



**Northern Michigan FruitNet 2005**  
***Weekly Update***  
**NW Michigan Horticultural Research Station**

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District Horticulturist

[Nikki Rothwell](#)

District Fruit IPM Agent

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Leelanau Extension Director

**September 6, 2005**

**GROWING DEGREE DAY ACCUMULATIONS as of Sept. 5, 2005**  
**at the NWMHRS**

Year	2005	2004	2003	2002	2001	15 yr. Avg.
GDD42	3488	2772	3054	3134	3297	3072.1
GDD50	2375	1703	1969	2138	2195	2002.1

**GROWTH STAGES AT NWMHRS (8/23/05)**

**Apple: Red Delicious:** 69 mm fruit; **Mac:** 73 mm fruit

**Pear:** 60 mm fruit

**Sweet Cherry:** Harvested

**Tart Cherry:** Harvested

**Apricot:** Harvested

**Plum:** 33 mm fruit

**Grapes: Chardonnay:** green fruit

**WEATHER**

The NW area received much needed rain at the end of August, but September has started out sunny and dry, with cool nights. Temperature accumulations are still running ahead of the 15-year average.

**CROP REPORT**

**Apple** harvest is underway here in the northwest. **EarliGold** harvest is in full swing, while **Gingergolds** and **Paula Reds** are now in the selective harvest phase. Apple quality is very good at this time. **Codling moth** trap catches are down from the past few weeks; the lowest counts we have seen all season. However, codling moth (CM) continues to be a pest for growers this year, especially as resistance may be playing an unexpected role in CM control in the NW region. **Obliquebanded leaf roller** numbers are low in apple, while trap catches remain high in adjacent unsprayed cherry blocks. **Oriental fruit moth** trap catches are still high at this time. At the NWMHRS we have only captured one **apple maggot** fly thus far this season, which is unlike trap counts in other parts of the state.

In **cherries**, we are starting to see **cherry leaf spot** (CLS) show up on new growth. Both sweet and tart cherries are showing symptoms of CLS, especially in blocks that did not receive a post-harvest fungicide application. Cherry fruit flies are still flying, but numbers are declining from prior weeks.

**Peach** harvest is underway, and **pear** harvest has also begun in the past week. Both fruits look exceptional in quality.

### **THIRD GENERATION CODLING MOTH: COUNT ON IT!**

**David Epstein, MSU IPM Program; Carlos Garcia-Salazar, MSU Extension;  
John Wise and Larry Gut, MSU Entomology**

The incidence of unusually high daily temperatures and overall degree day accumulations registered this summer in Michigan will result in a third generation of codling moth (CM) for most of the state. Using photoperiod and temperature data from weather stations around the state, a model developed by Drs. Carlos Garcia-Salazar and Mark Whalon predicts full third generation CM activity for all growing regions of the state south of Bear Lake in Mason County ([Table 1](#)). Dr. John Wise, at TNRC in Fennville, reports that third generation began August 18 at TNRC.

Third generation adults will mate, the females will lay eggs, and growers will find worms in their apples at harvest time if control measures are not taken to manage this third generation. Also keep in mind that eggs laid on harvested fruit will hatch in the packing-house or on the processing line, further exacerbating problems for growers not taking actions to control the third CM flight.

The third generation is often referred to as a suicide generation, because under average Michigan weather conditions, the larvae that hatch from third generation eggs do not have enough time to mature to the overwintering fifth larval instar life stage. This year a large percentage of larvae will enter diapause and therefore contribute to the next season's population.

Important considerations for third generation CM control include predicted harvest dates for different cultivars and associated pre-harvest (PHI) and re-entry intervals (REI) for the different control materials (Table 2). Options for controlling CM include conventional broad-spectrum insecticides, like the organophosphate (OP) compounds, Guthion and Imidan and a number of pyrethroid insecticides. These materials are applied primarily targeting CM egg hatch, beginning at 250 GDD post biofix. Apple growers should be aware that resistance to the OP compounds has been detected in Michigan orchards across the state, most extensively in the Fruit Ridge and southwest production areas. The levels of resistance detected were high enough that heavy dependence on OP's for CM control would likely have failed to protect the crop from infestation.

