



Researcher Resources



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Northern Michigan FruitNet 2010

Special Alert

NW Michigan Horticultural Research Station

[Nikki Rothwell](#)[Erin Lizotte](#)[Bill Klein](#)

District Horticulturist

District Fruit IPM/IFP Agent

Farm Mgr, NWMHRS

[Duke Elsner](#)

Agricultural & Regional Viticulture Agent

July 1, 2010

OBLIQUEBANDED LEAFROLLER ALERT—GROWERS BE ON THE LOOKOUT!

Dr. Nikki Rothwell, District Horticulturist and Erin Lizotte IPM/IFP District Educator, NWMHRS

We have been observing high oblique-banded leafroller (OBLR) numbers in sweet cherry orchards around the region. There are many potential reasons for these high populations this season. First, OBLR develops at a lower temperature than many of our other pests, and its development is right on track from when we see these big larvae in most years. However, because of the early season, we are much further along in fruit ripening, and we are harvesting earlier than usual, hence, OBLR and sweet cherry harvest are coinciding perfectly this season. Secondly, we have documented organophosphate (OP) resistance in OBLR in other parts of the state, and we have observed the loss of OP efficacy in some orchard blocks here in the northwest. Based on the difficulty growers have had controlling OBLR despite OP applications, we believe that the OP resistance is fairly widespread, and growers should not assume their OBLR populations are sensitive to OP's. We also hypothesize that this OP resistance has led to increase in OBLR numbers in cherries because we have moved away from OP chemistries in apples while these products remain the backbone of our programs in cherry. Many growers may not have been aware of increasing OBLR numbers and did not put on a material specifically for their control, presuming the OP's would clean up Lepidopteran pests.

With all the above said, many sweet cherry blocks are infested with large OBLR larvae, and many people are at or approaching harvest. This situation is obviously problematic, and growers will need to control these caterpillars before harvesting their fruit. If larvae are still present in fairly high numbers in the orchard, growers should assume they have lost efficacy from OP's. Growers will need to apply a chemistry with the shortest PHI, which would suggest a pyrethroid. However, pyrethroids will not likely be effective due to cross resistance issues with OP's. Despite their short PHI's (3 days), we have not observed good control of OBLR with pyrethroids in sweet cherry blocks. We have three new Lepidopteran materials that work well against OBLR: Delegate (7D PHI), Belt (7D PHI), and Altacor (10D PHI). Preliminary data suggests that Delegate has a fast knock-down because it is a nerve poison, but based on efficacy data all three materials provide excellent control of OBLR.

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:7-1-10

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Northern Michigan FruitNet 2010 Weekly Update NW Michigan Horticultural Research Station

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Agricultural & Regional Viticulture Agent

July 13, 2010

GROWING DEGREE DAY ACCUMULATIONS through July 12th at the NWMHRS

Year	2010	2009	2008	2007	2006	2005	20 yr. Avg.
GDD42	1974	1471	1546	1894	1812	1861	1634.1
GDD50	1224	840	922	1202	1104	1189	994.8

Growth Stages at NWMHRS (7/12/10, 4:30 p.m.)

Apple: Red Delicious – 53 mm fruit

Gala – 47 mm fruit

Yellow Delicious – 42 mm fruit

Pear: Bartlett: 36 mm fruit

Sweet Cherry: Hedelfingen: Harvested

Napoleon: Harvested

Gold: Harvested

Tart Cherry: Harvested

Balaton: 22 mm fruit

Apricot: Harvested

Plum: 29 mm fruit

Grapes: Berry touch

Weather

Conditions have been hot, but the humidity has dropped comparatively providing some relief to picking crews. Daytime temperatures have been in the mid-70's to low 80's. We are still considerably ahead of last year and our 20-year average. We have accumulated 1,974 GDD base 42 and 1,224 GDD base 50. Our average is 1,634 GDD base 42 and 995 GDD base 50. We are two to three weeks ahead of last season. Rainfall has been very isolated up north with the Station receiving the last rainfall (0.08") on 7 July.

