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ABOUT

NEWS & STORIES

AFFILIATED PROGRAMS

PROJECTS

Home

Background
& Projects

Calendar

Directions

InfoVideos

Links

Extension
Expert Search

Publications

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Northern Michigan FruitNet 2006 Weekly Update NW Michigan Horticultural Research Station

[Jim Nugent](#) District Horticulturist [Nikki Rothwell](#) District Fruit IPM Agent [Bill Klein](#) Farm Mgr, NWMHRS
[Duke Elsner](#) Agricultural & Regional Viticulture Agent [Jim Bardenhagen](#) Leelanau Extension Director

September 5, 2006

Growing Degree Day Accumulations as of September 4, at the NWMHRS

Year	2006	2005	2004	2003	2002	16yr. Avg.
GDD42	3401	3459	2741	3037	3112	3074.2
GDD50	2261	2355	1680	1959	2124	2009.4

WEATHER

No precipitation occurred this past week. However, we had rain the previous week, though amounts in NW Michigan varied considerably. Evaporation rates the past two weeks have dropped to levels not seen since May.

FRUIT REPORTS

Tree Fruit

Apples: Ginger Gold and similar earlier maturing varieties are being harvested for local markets. We will be conducting apple maturity testing at the NWMHRS, so growers are invited to drop off 10-12 apple samples for maturity analysis. Samples should be dropped off at the station on Mondays or Tuesday mornings, and we will perform analysis on Tuesdays. Codling moth numbers are still down at the NWMHRS. We are still catching **obliquebanded leafrollers (OBLR)**, with an average of 8 moths/trap this week. We caught no apple maggots on red sticky spheres.

Cherry: Defoliation from **cherry leaf spot** is becoming more widespread around the region. In some blocks, we are still catching elevated numbers of **cherry fruit flies**. We have observed **firing** in cherry blocks, both in tarts and sweets. **Two-spotted spider mites (TSSM)** and the dry conditions are the likely culprits of the firing. TSSM populations are very high, and growers can easily find these mites collecting down at the base of the trees. A reminder to growers that TSSM turn an orange color in the fall, which can be mistaken for European red mites; however, TSSM spin webbing that can be readily seen with high two spot populations. **OBLR** catches continue to be on the high side with an average of 15 moths/trap.

Small Fruit

Grapes: Verasion is complete in NW Michigan for nearly all cultivars, and color development has been excellent thus far. We will begin brix readings this week at the NWMHRS. Marquis table grapes are ready for a first picking. **Powdery mildew** has been a perplexing problem in a small number of vineyards, resulting in severe cluster infections and berry drop despite tight fungicide treatment schedules. **Bunch rots** have not been reported as of yet. **Sphinx moth larvae** are now large and their feeding injury is readily apparent; mature vines can sustain quite a lot of defoliation from these larvae without consequence. **Yellow jacket** and **raccoon** feeding injury has been a problem in many vineyards, although **bird** depredation seems lighter than usual thus far.

Late Season Codling Moth Management In Apples
John Wise, MSU Trevor Nichols Research Complex (TNRC)

Codling moth adult flight has increased over the last two weeks at the TNRC, indicating that egg laying will continue into September in some locations. Site specific monitoring is the best way to determine if control action is needed on your farm. The following table includes a list of insecticides, the codling moth life-stages that they are active on, and label information relevant to late season spraying.

2006 Trevor Nichols Research Complex Trapline Data



Compound Trade Name	Life-stage Activity	Total Allowable product/acre/yr*	Pre-Harvest Interval*	Re-Entry Interval*
Guthion 50WP**	Eggs, Larvae, Adults	8 lbs	14 day	14 day
Danitol 2.4EC	Eggs, Larvae, Adults	42.6 oz	14 day	24 hr
Rimon 0.83EC	Eggs, Larvae	150 oz	14 day	14 day
Intrepid 2F	Eggs, Larvae	64 oz	14 day	4 hr
Imidan 70WP	Eggs, Larvae, Adults	30 lbs	7 day	24 hr
Baythroid 2EC	Eggs, Larvae, Adults	5.6 oz	7 day	12 hr
SpinTor 2SC	Eggs, Larvae	29 oz	7 day	12 hr
Entrust 80WP	Eggs, Larvae	9 oz	7 day	12 hr
Assail 30SG	Eggs, Larvae, Adults	32 oz	7 day	12 hr
Clutch 50WDG	Eggs, Larvae, Adults	6.4 oz	7 day	12 hr
Sevin	Adult, Larvae	15 lbs ai	3 day	12 hr
Granulosis virus	Larvae		4 hr	4 hr

* for apples only

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

CIAB MEETING

The Cherry Industry Administrative Board (CIAB) is holding its September meeting at the NW Michigan Horticultural Research Station on **September 8, 2006, 8:00 - noon**. The *Optimum Supply Formula* will be finalized at this meeting, and Mr. Jeff Manning, consultant for the Promotion Committee, will make a presentation about the work done so far on the promotion initiative. Growers are welcome and encouraged to attend the meeting and learn more about these issues.

