Northern Michigan FruitNet 2009
Weekly Update
NW Michigan Horticultural Research Station

Nikki Rothwell, District Horticulturist
Erin Lizotte, District Fruit IPM/IFP Agent
Bill Klein, Farm Mgr, NWMHRS
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July 7, 2009

GROWING DEGREE DAY ACCUMULATIONS AS OF June 8th AT THE NWMHRS

Year	2009	2008	2007	2006	2005	2004	19yr. Avg.
GDD42	1331	1368	1713	1647	1669	1293	1485.6
GDD50	748	792	1069	987	1045	711	893.9

Growth Stages at NWMHRS (7/7- 8:30 a.m.)
Apple: McIntosh – 31 mm fruit
Yellow Delicious – 30 mm fruit
Gala – 30 mm fruit
Red Delicious – 32 mm fruit
Pear: Bartlett: 23 mm fruit
Sweet Cherry: Hedelfingen: 21 mm fruit
Napoleon: 21 mm fruit
Gold: 19 mm fruit
Tart Cherry: 17 mm fruit
Balaton: 17 mm fruit
Apricot: 34 mm fruit
Plum: 23 mm fruit
Grapes: Late bloom

Weather Report
Temperatures have been all over the board lately. Last week, we had maximum temperatures in the 50's and 60's, the weekend warmed up into the 70's, and we are back down into the 50's and 60's for the middle of this week. In terms of degree days, we have accumulated 1331 GDD base 42; the 19-year average for base 42 is 1486. For base 50, we have accumulated 748 GDD, and the 19-year average is 894. Obviously, we are a bit behind with these variable temperatures.

Crop Report
All fruit is sizing slowly due to the overall cool temperatures. Pears are at 23-30mm, and apricots are at 34mm (only 1mm size increase from last week). Apples range from 30mm-32mm. Montmorency and Balatons are at 17mm, and sweet cherries are at 19-21mm. Chardonnay is at late bloom. Strawberry harvest is predicted to end this Thursday.

Pest Report
In apples, we only caught one **codling moth** this week, down from 9 per trap last week. **Spotted tentiform leafminer** numbers are on the rise with an average of 29 per trap**. Oriental fruit moth** trap catch is down from 9 per trap last week to 1 this week. **Oblique-banded leafroller** are emerging in variable numbers depending on trap location, with an average of 7 per trap compared to 32 per trap last week. **Green apple aphid** populations have risen sharply at the Research Station this week, see the attached article for more information. Along with the wet weather, the apple scab model is predicting a heavy infection period in association with the wetting period that started on the July 1. Just under 100% **apple scab** ascospore dispersal is predicted based on a biofix of Macintosh green tip on 4/26.

We caught our **first cherry fruit fly** today at the Research Station. We are often the first place in the state to catch fruit fly so growers should utilize their on-farm trap catch or earliest regional trap catch (excluding the Research Station) to biofix. See the included article for more information in cherry fruit fly management. In cherries, **American plum borer** emergence appears to be tapering off with only 1 per trap this week (season long catch as follows: 37-6-15-7-9-1-1). **Lesser peach tree borer** continues to emerge with trap catches of 7-18-7-6 over the past four weeks. **Greater peachtree borer** continue to emerge for the third week in a row with an average of less than 1 per trap this week. As in apple, **oblique-banded leafroller** numbers are down in cherry with an average of 9 per trap, down from 27 per trap last week. Growers are reporting some **plum curculio** ovipositioning scars, but less than we would expect at this time. The first reports of **American brown rot** in sweet cherry clusters are coming in and large oblique-banded leafroller larvae are being reported in clusters. High **rose chafer** populations have been reported in some orchards. The **cherry leaf spot** model has predicted a moderate and high infection potential on July 1-2 based on the wet weather. **Sour cherry yellows** is showing up in many

area tart cherry blocks, particularly in older trees.

In grapes we continue to catch **grape berry moth** in high pressure sites. **Potato leafhopper** are arriving in higher numbers. Some sights are experiencing high numbers of **rose chafer**. No reports of mildew as of yet.