Crop Report

Tree fruit. Please see the above table for crop growth stages. Sweet cherry and apricot harvest is over and we are about 50% through the tart cherry harvest. The sweet cherry harvest was challenging with wind whip, brown rot, sap beetles and oblique banded leafroller all presenting challenges this season. Tart cherry harvest overlapped with sweet harvest this year and has presented its own set of challenges.

Apples. Apple scab lesions are visible on leaves in abandoned orchards, but growers using conventional management programs are still reporting no signs of disease. 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 4 Oriental fruit moth per trap this week, continuing the trend of a slow steady emergence since June 1. Obliquebanded leafroller emergence continued with 17 moths per trap, emergence began on June 7. Spotted tentiform leafminer numbers are down with 160 per trap after a spike in emergence two weeks ago. We still haven't seen any apple maggot in our traps.

We have caught no codling moth for two weeks in a row, indicating the end of first generation flight. We will be monitoring closely for the beginning of second generation flight. The vast majority of insecticides used for second generation codling moth control are aimed at killing larvae and are typically applied based on the start of second generation egg hatch. However, the actual onset of second generation egg hatch is highly dependent on when (and if) the fruit were infested by first generation larvae. Thus, the best way to predict egg hatch is to calculate the GDD's after the first consistent catch of second generation moths in pheromone traps. In most years, it is difficult to determine when first generation ends and second begins, thus it may be necessary to examine your trap catches around the time that you accumulate 1,250 GDD

post first generation biofix, which should be at the time second generation egg hatch should occur. 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. We continued to catch cherry fruit fly this week at the NWMHRS with an average of 52 per trap. Area growers with high pressure are applying postharvest insecticides to reduce the overwintering population. We also caught black cherry fruit fly with an average of seven per trap. We caught an average of 27 American plum borer this week after little to no activity since the end of May. Lesser peach tree borer emergence continued this week with an average of 30 per trap. We also caught greater peach tree borers with an average of 32 per trap, the highest trap catch thus far.

Obliquebanded leafroller adults are still being trapped with an average of 52 per trap and reports of small larvae in tart cherry blocks has been a concern around the region. There are a number of effective leafroller materials, but special attention should be paid to the pre-harvest interval (PHI's) as we approach harvest at many sites. Keep in mind that organophosphate resistance in obliquebanded leafrollers is confirmed in northwest Michigan and that leafrollers that are resistant to organophosphates will be cross-resistant to pyrethroids, including those in premixes. Plum curculio remains active.

Growers with lecanium scale issues may still be in an effective treatment window when controls will target the crawler stage. We estimated crawler emergence at 50-80% last week and given the weather, it is likely most crawlers have emerged at this point so check your trees or vines to confirm this at your site. In order to target a large portion of the population, treatments should be delayed until significant emergence has occurred (50-80 percent or more). Another rare pest of fruit, a species of sap beetle, was a problem to growers during sweet cherry harvest due to adults and larvae present in the tank and we received reports of the same problem in tarts early this week. Growers should be particularly vigilant in scouting before harvest this season as we have observed atypical pests infesting fruit and in the tank at harvest.

We have had no cherry leaf spot infection periods with the dry weather over the past week but area reports confirm that cherry leaf spot is present in significant quantities due to the early season weather. In untreated trees at the station we are approaching 100% infection and beginning to see defoliation, a testament to the potential for cherry leaf spot infection this season. Powdery mildew is also popping up on terminal shoots.

Small fruit. Grapes are at berry touch and strawberry harvest has ended. Raspberry harvest has begun.

Winegrapes. Growers with lecanium scale infestations should have begun to see crawler activity in the past 10-14 days and should be preparing or have applied a treatment where populations warrant management. In order to target a large portion of the population, treatments should be delayed until significant emergence has occurred (50-80% or more) at your site. Keep in mind that applications made too early will not be effective as crawlers are protected when still under the waxy covering of the female scale. Growers should evaluate their specific sites for activity.