Seasonal Rainfall and Evaporation Beginning May 1, 2006 at NWMHRS

Date	Rainfall/Wk (In)	Evap/week	75% of Evap	Rainfall minus 75% of Evaporation
5/2	0.00	1.40	1.05	-1.05
5/9	0.03	1.53	1.15	-1.12
5/16	2.02	0.68	0.51	1.51
5/23	0.61	1.09	0.82	-0.21
5/30	0.40	1.44	1.08	-0.68
6/6	0.05	1.62	1.22	-1.17
6/13	1.08	1.43	1.07	0.01

6/20	0.51	1.92	1.44	-0.93
6/27	0.10	1.21	0.91	-0.81
7/4	0.30	1.69	1.27	-0.97
7/11	0.13	1.79	1.34	-1.21
7/18	0.18	2.04	1.53	-1.35
7/25	0.46	1.57	1.18	-0.72
8/1	0.78	1.69	1.27	-0.49
8/8	0.92	1.70	1.28	-0.36
8/15	0.11	1.73	1.30	-1.19
8/22	0.01	1.40	1.05	-1.04
8/29	2.02	1.09	0.82	1.20
9/5	0.00	1.21	0.91	-0.91
Totals	9.71	28.23	21.17	-11.46

Insect and disease predictive information is available at:

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

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**ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2006**

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@msu.edu

Last Revised: 9-5-06

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PROJECTS

Home

Background
& Projects

Calendar

Directions

InfoVideos

Links

Extension
Expert Search

Publications

Staff

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September 12, 2006

FRUIT REPORTS

Tree Fruit

Apples: We will be conducting apple maturity testing at the NWMHRS, so growers are invited to drop off 10-12 apple samples for maturity analysis. Samples should be dropped off at the station on Mondays or Tuesday mornings, and we will perform analysis on Tuesdays. **Codling moth** numbers are down to zero this week at the NWMHRS. We are still catching **obliquebanded leafrollers (OBLR)**, with an average of 9 moths/trap.

FALL MITE EXPLOSION
Nikki Rothwell, District Fruit IPM Educator

We have observed **two-spotted spider mite (TSSM)** explosions in many tart and sweet cherry blocks around the area. During the growing season, TSSM can be detected on the undersides of the leaves where webbing is a notable characteristic of this mite species. TSSM are also easily recognized by their pale color with two dark areas, or spots, on either side of their bodies. However, in the fall the mites turn an orange color and lose their distinguishing two spots. During this time, they move down from the trees to overwinter in weeds, leaves, or soil under the tree. If trees are heavily infested at this time, growers can inspect the base of the tree trunk and expect to find a tent-like webbing covered with the fall colored TSSM. Due to the migratory behavior of late season TSSM, a miticide at this time is not recommended because these mites are moving to hibernating sites away from the cherry tree.

NEW MARKET OPPORTUNITIES FOR APPLES, PRUNES AND PEARS
By Jim Bardenhagen, CED, Leelanau Co.

A local broker is looking for apples, prunes and pears from NW Michigan. Mixed loads of apples, prunes and pears are possible and the amount desired is 1 semi-load (minimum) on up to 3 semi-loads a week. Several growers can work together to put together loads.

Apple Requirements:

Tree run but hand sorted so there are no cuts, broken skin, or major defects.
Need to be put in a cardboard bushel box (white or brown) holding at least 38lbs. The box is to be provided by the grower.
The broker will need to know the variety and see the apples before being picked.
The broker is paying \$7/bushel in cash at the time of shipment.
This looks like an opportunity for lower priced processing varieties that can be hand packed in cardboard boxes in the orchard or for varieties with some hail damage without serious cuts.

