WEATHER: The past two weeks have seen the return of more rain after approximately three weeks of dry weather during mid to late July. The NWMHSRS received 1.86" of rain the past two weeks. Degree day accumulations at the NWMHSRS continue to be well below the recent average. Base 50 is 228 DD below the 1990-2003 average, which is down 14.8%, while base 42 is down 202 DD, which is down 8.5%.

GROWING DEGREE DAY ACCUMULATIONS as of Aug. 9, 2004 at the NWMHSRS

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GROWTH STAGES at NWMHSRS (8/9/04)

- **Apple:** Red Delicious – 53 mm
- **Sweet Cherry:** Napoleon – harvested
- **Tart Cherry:** Montmorency – harvested
- **Apricot:** harvested
- **Plum:** European type – 29 mm
- **Grapes:** Chardonnay – berry touch

CROP REPORT

**Cherries:** Sweet cherry harvest is complete. Tart harvest is nearing completion. Montmorency quality was excellent early in the season, but has declined late in the season due to a combination of soft fruit problems and wind. Balaton harvest began late last week and will continue into next week. Cherry leaf spot has been a serious challenge this season in all cherries. Post harvest application of Bravo is highly encouraged.

**Apples:** Codling moth second generation flight should be getting underway very soon, but has not yet begun in the vicinity of the NWMHSRS. The extended first generation flight, combined with the cool weather, will result in only a partial second-generation emergence in NW MI, i.e., a portion of the first generation will go directly into diapause for over wintering. Apple maggot trap catches generally remain low.

**Grapes:** Berry touch has begun in Chardonnay and many other varieties, so we have reached the time for the last sprays that can possibly penetrate clusters and provide decent coverage of the berries. Foliage condition still looks great in most vineyards, even on the unsprayed row at the NW Station. However, growers need to look past the foliage layer, as powdery mildew is very active on clusters in some vineyards with apparently clean foliage. It is time for leaf nullinn in varieties that
Mildew is very active on clusters in some vineyards with apparently clean foliage. It is time for leaf pulling in varieties that benefit from this practice. **Potato leafhopper** is the only insect pest of note at this time. Growers should watch out for the larger sphinx moth larvae in young vineyards.

**Other:** **Apricot** harvest is underway. **Split pits** in **peaches** are a common occurrence this year. Be particularly vigilant with **brown rot** control in all **unharvested stone fruits**, due to the early season conditions. **Black knot** is common in plums from '03 infections. Infections from the excellent year for black knot this season will mostly appear in '05. It may not be a pretty sight next year!

**POST HARVEST PRUNING IN CHERRIES**

By Jim Nugent, District Horticulturist and Jim Flore, Dept. of Horticulture, MSU

For over a decade the cherry industry has been doing more and more pruning of bearing trees between cherry and apple harvest. This is a time of year when we have labor available and don't have to fight the inefficiencies inherent with dormant pruning in the snow and cold.

To date we have observed no negative impact on winter hardiness of trees, nor any effect on spring flower bud hardiness. However, because of the concern for potential increased susceptibility to winter injury, and possible influence on next season's growth, we suggest the following precautions:

- Do not prune after mid September.
- Avoid exceptionally heavy pruning, particularly of sweet cherries, at this time.
- Do not prune young tart or sweet cherries that have not filled their space in late summer.

Having said that extra heavy pruning should be avoided in late summer, I want to comment that many sweet and tart orchards need exactly that! Too many orchards are getting too tall for the spacings at which they are planted. The result is excessive shading in the lower canopy which results in loss of lower fruiting wood, trees too tall to get adequate spray coverage for controlling cherry leaf spot and brown rot, and a large drop for cherries onto the harvester, which may increase fruit bruising and softening.

This week we conducted a preliminary study to evaluate the effect of drop height on soft fruit problems in tarts. While this preliminary study is very limited in scope, the data show a strong trend towards increased damage as the drop height increases. For all of these reasons, it is very important that tree height be limited!

Some suggestions for tree height to optimize light reception:

- For triangular shaped trees, the height of the bearing area of the tree should be no more than three times the clear alleyway width. The clear alleyway is the distance between the branches of the trees from row to row, not the plant distances between rows. For example, a six-foot clear alleyway would imply the tree height could be up to 3 X 6 ft., or 18 feet plus about four feet from the ground to the base of the desired fruiting area, for a total height of about 22 feet.
- For a rectangular shaped tree, the height of the bearing surface should be twice the drive alleyway distance. For example, again assuming a six foot clear alley-way implies a height of 2 X 6 ft., or 12 feet plus four feet from the ground to the desired base of the fruiting area, for a total height of 16 ft.

