



Northern Michigan FruitNet 2002 Weekly Update

[James E. Nugent](#) [Gary E. Thornton](#) [William M. Klein](#)
 NW Michigan Horticultural Research Station
 Michigan State University

July 2, 2002

GROWING DEGREE DAY ACCUMULATIONS through *July 1* at the NWMHRS:

	2002	2001	2000	1999	1998	1997
Base 42	1190	1424	1425	1562	1607	1170
Base 45	993	1190	1170	1311	1350	973
Base 50	722	849	800	948	971	692

WEATHER

Hot, dry weather this week significantly increased evaporation rates. Evaporation for the week averaged 0.28" per day.

CHERRY FRUIT FLY EMERGENCE

By Gary Thornton, District Fruit IPM Agent

On July 1st we found 5 eastern cherry fruit fly at the NW Horticulture Research Station. Considering that we found 5 that day we are assuming that they emerged first on Friday June 28th. Egg laying begins 7-10 days after adult emergence. If you are not monitoring for this insect with yellow sticky boards in your orchards, plan to apply your first fruit fly insecticide on approximately July 5th. Generally in commercial orchards with low fruit fly pressure, first trap catch is delayed significantly and may not occur until adult flies migrate in from breeding sites in abandoned orchards and wild sites. Without monitoring, it is dangerous to assume low populations or delayed activity. This is especially true this year where, due to the low crop, the adult cherry fruit fly will be looking for cherries to lay eggs into.

To monitor for fruit fly activity, use the yellow "A.M." (Apple Maggot) traps, and get them out immediately if they aren't already. Place traps on the exterior of orchards, especially near any abandoned blocks. However, if the crop was abandoned last year and the fruit left on the trees, the traps should also be placed on the interior of the orchard. The traps should be replaced every two weeks, as the ammonium attractant wears off. The threshold is one fly in any trap in a given block.

Since cherry fruit flies are very mobile, alternate middle row sprays of either Guthion or Imidan do an excellent job in controlling this pest. Keep in mind that Imidan can only be used on tart cherry.

INSECTS & DISEASES

By Gary Thornton

Cherry leaf spot – This disease is rampant this year in some blocks. I have observed blocks that for all practical purposes are already nearly defoliated. The best tactic to use now is to be on a protectant program and try to keep the remaining leaves that are present or possibly still emerging. Be careful that you don't assume the yellow leaves are leaf spot. There is also a lot of sour cherry yellows this year too. The difference is that leaves dropping due to leaf spot will have whitish mycelium on the underside of the leaf. If the disease has been "burned out" from either the application of Sulfit or one of the

mycelium on the underside of the leaf. If the disease has been carried out from either the application of Spink or one of the Sterol Inhibitor sprays, then it may not have the mycelium, yet may still drop.

Brown rot – Protectant programs for the control of this disease are important on any cherries that will be harvested this year. Indar, Elite or Orbit are all rated as excellent for the control of this pest.

Cherry fruit fly – Has emerged. See accompanying article.

Codling moth – 5/trap at the NWHRS, growers not monitoring should have an insecticide on now for control. A second application will be needed for the control of this first generation.

Spotted Tentiform Leafminer – Between generations. 11/trap at the NWHRS.

Green apple aphids – Populations are building in blocks without any treatment.

Potato leafhopper – Adults have now migrated into our region from the south. This pest is of particular concern on young apples and plums (older plums too, if high enough populations), strawberries (particularly new plantings), and raspberries.

Two spotted spider mites – Counts done here at the research station showed extremely low numbers of these mites in tart cherry at this time. The current spell of hot dry weather we have had will result in some of the mites migrating into the trees, but at this time this had not occurred at the NWHRS yet to any significant degree.

Plum Curculio – This pest has declined in activity, but is still a threat to all stone fruits, especially any cherries to be harvested.

Rose chafer – Have been active for a week or more now. Growers should check young blocks for populations and treat if needed.

Pear psylla – Egg counts have gone up significantly in one of the blocks that we monitor.

IRRIGATION

By Jim Nugent

As we've said before, most fruit crops do best when rainfall plus irrigation supplies water at the rate of about 75% of the evaporation rate from a pan of water sitting in the sun and wind. The following table recaps the evaporation rate for the 2002 season since May 1. I generally use May 1 as the beginning point for this calculation because it approximates a time when foliage is developing in many tree fruit crops. Prior to foliage development the tree does not need much water, as transpiration of water occurs through leaf tissue.

