



Northern Michigan FruitNet 2003
Weekly Update
NW Michigan Horticultural Research Station

[Jim Nugent](#)
District Horticulturist

Position Vacant
District Fruit IPM Agent

[Bill Klein](#)
Farm Mgr, NWMHRS

[Duke Elsner](#)
Agricultural Agent

[Jim Bardenhagen](#)
Leelanau Extension Director

August 5, 2003

GROWING DEGREE DAY ACCUMULATIONS as of Aug. 4, 2003 at the NWMHRS

Year	2003	2002	2001	2000	1999	13 yr. Av. ('90-2002)
GDD42	2169	2265	2422	2319	2578	2265
GDD50	1339	1525	1576	1422	1692	1451

WEATHER:

Substantial precipitation occurred in some heavy rains in NW Michigan over a 4-day period. High humidity, overnight fogs and low winds between rains resulted in good conditions for disease development. Temperatures remained relatively cool for this time of year.

GROWTH STAGES at NWMHRS

Apple: Red Delicious – 49mm fruit

Pear: Bartlett – no fruit

Sweet Cherry: Napoleon – harvest complete

Tart Cherry: Montmorency – harvest complete

Apricot – no fruit

Plum: European type – 32mm

Grapes: Chardonnay – green fruit

INSECTS AND DISEASES

By Duke Elsner and Jim Nugent

Adult **cherry fruit fly** trap catch continued at a steady pace over the last week throughout the area. There is still a risk of egg laying and maggots in fruit in late Montmorency blocks and Balatons. Recent rains may have likely weakened insecticide residues, so consider new cover sprays as needed. **Two spotted spider mites** are starting to show up at scattered locations; thus far predator populations have been present in most orchards and sufficient for control. **American**

plum borer adult activity has increased over the last week, while **lesser peach tree borer** flight has diminished. **Cherry leaf spot** symptoms are now more noticeable in the upper center of trees where spray distribution is the weakest. Harvest has actually improved the appearance of some orchards due to the drop of cherry leaf spot and powdery mildew leaves from the shaking process. However, recent rains which provided long infection periods will likely lead to much higher cherry leaf

the shucking process. However, recent rains which provided long infection periods will likely lead to much higher cherry leaf spot leaf symptoms unless excellent fungicide residues were in place before the rains. Post harvest control of leaf spot should be a major concern this year, especially if our trend of rainy weather patterns continues.

In apple orchards **codling moth** flight has been variable, but second generation flight is now underway in NW Michigan, though cool areas of NW Michigan may not be experiencing it. Typically second generation flight begins at about 1200 degree days base 50. In some cases, first generation flight did not drop off to a very low level that would indicate a nice clean end of first generation flight. Overall, the need for insecticide cover sprays for codling moth has been almost continuous this summer. **Apple maggot** adult flight has yet to start to any degree; it is definitely time to get red sphere traps in place for proper monitoring of this pest. Second generation **spotted tentiform leafminer** adult trap catch is steady at medium levels, about 220 moths per trap per week. It is always difficult to predict leafminer larval populations in leaves based on trap catch numbers, so you will need to scout for eggs or sap-feeding mines to determine second generation control needs. Watch out for **spider mite** and **rust mite** population build-ups at this time. Recent rains have spurred new terminal growth, so the potential for a return of **green apple aphid** colonies exists. Predator activity on aphids was good earlier this season, so scouting to check for natural controls should be done before resorting to aphid treatments. **Apple scab** infection periods during the recent rainy spell will require greater attention to scab control than in our last few droughty years.

MISCELLANEOUS

NWMHRS Open House Reminder

The NWMHRS Annual Open House date is set for Thursday afternoon, August 28th. Program details will follow in the next weekly report. Mark your calendar now! We look forward to seeing you there.