These formulas address light only. You need also to consider the capability of your sprayer to adequately cover tops of trees and possibly the propensity of the block to have soft fruit problems. We hope to be able to collect more data on the effect of tree height on soft fruit in coming years.

**MISCELLANEOUS**

**NW Michigan Horticultural Research Station Celebrates 25th**

**Reminder:** **Thursday, August 26th** is the date for the NWMHRS's annual Open House and 25th Anniversary Celebration beginning at 3:00 p.m. Additional details will be sent out in the near future.

**2004 CA Clinic To Be Held.**

The 2004 CA Clinic will be held this year at the Clarksville Horticulture Experiment Station in Clarksville, MI, **Friday, August 13, 2004.** Registration will start at 8:00 a.m. and the day’s program will conclude at 4:45 p.m. The registration fee for the

Report Highlights: 1) For the week ending August 7, NW Michigan reported 76.0 M lbs harvested year to date (YTD), with CIAB estimate at 85M. Total US YTD is 196.6 M lbs, with USDA estimate at 215. Only NW Michigan and Wisconsin continue to harvest. If both NW Michigan and Wisconsin pick out at estimate, the 2004 crop would be 208.6M lbs, or 6.4 M lb less than estimate. 2) On August 10, USDA announced the invitation to bid approximately 3.5 M lbs RPE of dried cherries for the needy family program.

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@msu.edu
Last Revised: 8-10-04
Northern Michigan FruitNet 2004  
Weekly Update  
NW Michigan Horticultural Research Station

**August 17, 2004**

Dear Friend:

You and your spouse or guest are cordially invited to attend the NW Michigan Horticultural Research Station's 25<sup>th</sup> Anniversary Celebration on **August 26, 2004**. Activities will include tours, displays, social time, dinner and a special commemorative program. The schedule is as follows:

- 3:00 p.m. Grounds open in exhibit area
- 3:00-5:00 Researchers present in exhibit area to discuss research activities and results
- 3:15-5:00 Wagon tours of the station. A wagon will leave every 10 minutes for a 40 minute tour
- 5:00-6:00 Social hour
- 6:00-7:15 Dinner
- 7:15-8:15 Special 25<sup>th</sup> Anniversary program

Cost for the dinner is $10 per person. Tickets may be reserved for pick up at the door by calling the Leelanau County Extension office at 231/256-9888.

In 1978, with the blessing of MSU administrators, fruit growers in NW Michigan formed a non-profit foundation and conducted a successful fund drive to establish a research station in NW Michigan. Land was acquired that fall and in spring of 1979 ground was broken to establish the NWMHRS. A unique partnership was formed with the NW Michigan Horticultural Research Foundation providing the facilities and Michigan State University providing the operation. Improvements in the facilities over the past 25 years has been made possible through the support of the Michigan Department of Agriculture, the Michigan legislature and Michigan's governor.

Please join us in celebrating the first 25 years of this successful partnership between MSU, MDA, and the fruit industry. We are proud of what has been accomplished during the first 25 years and excited about what will be accomplished during the next 25 years.

Sincerely,

James E. Nugent  
Station Coordinator

William M. Klein  
Farm Manager
Celebrating the Past - Visions for the Future

CIAB Weekly Raw Product Report for August 17, 2004: The latest raw product report may be found at:

ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2004

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@msu.edu
Last Revised: 8-17-04
GROWING DEGREE DAY ACCUMULATIONS as of Aug. 23, 2004 at the NWMHRS

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GROWTH STAGES at NWMHRS (8/23/04)

Apple: Red Delicious – 57mm
Sweet Cherry: Napoleon – harvested
Tart Cherry: Montmorency – harvested
Apricot: harvested
Plum: European type – 33 mm
Grapes: Chardonnay – Green fruit

WEATHER

NW Michigan has received some rain in the past 2 weeks, but amounts varied considerably. Temperatures have generally remained below normal. Degree day accumulations at the NWMHRS are currently behind all but one year (1992) of the past 15 years at both base 42 and 50F.

CROP REPORT

Cherries: The last of the tart cherry harvest is wrapping up in NW Michigan. It appears that the actual national crop will be very close to the USDA’s June estimate.

Peach harvest is under way.