Among the newer insecticides for CM control registered over the past few years are the insect growth regulators Rimon and Intrepid. Rimon acts by suppressing development within the egg, as well as larvae that consume it. Hatching of eggs laid by treated adults will also be inhibited. Eggs are particularly susceptible to these products when laid on top of sprayed residue, thus sprays are timed earlier than most other CM control materials. Suggested timing for the first application is biofix plus 100 GDD.

Intrepid provides good control of CM with a residual action of about 10 to 14 days. This product is an insect growth regulator that primarily affects CM larvae, but also has some activity on eggs and has sublethal effects on adults. The best results have been achieved by applying the first spray at biofix plus 150 to 200 GDD to take advantage of the sublethal effects. The addition of an agricultural adjuvant is recommended to improve initial spray deposition.

The neonicotinoids, Assail and Clutch, are another group of compounds that have recently become available for CM control. Assail will provide good control of CM with a residual action of 10 to 14 days. Proper timing and coverage is required to achieve control. The best results have generally been achieved when the first application is made prior to the start of egg hatch (ca. biofix plus 150 to 200 GDD). Assail is labeled for CM control at the rate of 2.5 to 3.4 ounces per acre, but the high rate has shown better performance, especially for second generation CM.

Clutch, a new neonicotinoid registered for use in pome fruits, is a broad-spectrum material targeting CM as well as aphids, leafhoppers, PC, STLM, OFM and pear psylla. Trials conducted at the TNRC in 2004 showed Clutch to be most effective

against CM applied at the egg hatch timing of 250 GDD and at the high rate of 6-oz/ac rate. Significantly less control was achieved using a lower rate of 3-oz/ac.

Danitol can provide good control of CM. It is highly active and fast acting on all live stages, though residual activity is limited. SpinTor is not typically used for CM control, although its strong activity on eggs and its short PHI may be useful for third generation control considerations. Sevin is a carbamate insecticide not typically used for CM control, but with a 3 day PHI, it may be useful for control of CM adults and larvae very near harvest.

Granulosis virus is another material with a very short REI and PHI. This is a naturally occurring virus that goes by the scientific name of *Cydia pomonella* granulovirus (CpGV), and is only active on the larval stage of codling moth. Two CpGv products were available for use last year, Cyd-X and Virosoft. Our MSU on-farm trials and grower feedback indicated both performed well. Consult [June 1, 2004 Fruit CAT Alert](#) article for a detailed discussion of CpGv and its use. Our overall experience is that frequent application of a low rate of product is the best approach for using this biopesticide. ([Figure 1](#))

**Table 1. 2005 Estimated percentage of Diapause induction in West Michigan as a function of temperature and photoperiod for selected growing regions (\*)**

Location	GDD50 April 1 to August 4	Percent Diapause Induction of 2nd generation	Percent Diapause Induction of 3rd Generation	Extent of 3rd Generation codling moth
Traverse City	1,681	37	-	Partial
Bear Lake	1,670	35	-	Partial
Sparta	1,761	10	36	Complete
Fennville	1,789	10	37	Complete
Hartford	1,967	10	34	Complete
Benton Harbor	1,925	10	38	Complete

**Table 2. Insecticides for third generation codling moth control**

Compound Trade Name	Life-stage Activity	Total Allowable product/acre/yr*	Pre-Harvest Interval*	Re-Entry Interval*
Guthion**	Eggs, Larvae, Adults	8 lbs	14 day	14 day
Danitol	Eggs, Larvae, Adults	42.6 oz	14 day	24 hr
Rimon	Eggs, Larvae	150 oz	14 day	12 hr
Intrepid	Eggs, Larvae	64 oz	14 day	4 hr
Imidan	Eggs, Larvae, Adults	30 lbs	7 day	24 hr
SpinTor	Eggs, Larvae	29 oz	7 day	12 hr
Assail	Eggs, Larvae, Adults	13.5 oz	7 day	12 hr
Clutch	Eggs, Larvae, Adults	6.4 oz	7 day	12 hr
Sevin	Adult, Larvae	15 lbs ai	3 day	12 hr
Granulosis virus	Larvae	Varies by product	4 hr	4 hr