We continue to monitor for grape berry moth (GBM) activity, with no adult moths trapped this week and no sign of egg laying activity in clusters. According to the [GBM model](#), egg laying began late last week, growers targeting this pest with broad spectrum insecticides are approaching the ideal window for treatment (200 DDD after egg laying begins, or 1010 after biofix). There are a number of effective berry moth materials, refer to the E-154 Fruit Management Guide and the [June 25 Newsletter](#) for more information.

Potato leafhopper continues to be trapped at moderate levels, but no nymph or adult activity was observed on vines this week. Despite the continued lack of powdery mildew symptoms, growers should remain vigilant until 4 weeks post bloom to ensure the protection of the fruit. Downy mildew has shown up extensively in one area vineyard so growers should be aware of the potential for this disease in the region this season.

OBLIQUEBANDED LEAFROLLER FOUND IN TARTS!

Nikki Rothwell, District Horticulturist, MSU-E
Erin Lizotte, IFP/IPM Educator

As we move into tart harvest, we have seen obliquebanded leafroller (OBLR) in orchards around the region. As I mentioned last week, we think there are many reasons that these insects have become problematic this season; early harvest timing, likely OP resistance, and lack of caterpillar materials in conventional tart and sweet cherry programs are all potential contributors to this issue.

We observed very high numbers of large, older OBLR larvae in sweet cherry during harvest, which we concluded were the overwinter larvae. The situation in tarts is different as many of the larvae are small, likely first or second instars of the second generations. OBLR overwinter as larvae, feed in the spring and into the summer and pupate into the adult moth in late June. These adults then mate and lay eggs, producing the newly hatched larvae currently present in tart cherry orchards. As in sweet cherry, the presence of this pest in tart cherry with harvest imminent makes management of this pest is tricky. The noticeable difference is the size of the larvae, and from past experience smaller larvae are easier to kill than larger ones. However, growers will still need to control these caterpillars before harvest, no matter what the size of the larvae. Again, I think we should make the assumption that if larvae are still present in fairly high numbers in the orchard where OP's were utilized early in the season, growers should assume they have loss of efficacy from OP's. Therefore, growers will need to apply a non-OP chemistry with a short PHI that will be effective. As mentioned in the write-up with sweet cherries, we have three new Lepidopteran materials that work well against OBLR: Delegate (7D PHI), Belt (7D PHI), and Altacor (10D PHI), and all three materials provide excellent control of OBLR. Sevin and the pyrethroids have a three-day PHI, but older data tell us that these chemistries will not be effective due to cross resistance with the OP's, although smaller larvae should be easier to control.

SAP BEETLES

Nikki Rothwell, District Horticulturist

As we have mentioned in the past few weeks, sap beetles have been found in sweet cherries. We have seen many adult beetles, but we did find larvae infesting some sweets last week. We put out this reminder for growers to keep an eye out in sweet cherries, but in case they move to tarts, growers should be on the lookout. I do not suspect we will see them in tarts, but this year has certainly thrown us some curveballs.

HOPS FIELD DAY AND TOUR

Rob Serrine, Extension Educator, Leelanau Co.

Michigan State University Extension will offer a Hops Field Day and Tour on Friday, **July 30** from **8 am – 4pm**. Participants will meet at the MSU Horticultural Research Station and travel to Old Mission Hops Exchange for a tour of their processing operation, return to the Research Station for lunch and research update, and travel to New Mission Organics hop yard near Omena. The tour will be followed by an educational beer tasting led by local brewers.

This field day is for hop growers and anyone interested in hops production and harvesting. The cost is \$25 per person which includes lunch and transportation by charter bus. Some costs are being defrayed by a USDA OREI grant. **Pre-registration is required and space is limited.** A registration form can be obtained by calling the Leelanau MSU Extension office at 231-256-9888 or download a registration form online at www.msue.msu.edu/leelanau. For more information, contact the Leelanau MSU Extension office at 231-256-9888.