Apples: Second generation codling moth adult emergence is just beginning this past week. Expect adult activity to significantly increase with this week’s predicted warm weather. It is very important to continue to trap adults. If flight exceeds threshold, we can expect egg hatch, and hence spray time, to be approximately 250DD base 50 thereafter. This means that sprays may need to be applied well into September to control egg hatch. Beware of the potential for this late infestation. Apple maggot numbers generally remain low this season. A leaf drop disorder called necrotic leaf blight is prevalent in some blocks of Golden Delicious. Dr. Dave Rosenberger wrote a very good article in this week’s Scaffolds published by
Grapes: Relatively cool weather has continued, keeping fruit development well behind normal. Cluster thinning and leaf pulling are under way in many vineyards. Powdery mildew has increased in severity and is now a significant problem in many vineyards. Downy mildew has become a problem in a few vineyards. Potato leafhopper activity will likely decline soon, whereas the larger sphinx moth caterpillars should be nearing the peak of their feeding injury at this time. The numbers of big caterpillars are low this year.

MISCELLANEOUS

NW Michigan Horticultural Research Station Celebrates 25th

Reminder: Tomorrow, Thursday, August 26th is the date for the NWMHRS's annual Open House and 25th Anniversary Celebration beginning at 3:00 p.m. Dinner tickets are $10 per person and should be available at the door. Call in advance, 946-1510, to be sure of a place at the table!

SCHEDULE OF EVENTS

3:00-5:00 Researchers present in conference room to discuss research activities and results

3:15-5:00 Wagon tours of the station. A wagon will leave the parking lot every 10 minutes for a 40 minute tour

3:30-4:45 Vineyard management meeting at grape planting

5:00-6:00 Social hour - Pole building. Wine glass to be purchased with proceeds to support research

6:00-7:15 Dinner - Tickets available at the door at $10 per person

7:15- 8:30 Special 25th Anniversary program


As of Aug. 21, NW Michigan had harvested 87.9 m lb., with total U.S. at 2100m. This is extremely close to the 215m lb. USDA estimate. A very small amount of additional harvest is expected this week in NW Michigan.

NECROTIC LEAF BLOTCH OF GOLDEN DELICIOUS APPLES

Dr. Dave Rosenberger, Plant Pathology, Cornell University

Reprinted from Scaffolds, August 23, 2004

Within the last week, Golden Delicious apple trees in the Hudson Valley suddenly began developing necrotic spots on leaves, leaves turned yellow, and many of the yellowed leaves are dropping from the trees. Affected leaves frequently have
irregular, brown, necrotic areas between veins and/or necrotic sections that extend to the leaf margins. As leaves turned yellow during the week, small areas of the leaves remained bright green against the predominant deep yellow color.

This disorder is called necrotic leaf blotch (NLB). Affected trees do not drop all of their leaves, and fruit do not drop or become blemished. In some seasons, however, more than 50% of terminal leaves can become affected and drop from the tree by early September. Unfortunately, no one has been able to determine the cause of NLB. Fungicides and/or foliar nutrients containing zinc can decrease severity of the disorder if sprays are applied every two weeks during later summer. However, I doubt that control sprays are warranted when the disease appears as suddenly as it has this year. In my plots at the Hudson Valley Lab, Golden Delicious trees looked fine during a "windshield survey" on Tuesday afternoon (17 Aug), but a large proportion of the foliage was severely yellowed by Friday evening.

The last time that this disorder caused widespread leaf drop in the Hudson Valley was 1996. With that kind of sporadic appearance, expenditures for annual control measures, especially when they are only moderately effective, are not warranted.

Necrotic leaf blotch was extensively studied in the early 1970's by Dr. Turner Sutton in North Carolina. He found that the disorder is not caused by a fungus, bacterium, or air pollution and that it is not related to foliar nutrient levels. Symptoms and subsequent leaf drop frequently occur in distinct "waves" in mid to late summer, but Sutton noted that there was considerable variability in severity between and within orchards. The rootstock on which Golden Delicious were propagated did not appear to influence susceptibility or severity. All strains of Golden Delicious were susceptible, but Sutton did not find the disorder on other apple cultivars unrelated to Golden Delicious.

In controlled environment tests, Sutton showed that the disorder failed to develop on leaves of trees held at 86/79 degreesF. day/night temperatures, whereas 33% of leaves on trees held at 79/72 or 72/64 degreesF. day/night temperatures developed leaf blotch. He also showed that potted trees watered every day had roughly three times more leaves affected than did similar trees watered only every second or third day. One might conclude that necrotic leaf blotch is favored by relatively cool, wet weather in late summer - conditions that accurately describe our weather pattern this year.

Although necrotic leaf blotch does not cause fruit drop or fruit blemishes, it may have adverse affects on fruit size and perhaps on the strength of flower buds for the following year. No studies have reported on the effects of this disorder on fruit size because no one has figured out how to maintain affected and unaffected trees in the same field for side-by-side comparisons.