The table below shows how well matched the rainfall and evaporation have been so far this season. However, note how much the evaporation rate has been increasing the past two weeks. Plus, as the season progresses the leaf surface is expanding. The 75% of evaporation figure is actually over stating water use during early season when foliage is limited, but may actually be too conservative of an estimator when foliage is well developed and fruit is in final swell. Dr. Ron Perry suggests that stone fruit should receive 100% of evaporation during a 4 to 5 week period prior to harvest. Trees grown on certain dwarfing rootstocks are particularly prone to drought stress. These trees need a steadier source of water than rainfall normally provides, and some need more water than the normal 75% of evaporation rate. I suggest using the following as guidelines:

- Sweet cherries on Gisela rootstocks – rain plus irrigation should equal 100% -125% of evaporation.
- Apples on M9 and similar rootstocks (except Mark) – rain plus irrigation should equal 100% - 125% of evaporation.
- Apples on Mark rootstock – rain plus irrigation should equal 150% of evaporation.

Bearing trees carrying little to no fruit in 2002 will not need as much water as normal. I estimate that water needs are likely reduced by 25% to 33% (generally less reduction prior to terminal bud set and more reduction after terminal bud set). So, hopefully this will be a year where money can be saved through reduced irrigation demands. Still, irrigation needs cannot be reduced in young trees needing to fill their space, and it still may be needed in bearing trees, though at reduced rates. Be particularly conscientious about keeping adequate water on the above-mentioned dwarfing rootstocks.

Date	Evap/week	75% of Evap/week	Rainfall/wk at NWMHRS	Rainfall vs 75% of Evaporation	YTD Rainfall vs 75% Evaporation
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					Evaporation
5/7	1.10	0.83	1.20	+0.37	
5/14	0.99	0.74	1.04	+0.30	+0.67
5/21	0.98	0.74	0.34	-0.40	+0.27
5/28	1.22	0.92	0.90	-0.02	+0.25
6/4	1.44	1.08	1.94	+0.86	+1.11
6/11	1.28	0.96	0.14	-0.82	+0.29
6/18	0.69	0.52	1.81	+1.29	+1.58
6/25	1.65	1.24	0.94	-0.30	+1.28
7/2	1.97	1.48	0.05	-1.43	-0.15
Totals	11.32		8.36		

EVAPORATIVE COOLING OF STRAWBERRIES

By Jim Nugent

Strawberries do extremely well when the weather remains cool during the ripening process. Unfortunately, this week's hot weather is occurring during strawberry harvest. Under hot conditions the berries ripen before developing good fruit size. Irrigation can be used during the heat of the day to cool plants, which will slow the ripening process to help achieve better fruit size. If plants need the water, then plan to irrigate during hot afternoon hours, rather than the normal preferred early morning hours. If additional water is not needed during hot days, then turn on the irrigation for only a few minutes to wet the field, and then turn off and wait for the foliage to dry. Then repeat the process. Evaporation of the water will keep the plants cooled. Depending on the conditions, drying may occur in 15 minutes or so, which means that the irrigation may be turned on and off several times during the hot afternoon period.

[ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2002 \(*\)](#)

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@pilot.msu.edu

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Northern Michigan FruitNet 2002 Weekly Update

[James E. Nugent](#) [Gary E. Thornton](#) [William M. Klein](#)
 NW Michigan Horticultural Research Station
 Michigan State University

July 9, 2002

GROWING DEGREE DAY ACCUMULATIONS through July 8th at the NWMHRS:

	2002	2001	2000	1999	1998	1997
Base 42	1416	1578	1609	1780	1782	1305
Base 45	1198	1324	1332	1509	1504	1086
Base 50	892	948	928	928	1110	772

WEATHER

Weather conditions have been getting quite dry over the past two weeks. Evaporation rates have been 1.97" and 1.91" per week, while rainfall at the NWMHRS has totaled .05" and .49" per week during the two-week period. These are the two highest weekly evaporation totals for the season.

INSECTS & DISEASES

By Gary Thornton

Apple growers with **fireblight** in their orchards should continue to cut out strikes. This is particularly important with young trees. Growers should avoid contact with the trees on hot, humid days, as they can further spread the disease. **Codling moth** trap catches averaged four per trap at the NWMHRS. This first generation should be tapering off now, but growers should continue to monitor closely for this pest. **Green apple aphid** colonies continue to expand where treatments haven't been applied. The second generation of **spotted tentiform leafminer** adult flight has begun. Trap catches rose to an average of 106 per trap at the NWMHRS.