HAVE YOU COMPLETED YOUR ANNUAL REPORTING REQUIREMENTS WITH USDA'S FARM SERVICE AGENCY?

This is a reminder for producers to submit their annual report of acreage for all crops, with the exception of fall seeded small grains (i.e., wheat, rye), to their FSA county office by **July 15, 2010**. Farms where the acreage is not timely reported will be assessed a late-filing fee in order to retain program benefits.

In addition, producers who participate in the Average Crop Revenue (ACRE), Planting Transferability Pilot Program (PTPP), and Noninsured Crop Disaster Assistance Program (NAP) must annually report the previous year's crop production evidence no later than the crop acreage reporting date of **July 15, 2010**.

Producers are required to file an accurate acreage report for all crops and land uses, including failed acreage and prevented planting acreage to maintain eligibility for a variety of FSA programs.

Program benefits requiring acreage reports include:

Direct and Counter-Cyclical Program (DCP) payments;
Average Crop Revenue Program payments;
Commodity Loans and Loan Deficiency Payments (LDP);
Conservation Reserve Program (CRP) Annual Rental Payments;
Grassland Reserve Program (GRP) Annual Rental Payments;
Farm Storage Facility Loans (FSFL);
Planting Transferability Pilot Program;
All disaster assistance programs, including Supplement Revenue Assistance Payments (SURE). Failed acreage must be reported within 15 days of the disaster event and before the disposition or destruction of the crop;
Noninsured Crop Disaster Assistance Program (NAP) payments
For more information, contact your local FSA office or visit www.fsa.usda.gov/mi

WEBSITES OF INTEREST

[CIAB Raw Product Report \(Week 2\)](#)

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60 Hour Forecast

<http://www.aqweather.geo.msu.edu/aqwx/forecasts/fcst.asp?fileid=fous46ktvc>

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Bill Klein, kleinw@msu.edu

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July 20, 2010

GROWING DEGREE DAY ACCUMULATIONS through July 19th at the NWMHRS

Year	2010	2009	2008	2007	2006	2005	20 yr. Avg.
GDD42	2189	1621	1752	2061	2063	2113	1834.5
GDD50	1383	934	1072	1314	1299	1384	1139.4

Pest Report

Apples

Apple scab lesions are visible in abandoned orchards, but growers using conventional management programs report minimal signs of the disease. 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 no **Oriental fruit moth** this week, ending the trend of a slow steady emergence since June 1. **Obliquebanded leafroller** (OBLR) moth emergence continued with 2 moths per trap and 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 remain steady this week with about 140. Lastly, we caught 1 **apple maggot** (in a cherry fruit fly trap located in a tart block); no sign of apple maggot in apple sites yet.

After a two week hiatus, we caught 2 **codling moth** this week, potentially indicating the beginning of second generation flight. This is right on target based on degree day accumulations since 1st generation biofix. We will have to wait and see if flight continues next week to set the 2nd generation biofix as of 20 July. The vast majority of insecticides used for second generation codling moth control are aimed at killing larvae and are typically applied based on the start of second generation egg hatch. However, the actual onset of second generation egg hatch is highly dependent on when (and if) the fruit were infested by first generation larvae. Thus, the best way to predict egg hatch is to calculate the GDD's after the first consistent catch of second generation moths in pheromone traps. 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

We continued to catch **cherry fruit fly** at the NWMHRS with an average of 28 per trap, considerably less than previous weeks. Area growers with high pressure are applying postharvest insecticides to reduce the overwintering populations. We also caught **black cherry fruit fly** with an average of 6 per trap. We caught 22 **American plum borer** this week marking the second week of activity since the end of 1st generation in late May. **Lesser peach tree borer** emergence continued but was greatly reduced with only 3 per trap compared to 30 last week. We also caught **greater peach tree borers** with an average of 11 per trap.