\* For apples only

\*\* 21 day PHI if more than 2 lb rate of Guthion 50W

**Table 3. 2005 predicted peak harvest dates.**

Full bloom date				Predicted harvest date			
Station	McIntosh	Jons	Reds	McIntosh	Jons	Reds	Observer
SWMREC	5-2	5-5	5-6	9-4	9-20	9-26	Shane
Deerfield	5-8	5-9	5-10	9-8	9-27	10-4	Tritten
Flint	5-8	5-9	5-10	9-9	9-28	10-5	Tritten
Peach Ridge	5-7	5-8	5-9	9-8	9-25	10-2	Schwallier
Ludington	5-8	5-10	5-11	9-10	9-30	10-8	Danilovich
NWMHRS	5-20	5-22	5-23	9-14	10-6	10-13	Nugent

### Additional Northwest Michigan Codling Moth Notes

Codling moth resistance has been documented in our area, which means OP's (Guthion and Imidan) may not be effective against the third generation CM. However, adults have traditionally developed resistance before larvae, so these chemicals may still have activity against the larvae. To date, we have not identified where resistance is located throughout the NWM area, nor

may still have activity against the larvae. To give us a better idea where resistance is located throughout the NW area, we would like to know if you have evidence that OP's are not as effective on CM as in the past. Please call the NWMHRS (946-1510) if you suspect resistance in your orchard.

For other CM control options, Danitol is a good choice at this time, although this chemistry received 'good' rating in the pest management guide; the reason for this score is due to its short-lived activity in the field and its resistance potential. Also, this product is highly toxic to predator mites, so if plant parasitic mite populations are already elevated, another product may be a better choice. SpinTor, although an expensive option, is a good choice if there is obliquebanded leaf roller pressure in the orchard as well as CM, as this chemical targets all Lepidoptera. Plus, SpinTor has a 7-day PHI. Granulosis virus is another expensive product that would be a good choice for a tank-mixed spray to reduce CM populations for next season. One of the shortcomings of CM virus is that it is slow-acting, and since fruit is near harvest, any damage may be too much. However, a tank mix of virus with a knockdown would be optimal at this time.

Codling moth trapping should continue throughout this season to monitor for this third generation. There is a lot of variability in trap numbers in the NW area, so continuing to trap for CM is highly recommended.

### Apple Maturity Testing

This year the NWMHRS will again be testing apples for maturity. Results will be sent via fax and email to past apple maturity list subscribers and results will be put on the pome fruit section of the code-a-phone (947-3063). The maturity newsletter and code-a-phone will be updated weekly on Wednesdays. If you have not received this information in the past and wish to subscribe to the list, please contact the NWMHRS (231-946-1510) or [nwmihort@msu.edu](mailto:nwmihort@msu.edu).

### Grower Grant Writing Workshop

Nikki Rothwell, District Fruit IPM

The North Central Region Sustainable Agriculture Research and Education program (NCR-SARE) has posted its 2005 call for Farmer Rancher Grant

Proposals at [www.sare.org/ncrsare/cfp.htm](http://www.sare.org/ncrsare/cfp.htm). Farmers and ranchers in Michigan and the eleven other North Central Region states are eligible to apply.

The money can be used to fund projects that 1) test, evaluate, and adapt sustainable agriculture practices for farming operations; 2) conduct learning circles, educational events, field days or demonstrations to get sustainable agriculture information to farmers; 3) develop new technologies for sustainable agriculture; or 4) create or modify equipment for sustainable agriculture. The project may focus on adults, youth or both. There is a substantial amount of money available to growers this year. Overall, about \$400,000 has been allocated. An individual farmer may receive a grant of up to \$6,000 and a group of three or more unrelated farmers may receive up to \$18,000.

In order to gain more knowledge about writing a grant to this organization, I have asked Dr. Susan Smalley to come up and give us some pointers. She will hold a grant writing workshop that is aimed at NW growers and these monies. The workshop will be held from 12 - 4 at the NWMHRS on September 27, 2005; lunch will be provided. Although grant writing seems daunting, Susan and I will be available to help you through the **ENTIRE** process—this is an exciting opportunity, so please come and learn more about it! If you plan to attend, please call the NWMHRS to register (231-946-1510).