PREDICTED APPLE CROP FOR 2009

The Michigan apple crop estimates were released in mid-June. The Michigan Processing Apple Growers Marketing Committee estimates the 2009 crop to be 23.4 million bushels with a good crop predicted for all varieties. The average Michigan crop is around 20 million bushels. The Frozen Food Packers Association Fruit Crop Guesstimate resulted in the following numbers by region in Michigan: West Central 15,630; Eastern 1223; Northwest 3291; Southwest 3018. The grand total for the state is estimated to be 23,162.

The National crop estimates for 2009 are as follows: Washington 138 million bushels; New York 29.5 million bushels; California 8.8 million bushels; Pennsylvania 10.9 million bushels, and Virginia 6.1 million bushels. The national total, including Michigan, is 247.5 million bushels.

DON'T FORGET THE GRAPE IPM UPDATE THIS FRIDAY, JULY 10TH!
This Friday, July 10th from 3-5 p.m. Larry Mawby will host Michigan State University Entomologist Dr. Rufus Isaacs at his tasting room located at 4519 S Elm Valley Road in Suttons Bay, Michigan. Dr. Isaacs will be discussing wine grape pest biology and management. Pesticide recertification credits will be available and there is no cost for this program. Following the educational session Parallel 45 Vines and Wines will provide bread and cheese to accompany the wines that attendees traditionally bring to share. We hope to see you there!

MONITORING AND MANAGEMENT STRATEGIES FOR CHERRY FRUIT FLY
Luís Teixeira, Entomology;
John Wise, MSU Trevor Nichols Research Complex;
Nikki Rothwell, MSU Northwest Horticulture Research Station;
David Epstein, MSU IPM Program;
Larry Gut, Entomology;
and Erin Lizotte, IFP/IPM District Educator

Cherry fruit fly overwinter as pupae and are developmentally ready to emerge as adults in late spring. Adult fly emergence depends on soil heat accumulation. Peak emergence is highly dependent on site-specific weather conditions. Much of the Michigan fruit growing region has had above normal precipitation and relatively low temperatures over the growing season, so cherry fruit fly emergence is proceeding slower than normal this year.

Monitoring adult cherry fruit fly flight is the key to effective management of this pest. Adult activity can be monitored using yellow sticky boards with ammonium bait. The yellow trap is most useful during the pre-oviposition period when newly emerged females are actively feeding. Traps should be placed on the south-facing side of the top of the canopy of trees in perimeter rows because most flies are expected to be immigrating from wild hosts outside the orchard. The native host of cherry fruit fly is wild black cherry. Optimally, traps should be checked twice weekly until the first fly is captured, then once a week thereafter until the end of the flight.
Identifying cherry fruit fly generally requires the use of a 10X hand lens. Adults are gray flies, approximately 5 mm in length. The most characteristic feature of the fly is the dark pattern on their wings with a broken band at the tip (Figure 1). These wing-banding patterns are used to differentiate between fruit fly species.

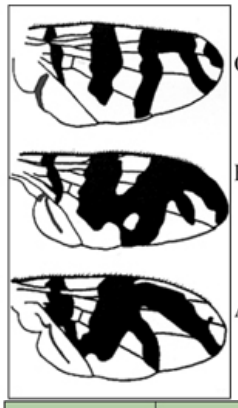
The greater the number of traps deployed per block, the greater the confidence level in basing treatment decisions on fly catch. Place at least two traps along borders that historically have been a source of infestation. Proper trap maintenance is crucial to trap effectiveness. Over time, the adhesive 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 CFF 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 the flies reaching reproductive maturity and beginning to lay eggs. Chemical control of CFF is focused almost entirely on the adult, with the goal of preventing egg-laying.

Upon emergence, there is a 10 to 12 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. Mature maggots drop out of fruit and enter the ground, where they pupate, starting the next generation's life cycle.
Control of the cherry fruit fly has been traditionally achieved with organophosphate insecticides, like Guthion and Imidan (phytotoxic on sweet cherries), but some label or processor restrictions may limit their use near harvest. Carbamate and synthetic pyrethroid compounds like Sevin and Asana 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 cherry fruit fly on their labels. The neonicotinoids Actara, Provado and Assail are labeled for cherry fruit fly control. All three have performed well against cherry fruit flies in small plot field-performance trials. The Spinosyn compounds Delegate and Entrust are active on cherry fruit flies, but their need for ingestion by adult flies requires excellent spray coverage.