Obliquebanded leafroller adults are still being trapped with an average of 10 per trap (down from 52 last week) and reports of larvae in tart cherry orchards have been a concern around the region. There are a number of effective leafroller materials, but special attention should be paid to the pre-harvest interval (PHI's) as we are at harvest at many sites. Keep in mind that organophosphate resistance in obliquebanded leafrollers is confirmed in northwest Michigan and that leafrollers that are resistant to organophosphates will be cross-resistant to pyrethroids, including those in premixes. **Plum curculio** adults are becoming active.

Another pest of fruit, a species of sap beetle, was a problem to growers during sweet cherry harvest due to adults and larvae present in the tank and we received reports of the same problem in tarts early this week. Growers should be particularly vigilant in scouting before harvest this season as we have observed atypical pests infesting fruit and in the tank at harvest.

Cherry leaf spot is present in significant quantities due to the early season weather. In untreated trees at the station, we

are approaching 100% infection and beginning to see defoliation, a testament to the potential for cherry leaf spot infection this season. **Green ring mottle virus** causes somewhat similar symptoms to cherry leaf spot and has been spotted around the region. Be sure to confirm whether it is leaf spot or the virus causing leaf yellowing in trees exhibiting these symptoms. Refer to the articles on green ring mottle virus and postharvest management of leaf spot for more information. **Powdery mildew** is also popping up at significant levels on terminal shoots.

Winegrapes

We continue to monitor for **grape berry moth** (GBM) activity; although there were no adult moths trapped this week, there was larval webbing spotted in clusters. Where grape berry moth webbing was observed, it was small scale and contained within clusters on the edge of a vineyard. According to the [GBM model](#), as of 19 July we have accumulated 1139 DD47 at the NW Research Station based on a biofix of 26 May (wild grape bloom). According to the [GBM model](#), egg laying began around 7 July, growers targeting this pest with broad spectrum insecticides are likely in or slightly passed the ideal window for treatment (200 DDD after egg laying begins, or 1010 after biofix). There are a number of effective berry moth materials, refer to the E-154 Fruit Management Guide and the [June 25 Newsletter](#) for more information.

[Potato leafhopper](#) adults continue to be trapped at moderate levels, but no nymph or adult activity was observed on vines this week. Forest tent caterpillar moths are being seen around the entire region, including in vineyards where many formed cocoons and completed pupation. The adult moths are stout and buff/tan colored with two parallel stripes across their wings. These adult moths are not a pest of winegrape and growers should not be concerned, even when observed in high numbers. Forest tent moths live only a few days and will likely move back to their preferred forest tree species to lay eggs.

High numbers of beneficial insects such as assassin bugs and parasitoid wasps were observed in vineyards this week. Additionally, the earwig population is high in area vines. Earwigs are not considered a pest of grape, but do pose concern when populations are present in the clusters at harvest. Luckily we have a while before harvest.

APPEARANCE OF A VIRUS DISEASE OF TART CHERRY IN NORTHWEST MICHIGAN

George Sundin, Plant Pathology, MSU

Nikki Rothwell, NWMHRS

Erin Lizotte, NWMHRS

Growers in NW Michigan have been noticing many yellowing leaves in their tart cherry orchards. Most have assumed that the yellow is caused by cherry leaf spot (CLS), which indeed has been showing up in the region's orchards over the past week. However, on closer inspection, there are no CLS lesions on the leaves. At this time, we suspect that we are seeing green ring mottle virus (GRMV) in some orchards while in others we believe the yellowing is caused by cherry yellows virus. The GRMV diagnosis is awaiting confirmation by laboratory testing to be conducted at Washington State University. It is also possible that the symptoms we are observing may be caused by aberrant forms of more common viruses. We will be able to sort out this uncertainty when the diagnosis is complete.

Symptoms of GRMV infection are usually expressed in late June to mid-July. The main symptom of GRMV infection is bright yellow leaves with circular green blotches (see photo).