Seasonal Evaporation & Precipitation				
Beginning May 1, 2005, at NWMHRS				
Date	Evap/week (in.)	75% of Evap/week	Rainfall/wk at NWMHRS (in.)	Rainfall minus 75% of Evaporation
5/2	0.31	0.23	0.01	-0.22
5/9	1.08	0.81	0.07	-0.74
5/16	0.76	0.57	0.53	-0.04
5/23	1.00	0.75	0.07	-0.68

5/23	1.00	0.75	0.87	0.12
5/30	1.32	0.99	0.07	-0.92
6/6	1.60	1.20	0.05	-1.15
6/13	1.90	1.43	0.12	-1.31
6/20	1.15	0.86	0.30	-0.56
6/27	2.02	1.52	0.03	-1.49
7/4	2.15	1.61	0.45	-1.16
7/11	1.82	1.37	0.02	-1.35
7/18	1.62	1.22	0.34	-0.88
7/25	1.57	1.18	0.27	-0.91
8/1	1.70	1.28	1.15	-0.13
8/8	2.01	1.51	0.36	-1.15
8/15	1.29	0.97	0.34	-0.63
8/22	1.28	0.96	1.74	0.78
8/29	1.27	0.95	0.35	-0.60
9/5	1.51	1.13	0.02	-1.11
Totals	27.36	20.52	7.09	-13.43

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, 2005

**Please send any comments or suggestions regarding this site to:**

Bill Klein, [kleinw@msu.edu](mailto:kleinw@msu.edu)

Last Revised: 9-6-05



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**September 13, 2005**

### GROWING DEGREE DAY ACCUMULATIONS as of September 12, 2005 at the NWMHRS

Year	2005	2004	2003	2002	2001	15 yr. Avg.
<b>GDD42</b>	3690	2935	3248	3345	3476	3233.6
<b>GDD50</b>	2521	1810	2107	2293	2318	2107.9

### CROP REPORT

Jim Nugent, District Horticulturist, MSUE

Dr. Nikki Rothwell, District Fruit IPM Educator

**Apples:** Third generation **codling moth** are not emerging quite as soon as we expected. This year had so many days when temperatures exceeded the upper temperature developmental threshold for codling moth that using degree days based only on the lower temperature threshold slightly missed the mark. Still, a partial third generation is expected. The first of this generation adult flight to occur in significant numbers was trapped in a high population site during the warm evening of September 12.

### Apple Maturity Report

The apple maturity report is published on Wednesday during the fall. If you received the apple maturity report in the past via fax and wish it to continue this year, you must call us to re-sign up. The electronic memory in the fax machine crashed and all past subscribers were lost. Reports are also available via email and on the Station [website](#).

### MISCELLANEOUS

#### Mating Disruption to Manage Codling Moth

By Nikki Rothwell, District Fruit IPM Educator

Codling moth (CM) has become a serious problem in some NW Michigan orchards. The problem has become more difficult with the development of codling moth resistance to organophosphate insecticides that has now been documented at two sites in NW Michigan, but is also potentially present in some other locations. One of the alternatives being explored to address this growing problem is the use of codling moth mating disruption. On Tuesday, September 20, Don Thompson, DJS Consulting, and a representative of Pacific Biocontrol, and I will meet to discuss the potential for using CM mating disruption in NW Michigan. Growers, scouts and consultants are invited to join them at either of two sites. At 9:00 a.m., they will be at the Josh Wunsch farm on Phelos Road Old Mission Township (site of the IPM update sessions) then at noon a second



the soon. We will have a meeting at the NWMHRS. Donuts in the morning and lunch at noon will be provided. Please call the NWMHRS (946-1510) if you plan to attend so we can have the right amount of food at each site.

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### Weather-based Integrated Pest and Crop Management Conference

Nikki Rothwell and Jim Nugent

A one-day conference will be held to discuss the future development of a weather-based integrated pest and crop management system to aid Michigan agriculture and green industries with their production decisions. The event will take place on October 17 at the Kellogg Center on the Michigan State University campus. The conference will begin at 9:00 a.m. and conclude at 5:00 p.m.

The organizing committee invites producers, consultants, researchers and field educators to come together to learn about the current systems and latest developments, as well as help plan for the future of a high quality sustainable system that serves Michigan's plant production industries.

We would like to see a good turnout from the fruit industry to help drive this process. Your input will be used to plan for a high-quality, sustainable weather-based integrated pest and crop management system.