GF120 NF Fruit Fly Bait (spinosad) is registered on pome fruits for control of cherry fruit flies 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. The bait is not rainfast and should be re-applied after rain or heavy dew. Field efficacy data is encouraging, but we have limited experience with this novel tool to date.
The pre-mix insecticides Voliam flexi and Leverage are also labeled for cherry fruit fly control. Voliam flexi combines the two active ingredients, thiamethoxam and chlorantraniliprole, as a pre-mix formulated compound. Leverage combines the two active ingredients, imidacloprid and cyfluthrin, as a pre-mix formulated compound. Both have a rating of "good" for cherry

fruit fly control in the 2009 Michigan Fruit Management Guide.

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.
As a final management note, having fly populations infesting fruit that remain on the tree after harvest may be problematic because resident populations represent a source of infestation the following year. Growers with known high fly captures or fruit infestation post-harvest should consider applying an insecticide at this time to combat the resident populations and maintain them at such a low level that the threat of infestation prior to harvest is negligible. Our initial work on post-harvest cherry fruit fly treatments has indicated that the critical time to apply an insecticide is within the first week after harvest.



GREEN APPLE APHID ALERT
N.L. Rothwell, District Horticulturist, MSU-E

We have observed a high level of green apple aphid (Aphis pomi) infestations in orchards around the region. This European pest is seen in June and July and can reach high populations, particularly on water sprouts, young trees, and vigorously growing terminals. Like all aphids, they feed on leaf tissue with their piercing-sucking mouthparts, which results in curled foliage. If aphids are not controlled, the honeydew they excrete can create an environment for black fungus that will grow on the leaves and potentially the young fruits. Cool, wet conditions favor aphid development because this environment is unfavorable for aphid natural enemies.

The following products are all rated excellent for green aphid control: Provado, Actara, Assail, Calypso, Clutch, Beleaf, and Movento.

Compound trade name	Chemical class	Optimal spray timing for apple maggot begins	Residual activity	Effectiveness rating**	PHI
Guthion, Imidan	Organophosphate	7-10 days after the first fly is captured.	14+ days	E	Check label closely
Sevin	Carbamate	7-10 days after the first fly is captured.	4-5 days	G	3
Asana, Warrior, Baythroid, Ambush	Pyrethroid	7-10 days after the first fly is captured.	7-10 days	F-G	3-14
Delegate Entrust*,GF120 NF*	Spinosyn	Immediately after the first fly has been captured.	7-10 days	G F	0-7
Assail, Actara, Provado	Neonicotinoid	7-10 days after the first fly is captured.	10-14 days	G	7-14
Altacor	Anthranilic diamides	Immediately after the first fly has been captured.	10-14 days	G	10
Surround WP*	Particle Film, Protectant	Multiple applications before fly emergence.	As long as thorough coverage of the tree canopy is maintained	G	0
Voliam flexi	Neonicitinoid and Anthranilic diamides	Immediately after the first fly has been captured.	10-14 days	G	14
Leverage	Neonicitinoid and Pyrethroid	7-10 days after the first fly is captured.	10-14 days	G	7

*OMRI approved for organic production.

** Effectiveness rating of insecticides (2007 Fruit Management Guide, MSUE bulletin E-154); E = excellent, G = good, F = fair.

WEBSITES OF INTEREST

Insect and disease predictive information is available at:

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

60 Hour Forecast
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Special Alert
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July 9, 2009

SHAKER DEMONSTRATION TOMORROW MORNING!
N.L. Rothwell, District Horticulturist, MSU-E

Tomorrow, **July 10th**, at **7:30 am**, we will hold a shaking demonstration of Emperor Francis and Gold trees at Cherry Bay Orchards' Bahle Block. As many of you know, we have been examining the potential to mechanically remove brine cherries with stems attached. Thus far, we have had success harvesting fruit with stems, and we wanted to give growers a chance to see what we have been doing in this project. Directions to this block from Suttons Bay are as follows: turn onto Fourth Street from M-22; take a left (south) onto Center Highway, followed by another right (west) onto Herman Road; turn left (south) onto Pineview Road; turn right (west) onto Kohler Road, and the entrance to the orchard will be on the left (east) side of the road. Young apples are on the right side of the driveway—drive past the two buildings into the sweet cherries. We will be in the sweets with the shaker.