Prune Requirements:

Tree run but free of cuts and major defects.
Can be mechanically harvested but must be relatively clean.
Needs to be put in a 28-30lb cardboard box (white or brown) that is provided by the grower.
The broker is paying somewhere in the \$8-12/box in cash at the time of shipment.

Pear Requirements:

Tree run without cuts or major defects.
Needs to be in a bushel cardboard box (white or brown) that is provided by the grower.
Paying cash at the time of shipment, but the price is not established at this time.

If you are interested in the above market, please call Tom Gavin at 231-256-2163 or 616-560-1144 (cell).

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Bill Klein, kleinw@msu.edu

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ABOUT

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AFFILIATED PROGRAMS

PROJECTS

Home

Background
& Projects

Calendar

Directions

InfoVideos

Links

Extension
Expert Search

Publications

Staff

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September 19, 2006

Growing Degree Day Accumulations as of September 18, at the NWMHRS

Year	2006	2005	2004	2003	2002	16yr. Avg.
GDD42	3696	3841	2089	3399	3482	3387.8
GDD50	2445	2625	1916	2210	2368	2212.7

WEATHER

Temperatures have actually been below normal for about the past three weeks. This is in sharp contrast to a generally hot growing season. Degree day (DD) accumulations for most of the summer tracked about equal to last year's hot season but have fallen a little behind in the past three weeks. Still, 2006 has the fourth highest DD accumulation since 1990, behind only 1991, 2005 and 1998 (in decreasing order). Evaporation rates for the past two weeks were greatly reduced from earlier seasonal levels. Evaporation rates this season have been above average. Unfortunately, the above normal evaporation rate and hot weather were combined with below normal seasonal precipitation to cause the second year in a row of serious drought conditions. Precipitation data has been kept at the NWMHRS since 1982. An analysis of monthly totals last season revealed that precipitation was below average every month of the growing season (April through October) for the first time since we've collected data. So far this year, we have been below average every month except May. In most locations in NW MI, the drought in 2006 has not been as bad as in 2005, but many perennial plants are showing the effects of two years of hot, dry conditions. Rainfall from April through August at the NWMHRS totaled 11.2 inches for 2006, compared to 8.5 inches in 2005 and the past 25 year average of 14.0 inches.

FRUIT REPORTS

Tree Fruit

Apples: Apple production in NW Michigan is very low in 2006 due to a combination of spring frost damage and poor pollination conditions. Very little **apple scab** was observed in the northwest region this season, likely due to the similar hot and dry conditions we experienced in 2005. **Fire blight** was problematic in susceptible blocks and most was a result of the pathogen moving into the tag bloom blossoms later in the spring. **Codling moth** (CM) again was the primary pest of concern in apples. Many growers in all regions of the north reported CM stings and entries. Even growers with 'good' spray programs battled CM this season, most likely due to the large CM populations in many of the regions blocks. Spring frost resulted in a light crop load; therefore, female moths were competing for fewer egg laying sites, which resulted in high numbers of infested fruits. We tested four more blocks for organophosphate (OP) resistance in CM this season and found varying results: resistance was documented at 50% mortality in two blocks while two other blocks had little to no resistance in the CM population. Many apple growers also battled **obliquebanded leaf rollers** (OBLR) this year. **Mites** also became problematic in August and into harvest. Few **apple maggot flies** were detected in many blocks, even with rain coming at optimal times for adult emergence.

Cherry: Sweet cherries had a moderate crop in 2006. A late frost caused some scars on fruit. Dry conditions prior to harvest resulted in low fruit cracking, though some cracking occurred in the frost scars. The tart crop overall, was moderate in size, but it ranged from blocks with no crop to blocks with very heavy crops. Unfortunately, fruit quality was particularly poor due to exceptionally hot, windy conditions during the harvest season.

In cherry, we observed **powdery mildew** to be particularly problematic this season; powdery mildew is one disease that thrives in hotter, drier conditions than most other pathogens. Powdery mildew seemed to explode almost overnight in many tart cherry blocks, and growers then had a hard time eradicating the disease. **Cherry leaf spot** (CLS) was evident in some blocks, but overall this annual disease was at a low level around the northwest. **Brown rot** was a problem again this year in many sweet cherry blocks despite the hot and dry weather. We collected over 20 brown rot samples from sweet cherry blocks and 10 samples from tart cherries in order to screen these isolates for sterol inhibitor (SI) resistance during the coming

months.