If you are interested in attending this one-day event, please RSVP to Angela Jernstat by email at: [jernsta2@msu.edu](mailto:jernsta2@msu.edu) or mail your registration information to: 243 Natural Science Building, MSU, East Lansing, MI 48824. There is no registration fee. Registration is limited to 100.

For more information, view at [www.ipm.msu.edu](http://www.ipm.msu.edu)

<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>
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5/23	1.00	0.75	0.87	0.12
5/30	1.32	0.99	0.07	-0.92
6/6	1.60	1.20	0.05	-1.15
6/13	1.90	1.43	0.12	-1.31

6/20	1.15	0.86	0.30	-0.56
6/27	2.02	1.52	0.03	-1.49
7/4	2.15	1.61	0.45	-1.16
7/11	1.82	1.37	0.02	-1.35
7/18	1.62	1.22	0.34	-0.88
7/25	1.57	1.18	0.27	-0.91
8/1	1.70	1.28	1.15	-0.13
8/8	2.01	1.51	0.36	-1.15
8/15	1.29	0.97	0.34	-0.63
8/22	1.28	0.96	1.74	0.78
8/29	1.27	0.95	0.35	-0.60
9/5	1.51	1.13	0.02	-1.11
9/12	1.16	0.87	0.59	-0.28
Totals	28.52	21.39	7.68	-13.71

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ACTUAL AND PREDICTED DEGREE-DAY  
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Last Revised: 9-13-05







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September 20, 2005

GROWING DEGREE DAY ACCUMULATIONS as of Sept. 19, 2005 at the NWMHRS						
Year	2005	2004	2003	2002	2001	15 yr. Avg.
GDD42	3865	3111	3419	3510	3590	3375.9
GDD50	2640	1930	2222	2402	2376	2195.9

### SUMMARY OF SUMMER, 2005: NORTHWEST

By Nikki Rothwell, District Fruit IPM Educator

The summer of 2005 proved to be extremely hot and dry, which made it a good year for some insects and all mites, but a season with low disease pressure. Growing degree days were much above normal throughout the season, and overall accumulations rivaled the hot year of 1991. The hot, dry weather resulted in substantial plant stress problems, but also resulted in high quality cherries, apples, and wine grapes.

**Apple: Scab** incidence was very low in most northwest orchards, although some growers fought some secondary infection later in the season. We did observe **fire blight** damage in many orchards due to the long drawn out bloom period, when the majority of the pathogen set in on tag bloom at the tail-end of pollination. **Mites** and **codling moth** proved to give growers a run for their money this season. With the hot and dry weather, many growers applied multiple miticides in apple in an attempt to reduce the extremely high mite populations. However, codling moth (CM) was the big worry in the northwest this season as this pest seemed to be in incredibly high numbers in many orchards. In addition, CM resistance to organophosphates was confirmed for the first time north of Manistee County. Two orchards were tested, and both were found to have some level of resistance. Very few **apple maggots** were detected in the northwest, even after some rain later in the season.

Apple quality in most orchards is high. However, in a few sandy sites, we have found a considerable amount of **boron deficiency** in the fruit. Affected fruit develop corky tissue deep in the flesh early in the season, so by harvest fruit was badly misshapen and sometimes exhibited cracking. The early season droughty conditions were the cause of the severe boron shortage. The condition was most prevalent on Northern Spy and was also found at damaging levels on Golden Delicious and Rome. There was also concern over apples sizing properly due to the lack of moisture, but most apples have recovered with later season rain and sized well. Brix levels in most apple varieties were higher than in past seasons.

**Cherry.** With little rain early in the season, **cherry leaf spot** was hard to find in almost all cherry orchards, which was welcome relief for growers after the wet 2004 season. **Brown rot** caused some problems in sweet cherry blocks, even with low moisture. We are investigating the potential reasons for the higher than expected brown rot levels, and we are planning to survey multiple orchards around the area in 2006 for sensitivity to sterol inhibitor fungicides. Again insects and mites were the utmost cause of concern this year in cherry. **Plum curculio** was a major problem in a few blocks. We did not detect much plum curculio or see much damage early in the season, despite fairly warm temperatures, then weevils showed up in large numbers and quickly laid eggs. **Cherry fruit fly** numbers, on the other hand, were considerably lower than expected. **Two spotted spider mites** (TSSM) took many growers by surprise as the hot dry temperatures drove the mites out of the parched ground cover early in the season and accelerated the number of TSSM generations. More miticides were applied in cherry both pre- and post-harvest than has occurred in many years. **Obliquebanded leaf rollers** are becoming a concern in a few blocks of cherries where resistance to organophosphates is apparently occurring.