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July 14, 2009

GROWING DEGREE DAY ACCUMULATIONS AS OF July 13th AT THE NWMHRS

Year	2009	2008	2007	2006	2005	2004	19yr. Avg.
GDD42	1492	1569	1914	1846	1900	1463	1671.0
GDD50	853	937	1214	1130	1220	824	1023.4

Growth Stages at NWMHRS (7/13/09- 4:30 p.m.)
Apple: McIntosh – 36 mm fruit
Yellow Delicious – 33 mm fruit
Gala – 33 mm fruit
Red Delicious – 38 mm fruit
Pear: Bartlett: 26 mm fruit
Sweet Cherry: Hedelfingen: 23 mm fruit
Napoleon: 22 mm fruit
Gold: 21 mm fruit
Tart Cherry: 19 mm fruit
Balaton: 19 mm fruit
Apricot: 36 mm fruit
Plum: 25 mm fruit
Grapes: Late bloom

Weather Report

Daytime temperatures in the north have been seasonable, ranging from the lower 70's to the lower 80's. However, night-time temperatures are cool—reaching down into the 40's. Overall, we are still behind in our degree day accumulations. For base 42, we have accumulated 1492 GDD, which is 159 GDD behind our 19-year average. Similar accumulations are evident for base 50, where we have accumulated 853 GDD, which is also behind our average by 170GDD. A thunderstorm passed through the region on Friday night into Saturday morning, and the station recorded a little under a half inch of rain.

Crop Report

Despite the cool night temperatures, crops are moving ahead. Strawberry harvest has wrapped up late last week. All fruit is sizing, and sweet cherry harvest for the stem-on market has begun. Many in the industry are attempting to harvest sweet cherries with stems attached, which means they are starting to harvest earlier than usual harvest times. At this time most brine cherries harvested with stems attached are at 20-22mm in size. Growers are applying ethephon for harvesting sweets without stems. Tart cherries are coloring, and ethephon has been applied to some earlier ripening blocks. As cherries color, trees appear to have lots of fruit. Even ripening and adequate leaf area to support the large crop are two concerns at this time.

Pest Report

Apple. We caught an average of 4 **codling moth** per trap this week at the Research Station. Season-long trap catch history is as follows: 1-0-2-1-7-7-0-1-4. **Spotted tentiform leafminer** are maintaining trap catches in the 20's with an average of 26 per trap, as compared to 29 per trap last week. **Oriental fruit moth** trap catch is down from 1 per trap last week's to 0 this week. **Oblique-banded leafroller** continue to emerge consistently with an average of 16 per trap. **Green apple aphid** populations have risen sharply at the Research Station this week, and area growers are also reporting high populations. The 0.42" of rain on July 11th caused the apple scab model to predict a light infection period in Northport. Just under 100% **apple scab ascospore** dispersal is predicted based on a biofix of McIntosh green tip 4/26.

Cherry. We continue to catch **cherry fruit fly** at the Research Station with an average of 4 per trap. We also have received reports of cherry fruit fly catch in area orchards. In addition, one **black cherry fruit fly** was caught at the Station this week. We are often the first location in the state to catch fruit fly, so growers should utilize their on-farm trap catch or earliest regional trap catch (excluding the Research Station) to biofix. In cherries, **American plum borer** emergence appears to be tapering off with season-long catch as follows: 37-6-15-7-9-1-1-1. **Lesser peach tree borer** continues to

emerge with trap catches of 7-18-7-6-4 over the past five weeks. **Greater peachtree** borer continue to emerge for the fourth week in a row with an average of 4 per trap this week. **Oblique-banded leafroller** numbers are remaining consistent in cherry with an average of 10 per trap compared to 9 per trap last week. **Plum curculio** remains active. We have also seen high populations of **black cherry aphid**, mostly in sweet cherry but also in tarts. As sweet cherry harvest approaches, black cherry aphid management can wait until after harvest, unless heavy infestations are on young trees which can cause death. There are a variety of excellent materials for black cherry aphid that can be found in the *Michigan Fruit Management Guide*. The first reports of **American brown rot** in sweet cherry clusters began coming in last week and large **oblique-banded leafroller** larvae are being reported in clusters. The **cherry leaf spot** model predicted a low infection potential on July 11 based on the 0.42" of rain the region received. **Sour cherry yellows** is prevalent in many area tart blocks this season, particularly in older trees.