Cherry fruit fly emerged at the NWMHRS on Friday, June 25th. Growers who are not monitoring for this pest should apply an appropriate insecticide 7-10 days after this date to insure clean fruit at harvest. Growers who do not plan to harvest can choose to skip this insecticide spray, but keep in mind that insect pressure may be slightly higher next year, due to potential infestation of the few fruit in orchards. **Plum curculio** adults remain active, although at reduced levels. If harvest will take place, growers should keep a tighter level of control than in the past due to the lack of egg laying sites this year.

Powdery mildew is visible, and controls should be applied in young blocks where long extension growth is desirable. Yesterday's rains resulted in light to moderate infection periods for **cherry leaf spot**. When possible, growers should use fungicides on a protectant basis to continue to control for this disease. **Brown rot** is a threat where the crop will be harvested.

Rose chafer adults are still active, but their feeding has declined greatly from their peak.

CIAB AMENDMENTS PASSED

By Jim Nugent

The U.S. Department of Agriculture announced on July 3rd the passage of all 13 of the proposed amendments to the Tart Cherry Federal Marketing Order. The amendments will become effective after they are published in the Federal Register. The actual press release is available at <http://www.ams.usda.gov/news/153-02.htm>.

CIAB WEEKLY REPORT (Taken from the CIAB Weekly Raw Product Report by Perry Hedin)

Tart harvest is nearing completion in PA and began this past week in SW Michigan. Early reports indicate the SW Michigan crop appears lighter than estimated.

CHERRY INDUSTRY PERSON OF THE YEAR

The National Cherry Festival selected Jim Jensen as the 2002 Cherry Industry Person of the Year. Jim was presented today with this distinguished award by the National Cherry Festival and Phil Korson, CMI, during a special program at the Cherry Connection, NWMHRS. We all wish to congratulate Jim!

WEEKLY EVAPORATION/PRECIPITATION REPORT

Date	Evap/week	75% of Evap/week	Rainfall/wk at NWMHRS	Rainfall vs 75% of Evaporation	YTD Rainfall vs 75% Evaporation
5/7	1.10	0.83	1.20	+0.37	+0.37
5/14	0.99	0.74	1.04	+0.30	+0.67
5/21	0.98	0.74	0.34	-0.40	+0.27
5/28	1.22	0.92	0.90	-0.02	+0.25
6/4	1.44	1.08	1.94	+0.86	+1.11
6/11	1.28	0.96	0.14	-0.82	+0.29
6/18	0.69	0.52	1.81	+1.29	+1.58
6/25	1.65	1.24	0.94	-0.30	+1.28
7/2	1.97	1.48	0.05	-1.43	-0.15
7/9	1.91	1.43	0.49	-0.94	-1.09
Totals	13.23		8.85		

[ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2002 \(*\)](#)

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Bill Klein, kleinw@pilot.msu.edu

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[James E. Nugent](#) [Gary E. Thornton](#) [William M. Klein](#)
 NW Michigan Horticultural Research Station
 Michigan State University

July 16, 2002

GROWING DEGREE DAY ACCUMULATIONS through *July 15th* at the NWMHRS:

	2002	2001	2000	1999	1998	1997
Base 42	1621	1767	1813	1963	1996	1503
Base 45	1382	1491	1516	1670	1697	1264
Base 50	1041	1081	1076	1237	1248	915

WEATHER

No rain this week has worsened the dry conditions. Evaporation was at a weekly high for the season of 2.09"

INSECTS & DISEASES

By Gary Thornton

Codling Moth – Trap catch declined to 1/trap at the NWMHRS. The first generation is over now, however, growers that have continued to have trap catches may require an appropriate insecticide 250 degree days base 50 after the threshold of 5 moths per trap was reached.

Apple Maggot – Adult flies have been caught in Oceana County, but we haven't caught any yet in the abandoned orchard we are monitoring near Suttons Bay.

Spotted Tentiform Leafminer – Trap catch averaged 328/trap. This is the beginning of the second generation. Several options exist to control this pest where necessary, including Provado or Actara (Actara also suppresses codling moth) at the high end of the appropriate rate. These materials will stay in the leaves and remain active for a month or more. They will also control green apple aphids, white apple leafhopper and potato leafhopper. Beware that potato leafhopper control will be short lived; Guthion or Imidan work best on this pest.

Cherry Fruit Fly – Trap catches increased this past week to an average of 13/trap in our research orchard. Alternate middle row sprays work fine in controlling this pest. Monitor preharvest intervals closely. If not harvesting a block, then controls are not needed.