Weekly Raw Product Report

The CIAB Weekly Raw Product Report can be found at: http://cherryboard.org/Week_5.htm

NWMHRS Weekly Evaporation & Precipitation Table

<u>Date</u>	<u>Evap/week (in.)</u>	<u>75% of Evap/week</u>	<u>Rainfall/wk at NWMHRS (in.)</u>	<u>Rainfall minus 75% of Evaporation</u>
5/6	1.05	0.79	0.98	0.19
5/13	0.96	0.72	1.50	0.78
5/20	1.29	0.97	0.16	-0.81
5/27	1.08	0.81	0.05	-0.76
6/3	1.35	1.01	0.23	-0.78
6/10	1.04	0.78	0.52	-0.26
6/17	1.40	1.05	1.16	0.11
6/24	2.10	1.58	0.00	-1.58
7/1	1.67	1.25	0.44	-0.81
7/8	1.98	1.49	0.00	-1.49
7/15	1.53	1.15	2.29	1.14
7/22	1.54	1.16	0.43	-0.73
7/29	1.56	1.17	0.29	-0.88
8/5	1.47	1.10	1.65	0.55
Totals	20.02	15.02	9.7	-5.32

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@pilot.msu.edu

Last Revised: 8-5-03



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[Jim Bardenhagen](#)
Leelanau Extension Director

August 12, 2003

GROWING DEGREE DAY ACCUMULATIONS as of Aug. 11, 2003 at the NWMHRS

Year	2003	2002	2001	2000	1999	13 yr. Av. ('90-2002)
GDD42	2366	2459	2675	2509	2733	2453
GDD50	1480	1663	1773	1556	1791	1584

WEATHER:

Rains from 7/31 to 8/4 brought good moisture to NW Michigan during the past 2 weeks. Rainfall at the NWMHRS totaled 1.65 and 0 inches per week, respectively.

GROWTH STAGES at NWMHRS

Apple: Red Delicious – 55mm fruit

Pear: Bartlett – no fruit

Sweet Cherry: Napoleon – harvest complete

Tart Cherry: Montmorency – harvest complete

Apricot – no fruit

Plum: European type – 35mm

Grapes: Chardonnay – green fruit

INSECTS AND DISEASES

By Duke Elsner and Jim Nugent

Cherry leaf spot symptoms can now be readily seen from a distance in some NW Michigan orchards. The pattern of poor spray penetration to the upper centers of trees is very obvious. Post-harvest leaf spot sprays of Bravo will likely be very important this year. **Cherry fruit fly** adult trap catch is now tapering off, as is the trap catch of **American plum borer** and **lesser peach tree borer**. **Greater peach tree borer** trap catches have increased over the last two weeks. Wild cherry trees (mostly pin cherry and choke cherry) have been heavily injured by **lace bug** feeding this year.

Apple maggot emergence has been slow thus far in the NW. Only a few flies have been taken on red spheres. **Codling moth** trap catch has dropped to low levels at most sites (around two moths per trap), finally indicating an end of first generation flight. Our warmest and most advanced sites have already shown the adult trap increases signaling the arrival of the second generation adults. All areas of NW Michigan have now accumulated enough degree days to expect a second

the second generation adults. All areas of NW Michigan have now accumulated enough degree days to expect a second generation. **Spotted tentiform leafminer** trap catch remains in the high 200's per trap per week. **European red mite** and **two-spotted mites** have reach threshold levels in a few blocks, but this is not a widespread problem thus far. Some blocks that surpassed 10 mites per leaf have been treated. **Apple scab** remains as the principle disease problem this year, although some growers have reported finding **fire blight** strikes in the last two weeks. Traps for **European corn borer** have started to capture adults in our area. This can be a sporadic pest when late-season larvae tunnel into fruits.

Vineyards continue to look very healthy. Crop levels vary considerably, depending on cultivar (Vignoles faring the best) and snow depth back in early March. Most vinifera blocks have such a short crop that harvest will not be attempted. The fruit that is present is on low, basal shoots where it will be hard to spray and protect from raccoons and birds. **Powdery mildew** is at very low levels except where the foliage is quite dense at the base of plants. **Potato leafhopper** numbers seem to have dropped off a bit in many blocks. A few **two spotted spider mites** have been seen on lower leaves. **Sphinx moth larvae** are now getting pretty large and easier to find; they do not seem to be as numerous this year, and many of the specimens seen bear the eggs of parasitoid flies which will kill them after they complete feeding. A few **grape berry moth larvae** have been found in the fruit of Marquis table grapes at the NW station.