Grapes. We continue to catch just a few **grape berry moth** sporadically around Leelanau and Old Mission Peninsulas**. Potato leafhopper** adults and nymphs are also being sighted, although in relatively low numbers. **Rose chafer** continues to mate and feed in area vineyards. One area scout reported the first **Japanese beetle** sighting this week so growers should be looking for this pest. We have had no reports of **powdery or downy mildew** yet. However, as we are in the critical period to prevent powdery mildew on clusters (immediately prebloom and the three to four weeks following bloom), susceptible varieties should remain protected. For growers interested in the new grape berry moth model on enviroweather.msu.edu, based on a biofix of June 22, we have accumulated 386 DD47 towards the 801 DD47 estimated for second generation egg laying. The grape berry moth model is still being tested for accuracy in the north region and should be utilized in conjunction with careful scouting.

Apple maggot Black cherry fruit fly Cherry fruit fly

CHERRY FRUIT FLY IN 2009
Erin Lizotte, District IFP/IPM Educator

As many growers transition to the new pesticides that have recently become available, monitoring for cherry fruit fly (CFF) on individual farms has become very important. This season, we have observed a few farms with higher trap catches in orchards utilizing newer chemistries. The following monitoring recommendations are abridged from the work of Dr. Larry Gut, MSU Department of Entomology: "The date of first emergence, as well as subsequent activity of CFF can be monitored using yellow sticky traps baited with ammonium acetate. Place traps adjacent to border areas with known alternate hosts of CFF such as wild black cherry. Hang traps two weeks after shuck split when fruit begins to take on a yellowish color. The greater the number of traps deployed per acre (at least one trap per 2.5 acres), the greater the confidence level in basing treatment decisions on fly catch. To differentiate between flies utilize the wing pattern guide provided. Use on-farm fly catches along with regional trapping information to determine control treatment timing. Because of 0% tolerance for CFF in harvested fruit, a conservative approach is recommended. Applications of OPs and other contact insecticides are timed for fruit fly egg laying, which occurs 7-10 days after the first fly is captured. If a fly is trapped on-farm and a regional trap catch is recorded prior to the on-farm fruit fly capture, the treatment should be applied 7-10 days after the earliest capture. However, basing treatment decisions solely on regional information may lead to unnecessary insecticide applications. If you are using a newer insecticide chemistry that requires ingestion of the material for effective control, the insecticide should be applied immediately after the first fly has been captured in a trap."

BLACK CHERRY APHID
Erin Lizotte, NWMHRS

BCA is readily distinguished from other aphids that may be present on cherry by the shiny metallic black coloration of both the adults and nymphs. Adults measure about 3.2 mm in length.

As mentioned in the pest report, we have seen high populations of black cherry aphid (BCA) on sweet cherry terminals at the Research Station. The populations have shown up in the cultivar variety trial with variable levels of infestation. Additionally, we have seen BCA on tart cherry though sweet cherry is the preferred and more susceptible host. BCA feeding curls and stunts leaves, and deforms shoot growth. Young cherry trees are especially susceptible to injury and can be killed if infestations are heavy. Severe infestations may also reduce the quantity and quality of the crop on mature trees. Overwintering BCA eggs hatch as cherry buds begin to open in April. Two to three generations are usually completed on cherry. Several summer generations are produced on alternate hosts, with winged adults returning to cherry orchards in September and October to mate and lay overwintering eggs. Highly susceptible varieties include Black Tartarian, Napoleon, Schmidt and Windsor. As we approach harvest, the preharvest interval may be of concern if a control spray is warrented. Young orchards with high levels of BCA infestation should be treated as soon as possible to reduce the risk of severe injury. There are a number of effective insecticides for the management of BCA in sweet cherry, including Diazinon 50 WP, Provado 1.6 EC, Thiodan 50 WP, Neem compounds, Actara 25 WG, Supracide 2 E, Leverage 2.7 SE, and Beleaf 50 SG. The 2009 Michigan Fruit Management Guide should be consulted for proper timings and rate recommendations. As always, growers should carefully read the label before applying any pesticide.