Cherry Leaf Spot - Dry weather fortunately has slowed the advance of this disease. Approximately 9 days ago there was a moderate to heavy infection and symptoms should be starting to show on trees that were not adequately protected and still actively growing at that time. Once leaves mature, the time for an infection to appear increases to near 30 days. Postharvest applications of Bravo will be particularly important in orchards where leaf spot has been present this year.

Brown Rot – Brown rot can be found on uninjured fruit, though infection levels are generally low. Despite relatively dry conditions, this disease can spread within clusters of cherries – particularly sweet cherries. Protectant sprays of Elite, Orbit or Indar all offer excellent control.

Potato Leafhopper – This pest is mostly a threat to young apples, plums, grapes, strawberries and occasionally raspberries. Contact insecticides work best for control.

NAP NONHARVEST FACTOR FOR SWEETS CHANGED

By Jim Nugent

The nonharvest factor for sweet cherries has been changed by the State FSA committee. The factor for use this year will be **0.83** rather than the previous factor of 0.5. Payments are reduced to reflect savings in variable costs for not harvesting. This new factor represents a much more accurate assessment of the variable machine harvest costs used by Michigan sweet cherry growers. The 0.80 factor for tarts remains unchanged. Our thanks to the state FSA committee for adopting this change and to the state FSA administration and the local FSA committee for their support of this issue.

It is possible to harvest a portion of the acreage enrolled in NAP without harvesting everything. But it is very important to communicate with your local FSA both before and after harvest to document what is and isn't harvested. This will allow FSA to appropriately prorate the nonharvest factor.

WEEKLY CIAB REPORT (Edited from information provided by Perry Hedin, CIAB)

Weekly Raw Product Report for Week ending July 13, 2002 (millions of pounds)					
District	2002 Week 1	2002 YTD	Diverted Fruit	2002 Est.	2001 Total
NW MI	0.0	0.0	NA	3.0	180.3
WC MI	0.8	0.8	NA	6.0	84.1
SW MI	5.4	5.9	NA	5.5	30.2
NY	0.5	0.5	NA	15.0	14.6
OR	0.0	0.0	NA	2.5	2.2
PA	0.1	3.2	NA	3.4	3.5
UT	0.3	0.3	NA	4.0	12.0
WA	0.2	0.2	NA	17.0	26.5
WI	0.0	0.0	NA	4.0	12.7
Total	7.3	10.9	NA	60.4	366

PA has completed harvest. SW Michigan is over its estimate. A bit more production is expected this week. WC MI, NY, OR and WA have each made their first reports of harvest. It is far too early to know how these areas will pick out.

WEEKLY EVAPORATION and PRECIPITATION REPORT

Date	Evap/week	75% of Evap/week	Rainfall/wk at NWMHRS	Rainfall vs 75% of Evaporation	YTD Rainfall vs 75% Evaporation	YTD Rainfall vs 100% Evaporation
5/7	1.10	0.83	1.20	+0.37	+0.37	+0.10
5/14	0.99	0.74	1.04	+0.30	+0.67	+0.15
5/21	0.98	0.74	0.34	-0.40	+0.27	-0.49
5/28	1.22	0.92	0.90	-0.02	+0.25	-0.81
6/4	1.44	1.08	1.94	+0.86	+1.11	-0.31
6/11	1.28	0.96	0.14	-0.82	+0.29	-1.45
6/18	0.69	0.52	1.81	+1.29	+1.58	-0.33
6/25	1.65	1.24	0.94	-0.30	+1.28	-1.04
7/2	1.97	1.48	0.05	-1.43	-0.15	-2.96
7/9	1.91	1.43	0.49	-0.94	-1.09	-4.38
7/16	2.09	1.57	0	-1.57	-2.66	-6.47
Totals	15.32	11.51	8.85			

[ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2002 \(*\)](#)

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Bill Klein, kleinw@pilot.msu.edu

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Northern Michigan FruitNet 2002 Weekly Update

[James E. Nugent](#) [Gary E. Thornton](#) [William M. Klein](#)
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July 23, 2002

GROWING DEGREE DAY ACCUMULATIONS through *July 22nd* at the NWMHRS:

	2002	2001	2000	1999	1998	1997
Base 42	1864	2008	1957	2178	2216	1699
Base 45	1604	1712	1639	1865	1896	1439
Base 50	1228	1266	1165	1396	1412	1055

WEATHER

Some much needed rain fell in the region on Sunday, July 21, but amounts varied from 0.04" at Benzonia to 1.40" at Old Mission. Evaporation has been high during the past two weeks, at 2.09" and 1.94" per week, respectively.