These infected leaves can be easily removed from trees during shaking at harvest or will defoliate naturally. Severe cases of GRMV can result in a loss of 40-50% of the leaves on a tree. In northwest Michigan, GRMV symptoms have been appearing sporadically (one to a few infected trees per block), but often significant levels of defoliation are associated with the disease. Sometimes fruit is affected by GRMV and will look indented with streaks of dead tissue to the pit. Natural spread of GRMV is very slow and appears to occur tree-to-tree via root grafts. The virus is also spread by grafting at the nursery stage. Indeed, with virus indexing capabilities nurseries employ, we should not be seeing this disease in virus-free nursery stock.

There is no known control for GRMV infection. At this time, we have little knowledge why symptoms of GRMV have appeared this season and not in previous years. Growers that identify GRMV in their orchards should flag infected trees in order for us to observe if the GRMV symptoms reappear and if the virus spreads between trees.

Similar to GRMV, cherry yellows also causes yellowing of leaves and defoliation, but this virus is typically more widespread than GRMV. In most cases, both viruses are more apparent in older orchards. Cherry yellows is caused by the prune dwarf virus (PDV), and the symptoms of leaf yellowing commonly occurs 3-4 weeks after petal fall (much earlier in the season than green ring mottle). Unlike GRMV, PDV is seed-borne, pollen-borne as well as transmissible through grafting.

At this time, we are confirming the viruses that are present in the trees as these trees may be indeed infected with GRMV, PDV, or both. We will have the results in a few weeks.

POTENTIAL FOR CHERRY LEAF SPOT CONTINUES POST HARVEST

Erin Lizotte, Nikki Rothwell, and George Sundin, MSU

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 (CLS). 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.

We are seeing significant CLS infections this season and defoliation is already underway in some blocks. With the wet and

warm weather we have had this season, disease pressure is high and may continue to pose issues throughout August. However, if CLS infection has been kept in check thus far, then continued control should be maintained to keep orchards clean. Full cover post-harvest chlorothalonil applications at 14-day intervals or ½ side applications at 10-day intervals should delay infection and defoliation under environmental conditions that are conducive to infection. Growers should remember that the spores of this fungus are dispersed from leaf to leaf by rainfall, so if the weather dries out, the potential for CLS infection will decrease and management programs should be adjusted accordingly. As a rule of thumb, growers should maintain a minimum of 50% of the leaves by the end of September to maintain winter hardiness, however this does not mean that fruit quality won't be impacted with this amount of leaf loss. The bottom line is the more leaves on the tree heading into October, the better overall tree health. Lastly, if powdery mildew is a concern, growers should consider continuing to include a fungicide with a strobilurin component (Pristine or Gem), as this mode of action is effective against both CLS and mildew. If a mildew application is needed, apply it first as prevention is key and none of the registered fungicides can eradicate infections. Be sure to carefully read pesticide labels and follow the manufacturer's directions.

HOPS FIELD DAY AND TOUR 2010

Friday, July 30

8 am - 4 pm

- Begin at NW MI Horticultural Research Station, 6686 S Center Highway, Traverse City, 49684
- Travel by bus to Old Mission Hops Exchange – tour processing operation
- Travel back to the Research Station for lunch and research update
- Travel by bus to New Mission Organics hop yard near Omena
- Travel back to the Research Station for educational beer tasting led by local brewers.

\$25/person which includes lunch and transportation by charter bus.

Some costs are being defrayed by a USDA OREI grant. Pre-registration is required and space is limited.

[Brochure](#) (pdf) and [Registration Form](#) (pdf)

Call the MSU Extension office in Leelanau County with any questions at 231-256-9888.

