extension Educators (10 minutes)

What's New in Renewable Energy Policy? (25 minutes)
Recent state and federal laws have had made wind energy a much better investment than in the past- we'll update you on these new incentives.

Steps to a Successful Small Wind Project (45 minutes)
We've developed a new Michigan-specific checklist of factors to consider before investing in a wind turbine; this will help you decide if wind will work for you.
Handouts: Small Wind Checklist and Wind Turbine Buyer's Guide

Break 10 minutes

Economics of Small Wind (40 minutes)
We'll present case studies using our small wind economic model and Michigan wind data collected from our anemometer loan program to show what factors really make a difference in whether small wind pays for itself.

-Short break to allow people who won't meet REAP requirements to exit, if they choose- (5 minutes)

USDA REAP program (30 minutes)
The 2008 Farm Bill includes millions of dollars in funding for renewable energy and energy efficiency projects for **farms and rural small businesses**. *The Renewable Energy for America Program provides grants of 25% of the cost of adopting these technologies (up to $500,000). Congress has $70 million each year for 2011 and 2012.*

Questions and Wrap-up (15 minutes)

WEBSITES OF INTEREST

CIAB Raw Product Report (Week 8)

Insect and disease predictive information is available at:
http://www.enviroweather.msu.edu/home.asp

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://www.maes.msu.edu/nwmihort/faxnet.htm

ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2010

Please send any comments or suggestions regarding this site to:
Bill Klein, kleinw@msu.edu

Last Revised: 8-24-10

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

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Northern Michigan FruitNet 2010
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 31, 2010

REMINDERS

WINEGRAPE IPM UPDATE – SEPTEMBER 2!

After requests from growers, we have shifted the **final** Winegrape IPM Meeting in northwest Michigan from September 3rd to **September 2nd** (a Thursday) to avoid the holiday weekend. Please note that this meeting will run from **10 am-12 pm**. We will meet at Larry Mawby's tasting room located at 4519 S Elm Valley Road near Suttons Bay. Please help us spread the word about this change in plans. Dr. Rufus Isaacs will be on hand to discuss insects of interest and pesticide recertification credits will be available. This program is *free,* open to the public, and does not require registration. For more information, contact Erin Lizotte at 231-946-1510. We hope to see you there!

CONSERVING BENEFICIAL INSECTS FOR PEST SUPPRESSION AND CROP POLLINATION

The **September 2nd** meeting will be held a the Bardenhagen Farm, 7881 E. Pertner Rd, Suttons Bay from **4 – 6 pm** and will highlight two-year-old plots planted with plugs (small plants) compared with one-year-old plots seeded with annual and perennial native seeds. Presentations will include:

- Identifying native bees and natural enemies
- Establishment and maintenance of wildflower plantings
- Research results update
- Cost sharing opportunities to establish beneficial insect habitats

To register for this free program, call 231-946-1510.

This meeting is supported by USDA-SARE, MSU Extension, and Michigan Agricultural Experiment Station.

WEBSITES OF INTEREST

Insect and disease predictive information is available at:
http://www.enviroweather.msu.edu/home.asp

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://www.maes.msu.edu/nwmihort/faxnet.htm

ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2010

Please send any comments or suggestions regarding this site to:
Bill Klein, kleinw@msu.edu

Last Revised: 8-31-10