COMMODITY REPORTS

Apple: Codling moth is now between generations. Trap catches averaged 0.6 moths per trap in an abandoned orchard that we monitor. Some orchards are still catching moths above threshold. **Apple maggot** emerged this past week in that same abandoned orchard, where two flies were caught. Growers who are not going to be trapping should plan to have an insecticide on for apple maggot by **July 24th**, as the adults will feed for 7-10 days before they start to oviposit in apples. This week, scouts have reported catching adults on red spheres already. Growers who plan to trap should get their red spheres out as soon as possible. **Fireblight** infections likely occurred with last Sunday's rains where the wind was significant. After trauma events occur, streptomycin has to be applied within 24 hours – the sooner the better!

Sweet cherry harvest is nearing completion. The crop will likely pick out at less than the USDA estimate; quality has been good. Tart cherry harvest, such as it is, will begin this week. **Cherry fruit fly** trap catches soared this week to 27 adults per trap in our unsprayed block. Recent rains have created ideal conditions for emergence. Maggots have been found on the NWMHRS in sweet cherries – cherries that have been sprayed in previous years, but not this year. This indicates that they are traveling farther than usual to find fruit for egg laying. No **cherry leaf spot** infection resulted from Sunday's rain. **Brown rot** is present in sweet cherries.

Potato leafhoppers have shut down terminal growth in unsprayed **plums**. This pest is also a problem in **grapes, strawberries, raspberries** and young **apples**. Plums are also susceptible to **apple maggot**.

DISASTER ASSISTANCE REQUESTED

By Jim Nugent

Phil Korson organized a meeting with Federal legislators that was held in Traverse City on Saturday, July 13, to discuss the catastrophic cherry crop loss situation. In attendance were Senators Carl Levin and Debbie Stabenow, Congressman Bart Stupak and Dave Camp, a legislative aide from Congressman Pete Hockstra's office, Dan Wyant, Director, MDA, Wayne Wood, President Michigan Farm Bureau, several growers and processors from West Central and Northwest Michigan and

Wood, President, Michigan Farm Bureau, several growers and processors from West Central and Northwest Michigan and me. Dan Wyant MC'd the program. The crop situation and economic impacts were discussed. Each of the legislators indicated a strong commitment to try to help the industry.

An economic analysis of the impact to the cherry industry in Michigan, Utah and Wisconsin was developed this past week by Dr. Don Ricks, working with several people from the industry. This analysis was provided to the Senators and Congressmen. Sarah Black, National Legislative Council for Michigan Farm Bureau, who was also present at the meeting is providing excellent follow-up with our Federal legislators.

Our U.S. Senators and Congressmen are working hard on our behalf! We greatly appreciate their interest and support! We also want to thank the Michigan Farm Bureau and Michigan Department of Agriculture for their dedication to assist the cherry industry at a time of such great need.

CIAB WEEKLY UPDATE (Edited from CIAB Raw Product Report, Week Ending 7/20/02)

SW Michigan harvest complete at 7.1M lbs, slightly over processor estimate of 5.5M. WC Michigan at 4.0M lbs to date (processor estimate – 6.0M); expect harvest to be complete by early next week. No harvest last week in NW Michigan. NY at 5.3M (15M estimate); expected to pick close to estimate. WA at 4.8M (17M est.); triple digit temperatures are causing concern for soft fruit; expect to reach estimate. UT at 2.3M (4.0 est.); expected to not exceed estimate. Total year to date (YTD) U.S. harvest at 27.3 M lbs.

WEEKLY EVAPORATION and PRECIPITATION REPORT

Date	Evap/week	75% of Evap/week	Rainfall/wk at NWMHRS	Rainfall vs 75% of Evaporation	YTD Rainfall vs 75% Evaporation
5/7	1.10	0.83	1.20	+0.37	+0.37
5/14	0.99	0.74	1.04	+0.30	+0.67
5/21	0.98	0.74	0.34	-0.40	+0.27
5/28	1.22	0.92	0.90	-0.02	+0.25
6/4	1.44	1.08	1.94	+0.86	+1.11
6/11	1.28	0.96	0.14	-0.82	+0.29
6/18	0.69	0.52	1.81	+1.29	+1.58
6/25	1.65	1.24	0.94	-0.30	+1.28
7/2	1.97	1.48	0.05	-1.43	-0.15
7/9	1.91	1.43	0.49	-0.94	-1.09
7/16	2.09	1.57	0	-1.57	-2.66
7/22	1.94	1.46	0.34	-1.12	-3.78
Totals	17.17	12.97	9.19		

[ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2002 \(*\)](#)

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Bill Klein, kleinw@pilot.msu.edu
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