WEBSITES OF INTEREST

[CIAB Raw Product Report \(Week 3\)](#)

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Bill Klein, kleinw@msu.edu

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July 27, 2010

GROWING DEGREE DAY ACCUMULATIONS through July 26th at the NWMHRS

Year	2010	2009	2008	2007	2006	2005	20 yr. Avg.
GDD42	2400	1792	1946	2257	2267	2336	2027.6
GDD50	1538	1049	1210	1454	1447	1552	1276.6

Growth Stages at NWMHRS (7/26/10- 11:00 am)

Apple: Red Delicious – 61 mm fruit
Gala – 53 mm fruit
Yellow Delicious – 57 mm fruit

Pear: Bartlett: 48 mm fruit

Plum: 32 mm fruit

Grapes: Green fruit

Weather

It's been a warm summer in the north along with the rest of the state. Daytime temperatures are in the low to mid-80s and nighttime temperatures in the 60s. We have accumulated 2400 GDD base 42 and 1538 base 50. Our 20-year average is much below the 2010 accumulations: 2027 GDD base 42 and 1277GDD base 50. Overall rainfall for the month of July has been low, but we did receive substantial rain on 22 July, 1.46" at the NWMHRS. There was also variable rainfall across the region on 24 July. Humidity has been higher this season than is typical of the northwest.

Crop Report

Sweet cherry harvest has been over for the past 2 weeks, and tart cherry harvest ended this week. Some special situations of custom harvest of Balatons were underway in the region, but by today, harvest is over. This year presented a lot of challenges for cherry growers, and there seems to be a sense of relief the cherry season is over. Raspberry harvest is still underway but will likely end this week. Early peach and nectarine harvest has started; Blazing Star and PF 7 as well as Arctic Glo nectarines taste good at this time. Apples are sizing well, and growers are concerned about good color with the warm nighttime temperatures.

Pest Report

Apples. Apple scab lesions are visible in abandoned orchards, but growers using conventional management programs report minimal signs of the disease. 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 4 **Oriental fruit moth** per trap this week, continuing the trend of a slow steady emergence since June 1. **Obliquebanded leafroller** (OBLR) moth emergence continued with 2 moths per trap and 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 dropped to an average of 16 per trap compared to 140 last week. Lastly, we caught 1 **apple maggot** (in a cherry fruit fly trap located in a tart block) last week, no sign of apple maggot in apple sites yet.

After a two-week hiatus, we caught two **codling moths** last week, but this week the traps were empty. We would expect the beginning of second generation flight at any time based on degree-day accumulations since 1st generation biofix. We will have to wait and see if flight continues next week to set the 2nd generation biofix. The vast majority of insecticides used for second generation codling moth is aimed at larvae and are typically applied based on the start of second generation egg hatch. 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. We continued to catch **cherry fruit fly** at NWMHRS with an average of 13 per trap, considerably less than previous weeks. We also caught **black cherry fruit fly** with an average of 3 per trap. We caught 13 **American plum borer** this week, marking the second week of activity since the end of 1st generation in late May. **Lesser peach tree borer** emergence continued at a low level with only 3 per trap. We also caught **greater peach tree borers** with an average of 5 per trap.

We are still trapping **obliquebanded leafroller** adults but at comparatively low numbers with an average of 6 per trap. Reports of larvae in tart cherry orchards have been a concern around the region this season. Summer generation **plum curculio** are active in the tree at this time feeding and preparing for overwintering.

Cherry leaf spot is present at significant levels, and over the past week, the weather has resulted in two significant leaf spot infection periods. In untreated trees at the station, we are approaching 100% infection and beginning to see defoliation, a testament to the potential for cherry leaf spot infection this season. **Green ring mottle virus** causes somewhat similar symptoms to cherry leaf spot and has been observed around the region, so growers should be sure to confirm whether it is leaf spot or the virus causing leaf yellowing in trees with these symptoms. **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; although there were no adult moths trapped this week there has been larval webbing spotted in clusters in previous weeks. According to the [GBM model](#), as of 27 July we have accumulated 1282 DD47 at the NW Research Station based on a biofix of 26 May (wild grape bloom). According to the [GBM model](#), 1st generation egg laying began around 7 July, the window for treatment is closed at this time. The next opportunity for treatment will coincide with 2nd generation egg laying (1620 DD47) which will occur around 1820 DD47. There are a number of effective berry moth materials, refer to the E-154 Fruit Management Guide and the [June 25 Newsletter](#) for more information.