MISCELLANEOUS

[NWMHRS Open House & Equipment Show](#)

The NWMHRS Annual Open House date is set for Thursday afternoon, August 28th. Following is the program schedule.

1:00-2:00 Visit equipment and vender displays

2:00-3:00 Concurrent educational programs – attend the program of your choice

1. Grape – Vine recovery and management strategies
2. Sweet Cherry – What's new in varieties and managing processing varieties on dwarf rootstocks
3. Tart Cherry – Current and future pest management research

3:00-4:30 Equipment demonstrations

4:30-5:15 Visit display area

5:15-6:00 Social time – wine and juice tasting

6:00-? Dinner followed by the Leelanau Horticultural Society annual meeting.

The evening will conclude with a lighthearted "*Tribute to Gary Thornton.*" As you are probably aware, Gary has left MSU Extension to make his fortune in banking. Come and help us recognize Gary for his contribution to the fruit industry.

Weekly Raw Product Report

The [CIAB Weekly Raw Product Report](http://cherryboard.org/Week_6.htm) can be found at: http://cherryboard.org/Week_6.htm

NWMHRS Weekly Evaporation & Precipitation Table

<u>Date</u>	<u>Evap/week (in.)</u>	<u>75% of Evap/week</u>	<u>Rainfall/wk at NWMHRS (in.)</u>	<u>Rainfall minus 75% of Evaporation</u>
5/6	1.05	0.79	0.98	0.19
5/13	0.96	0.72	1.50	0.78
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5/27	1.08	0.81	0.05	-0.76
6/3	1.35	1.01	0.23	-0.78

6/10	1.04	0.78	0.52	-0.26
6/17	1.40	1.05	1.16	0.11
6/24	2.10	1.58	0.00	-1.58
7/1	1.67	1.25	0.44	-0.81
7/8	1.98	1.49	0.00	-1.49
7/15	1.53	1.15	2.29	1.14
7/22	1.54	1.16	0.43	-0.73
7/29	1.56	1.17	0.29	-0.88
8/5	1.47	1.10	1.65	0.55
8/12	1.27	0.95	0	-0.95
Totals	21.29	15.97	9.7	-6.27

[ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2003](#)

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@pilot.msu.edu

Last Revised: 8-12-03



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August 19, 2003

GROWING DEGREE DAY ACCUMULATIONS as of Aug. 18, 2003 at the NWMHRS

Year	2003	2002	2001	2000	1999	13 yr. Av. ('90-2002)
GDD42	2584	2668	2847	2679	2913	2636
GDD50	1642	1816	1889	1670	1915	1710

GROWTH STAGES at NWMHRS

Apple: Red Delicious – 59mm fruit

Pear: Bartlett – no fruit

Sweet Cherry: Napoleon – harvest complete

Tart Cherry: Montmorency – harvest complete

Apricot – no fruit

Plum: European type – 37mm

Grapes: Chardonnay – green fruit

INSECTS AND DISEASES

By Duke Elsner and Jim Nugent

Recent hot and dry conditions following lengthy wetting periods in early August have resulted in the strong expression of **cherry leaf spot** symptoms throughout NW Michigan, on both tart and sweet cherry. Leaf drop is well underway in some orchards. As we are halfway through August, further post-harvest leaf spot sprays of Bravo may no longer be warranted. With harvest essentially complete, concerns over **cherry fruit fly** have diminished. If you have a block in which a significant amount of fruit remains, you may wish to consider continued trapping to assess adult activity as an indicator of potential in-orchard fruit fly populations for the 2004 season. **Fall webworm** nests have started to appear in the area, and these can sometimes be found on cherry. They will not do significant harm to merit any controls.