20TH ANNUAL VITICULTURE DAY AT SOUTHWEST MICHIGAN RESEARCH AND EXTENSION CENTER
Michigan State University (MSU) Extension and the National Grape Cooperative are teaming up this summer to host the 20th Annual Viticulture Day **July 29** from **10 a.m. to 7 p.m**. at the Southwest Michigan Research and Extension Center in Benton Harbor.
The conference includes a trade show and 10 workshops focusing on insect and disease management and other horticultural issues specific to grape production. Presenters include members of the MSU Grape Team and other viticulture experts. The day will conclude with wine hospitality and a steak cookout.

"The viticulture field day is a favorite among growers in the state," said Doug Buhler, Michigan Agricultural Experiment Station (MAES) associate director. "The information presented is designed for growers, consultants, field scouts, company representatives and others that need current in-depth, practical information about viticulture and pest management."

Early bird registration for the field day is $20 if registered before July 17 or $25 after early bird registration. Registration includes all workshops, trade show, lunch and steak cookout. Registration forms can be downloaded from

http://tinyurl.com/pc4xqf. For more information, contact the Southwest Michigan Research and Extension Center at (269) 944-1477.

The mission of the Southwest Michigan Research and Extension Center is to enhance the economic viability of agriculture in Michigan through the development and practical demonstration of technological advances in plant materials and cultural practices, as well as sound farm management.

WEBSITES OF INTEREST

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July 21, 2009

GROWING DEGREE DAY ACCUMULATIONS AS OF July 20th AT THE NWMHRS

Year	2009	2008	2007	2006	2005	2004	19yr. Avg.
GDD42	1644	1785	2082	2096	2146	1648	1874.2
GDD50	949	1097	1326	1324	1409	954	1170.6

Weather Report
The end of last week was unseasonably cool, but the start of this week seems more summerlike. Although rain is predicted in all days of this week, we have not had any rainfall since we received a small amount of rain (0.14 inches) on 17 July. The last significant rainfall was on 11 July where we received just under a half inch of rain. The total amount of rainfall this season is 9.65 inches; last year at this same time, we had 16.3 inches of rain. As far as growing degree days (GDD), we have accumulated 1644 GDD base 42 and 949 GDD base 50. These numbers still trail our 19-year average by 152 GDD (base 42) and 121 GDD (base 50).

Crop Report
Pears are at 30-39mm, and apricots are at 40mm in size. Apples range from 39-42mm. Montmorency cherries are 19mm and Balatons are 20mm in size. Sweet cherries are at 20-23mm in size. Stem-on sweet cherry harvest continues in the northern most areas of the region while traditional sweet cherry harvest is underway in the southern regions. Fruit appears to be in good shape although few cracks are evident. Ethephon has been applied to many tart cherry blocks, and harvest is predicted to start in Benzie/Manistee Counties this weekend. We estimate we will harvest in 7-10 days here at the research station.

Pest Report
Apples. Spotted tentiform leafminer numbers are increasing, and we found almost 200 on one trap this week. Codling moth (CM) numbers continue to be low, and we caught an average of one moth/trap this week. Perhaps with the warmer temperatures predicted, we will see an increase in CM flight. Obliquebanded leafroller (OBLR) numbers are increasing, and we caught 13 in one trap and 5 in another trap this week. However, we have observed OBLR in many stages throughout the orchards: a few large caterpillars, likely 5th or 6th instar, multiple pupae and many pupae where moths have emerged. OBLR development is all over the board this season, likely due to cool temperatures. Very few oriental fruit moths were caught this week, and apple maggot traps have been placed into blocks this week.

Cherry. Obliquebanded leafroller numbers are high in tart cherry blocks, where we have caught 46, 10, and 26 moths in three traps in three different orchards. We have also been counting OBLR in sweet cherry blocks, and these numbers are also high. This pest is particularly worrisome as we approach sweet cherry harvest, and many larvae/pupae are evident in sweet cherry clusters. Growers should be on the lookout for these pests this season. Lesser peachtree borer numbers are moderate (average of 9/trap). Greater peachtree borer numbers are similar with an average of 9 moths/trap. American plum borer numbers are a bit higher with 14 moths per trap. This insect has two flights per season, and often this second flight peaks at the time of cherry harvest. Cherry fruit flies are evident in many area orchards, and we want to stress that growers should be trapping for these insects in their individual orchards as the numbers of flies are higher than anticipated in many blocks.