NLB is likely to remain as one of those sporadically-occurring "mystery" disorders that cannot be controlled. Fortunately, it rarely causes significant crop loss.

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@msu.edu
Last Revised: 8-25-04
August 31, 2004

WEATHER

Some welcome warmer weather occurred last week. Degree day accumulations remain the second lowest in 15 years in NW Michigan at both base 42 and 50°F. Rain events occurred on four consecutive days this past week. High winds accompanied the rain during the early morning of August 27.

GROWING DEGREE DAY ACCUMULATIONS as of Aug. 31, 2004 at the NWMHRS

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CROP REPORT

Stone Fruit

The four consecutive days with rain events this past week provided excellent conditions for the development and spread of brown rot in peaches and plums. It will also result in additional cherry leaf spot development this fall.

Apples

Apple maggot adults continue to be caught, but remain at exceptionally low levels in NW Michigan. Low numbers have been the norm throughout Michigan this year. Second generation codling moth adult flight increased this past week following the first sign of second generation adult flight the previous week. This flight mostly occurred with warm evening temperatures on August 25-27. In general, second generation trap catches are very low, but there are blocks in the area that I expect will need to treat for this generation. Treatment is typically timed at 250 DD50 after biofix. For those blocks that reached threshold trap catches this week, that means a treatment will likely be called for in mid September. If in this situation, be sure to consider PHFs of the alternatives. Alternatives with shorter PHFs include Imidan - 7 days, Assail - 7, Sevin - 3, granulosis virus - 4 hrs (must be ingested and slow to cause mortality).

High winds and rain on August 27, following a few days of warm temperatures caused concern with fireblight, but I think this late in the season the potential for infection is much less than would have been the case earlier in the season. Strep could not be used on any bearing apples this late in the season due to a 50 day PHI.

Apple Maturity Program

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 (946-1510 or nwmihort@msue.msu.edu).

If you are interested in having fruit tested, drop off a 10 apple sample at the NW Station. Please bring in samples on Monday or Tuesday morning, if possible. The fruit should be picked randomly from the outside portion of the trees and should be large in size and free of blemishes.

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

McIntosh - September 20
Jonathan - October 9
Red Delicious - October 15

There has been a good deal of publicity about this year's early apple harvest in Michigan. Please note that while the harvest will be early in southern Michigan because of their well above normal April and May temps, it is not expected to be early in NW Michigan.

On this morning's apple maturity conference call, Randy Beaudry, Phil Schwallier and Bob Tritten all reported that Gala is maturing in southern Michigan after Mac and Honeycrisp. This is a characteristic of Gala that occurs during cool summers. We have observed this during past cool years in NW Michigan, but this is a new experience for southern Michigan.

MISCELLANEOUS


Tart cherry harvest finally ended in NW Michigan last week. The CIAB is reporting harvest at 88.3 M lbs in NW, with total U.S. at 210.4M lbs harvested and approximately 0.2 M diverted, for a total of 210.6M. This is only about 2% below USDA's pre-season estimate of 215 M lbs.

Third Annual International Plant Management Variety Showcase & Cookout

The 3rd Annual Variety Showcase sponsored by International Plant Management, Inc. and hosted by Wallace & Laura Heuser, 55826 60th Ave., Lawrence, MI is set for 3:00 pm, Thursday, September 9, 2004.

Featured will be displays of peach, nectarine, plum, pear and early apple varieties with emphasis on the diversity of fruit crops that can be grown in the Midwest and East. Fruit specialists and growers will show new selections from Michigan, New York, Ontario, and Pennsylvania with commentary.

Special features this year will be the official introduction of three new peach varieties, Earlystar™ (FA 101), Brightstar™ (F 102), from the Fruit Acres Stellar Series, and Beaumont™ (MSU 26), a Michigan State University selection.

Featured speakers scheduled include: Dr. Courtney Weber and Jay Freer from Cornell with new peach and plum selections; Ken Slingerland of Vineland Station, Ontario with Canadian soft fruits. Herb Teichman of Tree-Mendous Fruit Farm with his views on novel marketing strategies for farm markets. Dr. Bill Shane of MSU, Paul Friday with the Flamin' Fury Series, Annette & Randy Bjorge with the Fruit Acres Stellar Series and Wallace Heuser of International Plant Management, Inc.

Variety Showcase Registration will begin at 3:00 p.m. Variety discussions and featured speakers will run from 3:30 to 6:00 pm with the cookout at 6:30 pm. All growers, extension, and university personnel and their spouses are invited to attend this year's event.

To pre-register, please call 1-800-424-2765.

ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2004

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@msu.edu
Last Revised: 9-1-04