Trap catch of **codling moth** has continued at a steady pace. Plan cover sprays accordingly. You should have your **apple maggot** red sphere traps in place now, as we are expecting adult activity to pick up in the next couple of weeks. **European**

red mite and **two-spotted mite** injury is likely to be more pronounced due to heat and drought conditions, so be sure to monitor orchards for these pests. **Apple scab** symptoms from the early August rains should be appearing at this time. Some growers have seen a disease called **calyx-end rot**, caused by the *Sclerotinia sclerotiorum* fungus. This infrequent problem is sometimes found on MacIntosh, Honeycrisp or Northern Spy fruits. Look for a soft or depressed decay near or surrounding

sometimes found on madrone, honeycreeper or Northern Spy trees. Look for a soft or depressed decay near or surrounding the calyx of fruits. Infection occurs much earlier in the year during bloom and the first few weeks of fruit development. No specific fungicide trials have been conducted on apple that we know of, and sprays would have to go on earlier in the season during the infection period. Topsin-M is registered for control of Sclerotinia on other crops. The fungus passes the winter on groundcover plants, especially dandelion. If you see this problem arising in an orchard, it might be productive to treat the dandelions in fall with 2-4,D and mow closely in the fall.

Grape vine growth continues to be very strong, and with few major problems in managed vineyards. Berry size is increasing rapidly and berry touch has occurred in many varieties. If you are trying to crop a vineyard this year, be aware that fruit clusters borne on the low shoots near the base of the vine will be very hard to protect from diseases and animal depredation. Our sprayers are not designed to provide good coverage of this area of the vine, so it will be extra important to keep fungicide sprays timely. If the foliage is dense near the clusters, it might be advisable to do some leaf removal, but this could lead to sun scald (there will be extra heat reflected from the nearby soil surface) and it really helps the raccoons and turkeys find the fruit! If you are serious about getting a crop in from these low clusters, you should probably invest in electric fencing to keep out the raccoons.

MISCELLANEOUS

NWMHRS Open House & Equipment Show

REMINDER that the NW Research Station Open House and Equipment Show will be held *Thursday, August 28th*, beginning at 1:00 p.m. Tickets for the beef dinner, catered by Cedar Valley Ranch, are \$10 in advance or \$15.00 at the door. For advance tickets, fill out and send in the coupon below along with your check by August 25th. Tickets can be picked up at the door.

----- (cut here) -----

Dinner Tickets Form - NW MI Hort Research Station Open House & Equipment Show

Name: _____ Phone: _____

Tickets _____ x \$10 = _____

Please make checks payable to: **Leelanau Horticultural Society**
and mail to: 116 E. Philip Street, Lake Leelanau, MI 49653

----- (cut here) -----

Weekly Raw Product Report

The year to date harvest as of Saturday, Aug. 16, was 218.2 million lbs, with harvest nearly complete. USDA preharvest estimate was 218 M lbs. The full report can be found at the website noted below.

The CIAB Weekly Raw Product Report can be found at: http://cherryboard.org/Week_7.htm

NWMHRS Weekly Evaporation & Precipitation Table

Date	Evap/week (in.)	75% of Evap/week	Rainfall/wk at NWMHRS (in.)	Rainfall minus 75% of Evaporation
5/6	1.05	0.79	0.98	0.19
5/13	0.96	0.72	1.50	0.78
5/20	1.29	0.97	0.16	-0.81
5/27	1.08	0.81	0.05	-0.76
6/3	1.35	1.01	0.23	-0.78

6/3	1.00	1.01	0.20	0.70
6/10	1.04	0.78	0.52	-0.26
6/17	1.40	1.05	1.16	0.11
6/24	2.10	1.58	0.00	-1.58
7/1	1.67	1.25	0.44	-0.81
7/8	1.98	1.49	0.00	-1.49
7/15	1.53	1.15	2.29	1.14
7/22	1.54	1.16	0.43	-0.73
7/29	1.56	1.17	0.29	-0.88
8/5	1.47	1.10	1.65	0.55
8/12	1.27	0.95	0	-0.95
8/18	1.58	1.19	0	-1.19
Totals	22.87	17.15	9.7	-7.45

[ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2003](#)

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@pilot.msu.edu

Last Revised: 8-19-03



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NW Michigan Horticultural Research Station

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[Jim Bardenhagen](#)
Leelanau Extension Director

August 26, 2003

GROWING DEGREE DAY ACCUMULATIONS as of Aug. 25, 2003 at the NWMHRS

Year	2003	2002	2001	2000	1999	13 yr. Av. ('90-2002)
GDD42	2803	2841	3038	2838	3098	2820
GDD50	1806	1933	2024	1773	2044	1839