Insect pressure was extremely high in cherry blocks this season. We observed elevated populations of **plum curculio** (PC), even in orchards that had not had problems in previous years. Growers reported many cherries, both sweet and tart, to have high numbers of PC stings for an extended time period throughout the early to mid-part of the season. **Cherry fruit fly** (CFF) numbers were also higher than we have seen in recent years. Last year's drought-like conditions may have played a role in increased CFF emergence as these insects are able to remain in the pupal stage for 1-2 years until they receive sufficient rainfall to emerge. In some cherry blocks, we were trapping over 100 flies per week. **OBLR** numbers were higher in cherry for the second year in a row, and this season we observed minimal larval feeding in both tart and sweet cherries. The adult catches were continually higher in the cherry blocks than our trap counts in our apple blocks. **Two-spotted spider mites** (TSSM) played a minor role in cherry throughout the season until well into August when we saw populations escalate and even cause firing in some blocks.

Small Fruit

Grapes: Wine grape bud break occurred after the spring frosts, which injured our tree fruits. Early shoot growth was rapid, with little injury from insects or disease; only a few sites had significant numbers of **climbing cutworms** or **flea beetles**. **Potato leafhoppers** arrived in the area a bit sooner than in previous years; early season injury was significant in many vineyards.

Very good weather during bloom resulted in full crops in most sites. Fruit reached pea size rapidly; berry touch in clusters followed quickly. Many cultivars developed very tight clusters this year.

Mid season shoot growth was vigorous, even in vineyards without irrigation. Canopies were dense, requiring topping and side-hedging for good light and air penetration. **Powdery mildew** was heavy in a few vineyard sites, even with intensive management efforts, but almost absent from other sites until very late in the season. Fungicide resistance is suspected in the trouble sites, but not yet proven. Insect problems were light through the summer; **rose chafer** numbers were far lower than usual, **potato leafhopper** numbers dropped off, and very few sites reported populations of **grape berry moth**. **Japanese beetle**, a new pest to northwest Michigan, showed up for the first time in vineyards this summer, but not at significant numbers.

Weather during veraison was very favorable for color and flavor development. However, cloudy, cool and rainy weather has significantly slowed fruit maturation in September. As a result, harvest dates might be more in line with an average year despite the advanced phenology of vine and fruit development from spring through veraison. **Grape berry moth** reached problem levels in a few vineyards late in the season; their injury lead to cluster rots as well. **Yellow jackets** and **paper wasps** have started to feed on fruits in many vineyards.

NWHR Wine Grapes Available to Purchase

If you are interested in trying some home wine making projects, or would like to try using some wine grapes for juices or preserves, the grapes at the Northwest Michigan Horticultural Research Station are available for sale this year.

The price is \$1.00 per pound for U-Pick. There are still hundreds of pounds of many popular wine varieties available, and the fruit quality is quite good this year. Contact Duke Elsner at (231) 922-4822 to reserve some fruit!

Still available:

Red varieties

Pinot Noir
Pinot Meunier
Orion
Regent

White varieties

Pinot Blanc
Riesling
Chardonnay
Viognier
Vignoles
Seyval
Traminette
Phoenix
NY 65.403.1

Seasonal Rainfall and Evaporation Beginning May 1, 2006 at NWMHRS

Date	Rainfall/Wk (In)	Evap/week	75% of Evap	Rainfall minus 75% of Evaporation
5/2	0.00	1.40	1.05	-1.05
5/9	0.03	1.53	1.15	-1.12
5/16	2.02	0.68	0.51	1.51
5/23	0.61	1.09	0.82	-0.21
5/30	0.40	1.44	1.08	-0.68
6/6	0.05	1.62	1.22	-1.17
6/13	1.08	1.43	1.07	0.01

6/20	0.51	1.92	1.44	-0.93
6/27	0.10	1.21	0.91	-0.81
7/4	0.30	1.69	1.27	-0.97
7/11	0.13	1.79	1.34	-1.21
7/18	0.18	2.04	1.53	-1.35
7/25	0.46	1.57	1.18	-0.72
8/1	0.78	1.69	1.27	-0.49
8/8	0.92	1.70	1.28	-0.36
8/15	0.11	1.73	1.30	-1.19
8/22	0.01	1.40	1.05	-1.04
8/29	2.02	1.09	0.82	1.20
9/5	0.00	1.21	0.91	-0.91
9/12	0.69	0.98	0.74	-0.05
9/19	0.40	0.62	0.47	-0.06
Totals	10.80	29.83	22.37	-11.57

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