Tart cherry fruit quality was also excellent in 2005, and most cherry grades were in the high 90's, and sweet cherries enjoyed a year with no fruit cracking, but lack of size was in issue in some blocks. Many trees, however, did not fair so well in the droughty conditions. Trees showed drought stress simply from lack of moisture, but many trees were damaged by the combination of hot, dry weather with ethephon applications. Many orchards sustained **ethophon induced (or enhanced) leaf drop and gummosis**. Most severely impacted were sweet cherries, though some tart cherries were also affected. The extent of tree damage from this year's combination of heat, drought, and ethephon will not be known until after this winter—we are hoping for a mild one!

**Firing** also occurred in some blocks of tart cherries. This condition causes sudden browning of leaves on spurs, terminals, or entire limbs. Firing is caused by severe drought, but it often occurs when high mite populations are combined with drought.

**Strawberry.** Heat during harvest shortened the strawberry season and hurt yields.

**Plum.** **Mites** were also a serious problem this year in plums. The lack of early season rain should result in less **black knot** symptoms showing up in 2006.

## NW MICHIGAN WINE GRAPE 2005 SEASON RECAP

By Duke Elsner, Regional Viticulture & Wine Agent

Winter low temperatures were reasonably mild in the region, resulting in little bud mortality. Vines remained in dormancy during the first wave of spring and did not suffer any damage when cold temperatures returned to our area. With the "re-start" of spring bud development and early shoot growth were rapid. Weather during bloom was mostly excellent, and many cultivars set large crops which required later thinning. Established vineyards did not seem to suffer from our severe drought and heat during the summer months; there were significant problems in newly planted and young vineyards, however. Warm and sunny weather hastened the crop development, leading to harvest dates one to two weeks ahead of normal. If good weather persists, 2005 could be one of our best vintages ever in NW Michigan.

Other than a few problems with **potato leafhopper** in the first half of summer, insect pests were generally at low populations. **Two-spotted spider mites** needed treatment at a few vineyards after their ground cover weed hosts senesced. Only a few vineyards had detectable levels of **grape berry moth**. The **large sphinx moth larvae** were quite low in numbers this year. **Yellow jackets** are active in high numbers and pose a threat to fruit quality and harvesters this fall.

Diseases were of minor importance in 2005. **Powdery mildew** was easily managed, and **downy mildew** was found in only a few sites. Thus far, **cluster rot** problems are very minor.

### Seasonal Evaporation & Precipitation

Beginning May 1, 2005, at NWMHRS

Date	Evap/week (in.)	75% of Evap/week	Rainfall/wk at NWMHRS (in.)	Rainfall minus 75% of Evaporation
5/2	0.31	0.23	0.01	-0.22
5/9	1.08	0.81	0.07	-0.74
5/16	0.76	0.57	0.53	-0.04
5/23	1.00	0.75	0.87	0.12
5/30	1.32	0.99	0.07	-0.92
6/6	1.60	1.20	0.05	-1.15
6/13	1.90	1.43	0.12	-1.31
6/20	1.15	0.86	0.30	-0.56
6/27	2.02	1.52	0.03	-1.49
7/4	2.15	1.61	0.45	-1.16
7/11	1.82	1.37	0.02	-1.35
7/18	1.62	1.22	0.34	-0.88
7/25	1.57	1.18	0.27	-0.91
8/1	1.70	1.28	1.15	-0.13
8/8	2.01	1.51	0.36	-1.15
8/15	1.29	0.97	0.34	-0.63
8/22	1.28	0.96	1.74	0.78
8/29	1.27	0.95	0.35	-0.60
9/5	1.51	1.13	0.02	-1.11
9/12	1.16	0.87	0.59	-0.28
9/19	1.38	1.04	0.82	-0.22
Totals	28.52	21.39	7.68	-13.71

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, 2005

**Please send any comments or suggestions regarding this site to:**

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