GROWTH STAGES at NWMHRS

Apple: Red Delicious – 61mm fruit

Pear: Bartlett – no fruit

Sweet Cherry: Napoleon – harvest complete

Tart Cherry: Montmorency – harvest complete

Apricot – no fruit

Plum: European type – 38mm

Grapes: Chardonnay – green fruit

INSECTS AND DISEASES

By Duke Elsner

The storms that passed through our area on Tuesday the 26th provided much needed rain and fortunately did not result in much dropped fruit in apple blocks. **Adult codling moths** and **apple maggots** remain active and growers need to keep cover spray programs in place. Watch out for pre-harvest intervals of products now that we are getting closer to harvest for early varieties.

There will be a limited apple maturity testing program offered through the Northwest Station this fall. Fruit samples will need to be brought into the station for analysis. Information on proper sampling procedures is included in this Fruit Net.

Cherry harvest is finally complete in NW Michigan, with the last of the Northport area tarts coming in this last weekend. Some heavy defoliation from **cherry leaf spot** has occurred in some orchards, and in most cases this problem can be traced back to missed timings for key fungicide applications. Some yellow leaves and dropped leaves are present in almost every block by this point in the season.

Verasion has begun for our earliest grape varieties. **Large sphinx moth** larvae are now numerous and easy to find in

Verdemon has begun for our earliest grape varieties. Large spring moth larvae are now numerous and easy to find in vineyards that have received minimal spray programs. Many of these have been found with the eggs of parasitoid flies on their bodies. These larvae do not pose much of a threat to older vines, unless they have put out very little growth following our freeze damage. If vines have come back well, we can afford to let the larvae eat a fair portion of the foliage this year. Young plantings are a greater concern, so concentrate control efforts toward the big caterpillars in these sites.

MISCELLANEOUS

NW Research Station Open House & Equipment Show

REMINDER that the NW Research Station Open House and Equipment Show will be held Thursday, August 28th, beginning at 1:00 p.m. Tickets for the beef dinner, catered by Cedar Valley Ranch are \$15.00 at the door.

Weekly Raw Product Report

Harvest is complete in all districts with Michigan's total of 151.4 million lbs. For a full report, go to CIAB's website given below.

The CIAB Weekly Raw Product Report can be found at: http://cherryboard.org/Week_8.htm

2003 Apple Maturity Program

Once again the NWMHRS will be providing growers information on the optimum time to harvest their fruit. Optimum maturity will be for long term CA storage and will be based on starch/iodine and pressure tests. If interested in having your fruit tested, drop off 10 apples picked randomly from the outside portion of the trees. The fruit for testing should be large in size and free of blemishes.

Information will be compiled and put on the PestNet (code-a-phone) as well as faxed to apple growers. If you are interested in picking up the information via the PestNet, call 947-3063 and go to the pome fruit message. This message will begin in early September

The predicted harvest dates for long-term CA storage from northwest Michigan, based on temperatures and bloom dates at the NWMHRS, are as follows:

McIntosh - September 22

Jonathan - October 11

Red Delicious - October 17

NWMHRS Weekly Evaporation & Precipitation Table

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5/27	1.08	0.81	0.05	-0.76
6/3	1.35	1.01	0.23	-0.78
6/10	1.04	0.78	0.52	-0.26
6/17	1.40	1.05	1.16	0.11
6/24	2.10	1.58	0.00	-1.58
7/1	1.67	1.25	0.44	-0.81
7/8	1.98	1.49	0.00	-1.49

7/15	1.53	1.15	2.29	1.14
7/22	1.54	1.16	0.43	-0.73
7/29	1.56	1.17	0.29	-0.88
8/5	1.47	1.10	1.65	0.55
8/12	1.27	0.95	0	-0.95
8/18	1.58	1.19	0	-1.19
8/26	1.72	1.29	0.43	-0.86
Totals	24.59	18.44	10.13	-8.31

[ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2003](#)

Please send any comments or suggestions regarding this site to:

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Last Revised: 8-26-03