[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. Additionally, the **earwig** population is intense in area vines. Earwigs are not considered a pest of grape, but do pose concern when populations are present in the clusters at harvest. Luckily we have a while before harvest.

Downey mildew has been seen sporadically in area vineyards, and **powdery mildew** is beginning to show up at low levels around the region. We have received no reports of significant powdery mildew infections yet this season.

RETAIN APPLICATIONS

Philip Schwallier, CHES

Nikki Rothwell, NWMHRS

Because of our early season this year, ReTain should be applied earlier than usual as well. Our predicted harvest dates for Macintosh are 4 September, 17 September for Jonathans, and 23 September for Red Delicious. ReTain should be applied 30 days before harvest, which would be approximately 4 August. ReTain is a useful plant growth regulator used on apples that has the following benefits:

Delay fruit maturity of any variety.

Decrease fruit drop.

Improve the condition of treated fruit in storage.

Improve fruit quality and size.

As mentioned above, ReTain needs to be applied 30 days before anticipated harvest to achieve the best results and highest effectiveness of the material. Full rate ReTain will delay maturity of most varieties seven to ten days and some very sensitive varieties up to 21 days. Gala and Jonagold are very sensitive to ReTain. Honeycrisp appears to be moderately sensitive and other varieties are less sensitive, but still respond to the ReTain treatment. Some growers opt to use half rate on Gala, Jonagold and Honeycrisp because of the sensitivity, but growers should realize that reducing the rate also reduces the response.

ReTain will delay harvest, reduce fruit drop, improve storage condition life, reduce shoulder cracking in some years, and sometimes increase fruit size. Growers can use ReTain to help schedule harvest. For example, if a grower has one variety like Red Delicious, then a portion of the Reds can be treated with full rate Retain to reduce drop and delay maturity. Another portion of the Reds could be treated with half rate to only slightly delay maturity. With ReTain use, growers can better plan harvest, have fewer drops, and pick all apples in optimum condition.

Greetings!

You are familiar with the cherry industry, and your opinion is important to us. Please consider participating in this survey. The School of Packaging, in collaboration with the Food Science and Human Nutrition Department, both at Michigan State University, are exploring consumer preferences for packaging of fresh produce and more specifically of fresh cherries. This survey is part of a project with Washington State University and Washington Tree Fruit Research Commission.

We are asking for participants, 18 years or older, who are related to the cherry industry supply chain (growers, packers, distributors, wholesalers, retailers, etc).

Your responses are collected anonymously. We have no way to connect you, as an individual, to the completed survey form. You are free to not answer any question you choose, but please try to answer every question.

Please [click here](#) (Place cursor on "click here", press control key & left click on mouse at same time) to take the online survey on fresh cherry packaging preferences.

For more information on this research, please visit www.sweetcherryresearch.com.

HOPS FIELD DAY AND TOUR 2010

Friday, July 30

8 am - 4 pm

Begin at NW MI Horticultural Research Station, 6686 S Center Highway, Traverse City, 49684
Travel by bus to Old Mission Hops Exchange – tour processing operation
Travel back to the Research Station for lunch and research update
Travel by bus to New Mission Organics hop yard near Omena
Travel back to the Research Station for educational beer tasting led by local brewers.

\$25/person which includes lunch and transportation by charter bus.

Some costs are being defrayed by a USDA OREI grant. Pre-registration is required and space is limited.

If interested, please call the MSU Extension office in Leelanau County at 231-256-9888 to see if space is still available.

WEBSITES OF INTEREST

[CIAB Raw Product Report \(Week 4\)](#)

Insect and disease predictive information is available at:

<http://www.enviroweather.msu.edu/home.asp>

60 Hour Forecast

<http://www.aqweather.geo.msu.edu/aqwx/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:

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