Winegrapes. Grapes continue to grow, and many regional vineyards are at buck shot berry. Grape berry moth is still present in a few vineyards, and we have seen evidence of feeding in the clusters. Leafhoppers have been difficult to find this season, and we have little evidence of powdery mildew. All seems to be quiet in the regional vineyards so far this season.

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, 2009

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

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Northern Michigan FruitNet 2009
Weekly Update
NW Michigan Horticultural Research Station

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July 28, 2009

GROWING DEGREE DAY ACCUMULATIONS AS OF June 8th AT THE NWMHRS

Year	2009	2008	2007	2006	2005	2004	19yr. Avg.
GDD42	1820	1976	2288	2299	2359	1825	2067.4
GDD50	1069	1232	1477	1471	1566	1074	1307.9

Growth Stages at NWMHRS (7/27/09- 8:30 a.m.)
Apple: McIntosh – 48 mm fruit
Yellow Delicious – 46 mm fruit
Gala – 44 mm fruit
Red Delicious – 43 mm fruit
Pear: Bartlett: 32 mm fruit
Sweet Cherry: Hedelfingen: Harvested
Napoleon: Harvested
Gold: Harvested
Tart Cherry: Harvested
Balaton: 22 mm fruit
Apricot: 43 mm fruit
Plum: 28 mm fruit
Grapes: Buck shot berries

Weather
Cool temperatures prevail in the north. Daytime temperatures hover in the mid-70's while nighttime temperatures are in the high 50's. Overall, we have accumulated 1820 base 42 and 1069 base 50. Comparing these numbers to our 19-year average, we are 247GDD behind for base 42 and 238GDD behind for base 50 at the NWMHRS. There is an even further spread within the northwest region. For example, the degree day accumulations at the Northport site are only 1534GDD base 42 and 859 base 50; therefore, Northport is behind the NWMHRS by 286GDD base 42 and 210base 50. We have had some rainfall in the past week: 0.37" on 23 July, 0.41" on 25 July, 0.34" on 27 July, and 0.16" on 28 July. In total, we have had 1.28" of rain at the NWMHRS in the last five days. Unfortunately, these rains have come during sweet cherry harvest.

Crop Report
Pears are sizing, and are 32-43mm in size while apricots are also at 43mm. Apples are also sizing: Macs are at 48mm, Galas are at 44mm, Red Delicious are at 43mm, and Golden Delicious are at 46mm. Most growers are in the region have finished brine cherry harvest, except in Northport where they are in full swing. Growers are also finishing dark sweets, and the rain has caused a lot of cracking in the past few days. Some growers are abandoning blocks of dark sweets due to the increased cracking. Montmorency harvest has begun in the region, and growers are concerned about even ripening, particularly in the centers of the trees where there are still unripe fruit. Many trees have huge crops in the north, and ripening will be an issue on trees with large crop loads. At this time, many processors are taking all the fruit, but growers are considering diverting crops that may be of lower quality. Prices and quality are concerns for growers for both tarts and sweets. At this time, the Balaton crop looks big, and the fruit are starting to color. We are at the beginning of cherry harvest, and we anticipate harvest to continue well into August. Grapes are at buckshot berry, and vineyards are looking good with low pest pressure. Red raspberry harvest is also underway, and we have received a few calls about crumbly berries.

Pest Report
Apple: **Spotted tentiform leafminer** emergence continues in high numbers with almost 200 per trap for the second week in a row. **Codling moth** numbers continue to be low with an average of one moth/trap this week. **Obliquebanded leafroller** (OBLR) are emerging at an average of 5 moths per trap in apple sites this week; we continue to observe OBLR in many life stages in the orchards. Very few **oriental fruit moths** were caught this week. Susceptible apple varieties are showing significant **apple scab** infection.

Cherry: **Obliquebanded leafroller** numbers are down this week in tart cherry blocks at the NW Station, where we have caught an average of 4 moths per trap this week. **Lesser peachtree borer** numbers are up this week with an average of 23 per trap. **Greater peachtree borer** numbers are similar with an average of 21 moths/trap**. American plum borer**

continue to emerge at low levels with 6 moths per trap. **Cherry fruit flies** are evident in many area orchards, and we want to stress that growers should be trapping for these insects in their individual orchards as the numbers of flies are higher than anticipated in many blocks. We caught a total of 15 **cherry fruit fly** and 6 **black cherry fruit fly** in three traps at the station. We also caught cherry and black cherry fruit fly in a variety of other insect monitoring traps. The region received just under 2" of rain since July 21 triggering moderate to high **cherry leaf spot** infection potential. Some cherry leaf spot symptoms are visible in tops of trees around the region. These heavy rains have also caused cracking in the remaining sweet cherry crop, and **American brown rot** is a major concern. Reports from area growers confirm that **brown rot** is showing up, but not at the level expected given recent weather conditions.

Winegrapes: Grapes continue to grow, and many regional vineyards are at buck shot berry. **Leafhoppers** have been difficult to find this season, and we have little evidence of **powdery mildew**. Based on a biofix of wild grape bloom on June 19th, the model is forecasting the start of second generation egg-laying next week. All seems to be quiet in the regional vineyards this season.

WIND TURBINE GRANTS AVAILABLE
Rob Sirrine, CED, Leelanau County

Growers have until **July 31** to apply for USDA Rural Energy for America Program (REAP) grants. The grants provide money to purchase and install small wind turbines or other renewable energy systems. Growers, ranchers and rural business owners are eligible for grants to cover 25% of the total installed cost of the small wind turbine system. These USDA grants, when used in conjunction with the Federal Investment Tax Credit (ITC), can help a farmer install a small wind turbine system for roughly 50% of the normal cost.

These incentives, when coupled with the cost savings realized from producing one's own electricity, can result in impressive investment prospects. For example, according to David Shirkey of Renewable Options & Investments (ROI), in locations with 11 mph average wind speeds and with utility rates of $0.12 per kWh, a grower could realize a 12% annual rate of return on his investment and a payback of 8 years.

The incentive package may even be more attractive in certain locations where the local utility cooperative (or rural electric association) offers a rebate to its members. In these cases, farmers may realize an even greater return on investment and a shorter term payback.

The grant program is designed to assist farmers and ranchers who gain 50% or more of their gross income from agricultural operations. Rural small businesses with less than 15 employees are also eligible. The American Wind Energy Association (AWEA) offers examples of farmers and small business owners who have successfully installed small wind turbine systems on their property.

Not only do growers need to keep in mind that the deadline is fast approaching, but it may take up to 2 weeks for a farmer to fully complete an application, thus it is recommended to begin the process as soon as possible.

SEASONAL LABOR UPDATE
Rob Sirrine, CED, Leelanau Co.

On July 8, Department of Homeland Security Secretary Janet Napolitano announced the department will be proposing a new regulation rescinding the Social Security Administration No-Match Rule - a regulation issued by the Bush administration in August 2007 and enjoined by a U.S. District Court since it was introduced. The rule was intended to address an employer's obligations in response to receipt of a social security number mismatch notice from the Social Security Administration (SSA).

The rule stated that receipt of a SSA no-match letter could be used as evidence that the employer has constructive knowledge that an employee lacks work authorization. The No-Match Rule also made clear that an employer who did not follow the guidelines would be susceptible to an I-9 violation and possible fines in the event of a workplace audit or raid.

"This rule would have been devastating to the California and Arizona fresh fruit, vegetable, and tree-nut industries and would have caused massive layoffs of employment-authorized workers and U.S. citizens, while dragging the economy deeper into recession," said Tom Nassif, president and CEO of Western Growers. "I want to thank Secretary Napolitano for showing great leadership and quickly rescinding such a bad policy. The No-Match Rule wrongly presumed that if a worker has been named in a 'no-match' letter, then the worker is ineligible to work in the U.S. The reality is that the SSA database is not, and was never intended to be, an immigration database and does not contain real-time data on individuals' immigration status or work authorization. We need an effective guest worker program and true immigration reform, such as the Ag JOBS legislation, and we urge Congress to move this bill to the president's desk this year."

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Please send any comments or suggestions regarding this site to:
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