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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

May 7, 2002

GROWING DEGREE DAY ACCUMULATIONS thru May 6 at the NWMHRS:

Year	2002	2001	2000	1999	1998	1997
GDD42	236	328	384	387	381	184
GDD50	119	166	177	184	170	62

WEATHER

Cold, wet weather has continued this past week. Rainfall this spring is above average.

GROWTH STAGES

Apple: Red Delicious—tight cluster

Pear: Bartlett – green cluster

Sweet Cherry: Napoleon – full bloom

Tart Cherry: Montmorency –early white bud

Plum: European type – white bud

Grapes: Chardonnay – late bud swell

COMMODITY REPORTS

Apple grower's main concern remains **apple scab**. The last two days left us with a light to moderate infection period, depending on your area. This infection occurred because the humidity was greater than 90% in the dry period between the rains, which was Monday afternoon. Spore discharge was the highest so far this year in the Grand Rapids area. Approximately 20% of the spores are mature at this time and could potentially be discharged during a wetting event. This percentage will increase rapidly from now until petal fall. **Spotted tentiform leafminer** averaged 46 per trap this past week. Warm weather ahead should increase these numbers substantially. An occasional **apple grain aphid** can be found in apples. No **European red mite** egg hatch has been reported yet.

With sweet cherries now in early to full bloom in many areas, it is much easier to assess bud damage. In general, sweets are showing less bud damage than anticipated. With the cold, cloudy weather, pollination conditions have not been very good so far. Any stone fruits with open bloom are susceptible to **blossom brown rot**. Apricots are in the shuck and are also susceptible. The cool temperatures have kept the brown rot pressure light, but the risk is always there. There are no competent models for the prediction of brown rot, whether it be in the blossom phase or the fruit phase. Blossom brown rot needs open bloom, extended wetness for a period of time, adequate temperatures and prefers high humidity after the bloom is dried off. Tart cherries are not nearly susceptible as sweet cherries are.

Pear psylla adults continue to lay eggs. Growers can still apply oil or Surround as an egg laying deterrent

APPLE THINNING 2002

Fruit CAT Alert 4/30/02

By Phil Schwallier, District Hort./Marketing Agent, MSUE

Apple thinning is the most important practice an apple grower needs to perform each year. Thinning can be somewhat unpredictable but in general, good results can be achieved by applying thinners under good weather conditions. All thinners work best when applied during warm temperatures (80's for highs). The 2 to 3 days after a thinner application needs to be warm to achieve good thinning. Also, apply thinners early to achieve good results such as maximum fruit size and increased return bloom.

Consider applying first thinning sprays at petal fall if warm temperatures are forecasted for the 2 of 3 days following the applications. At petal fall, fruitlets are less sensitive to thinning than at 10mm but some years the weather that occurs at petal fall can be better than the weather at 10mm. Sevin, NAA and combinations will provide some thinning to good thinning at petal fall timing. Over thinning at petal fall almost never occurs. A big advantage to applying a thinning spray at petal fall is that there is enough time to thin again at 10-14mm if required. Early thinning at petal fall will promote the greatest return bloom and the greatest increase fruit size.

Difficult to thin varieties are prime candidates to consider starting a thinning program at petal fall. As the petal fall stage approaches, evaluate your potential crop. First, consider last year's crop. A prior year's heavy crop will be easier to thin this year. Second, has frost damage occurred during pre-bloom and bloom period? If so, reduce the aggressiveness of the thinning application or consider delaying the thinning.

period: if so, reduce the aggressiveness of the thinning application or consider delaying the thinning application altogether. Third, evaluate the health and strength of the bloom, the pollination

conditions and the bee activity. If these factors are good or excellent, be ready to start thinning at petal fall only if warm conditions are forecasted.

To summarize, thin early, starting at petal fall where appropriate, and apply thinners at the beginning of a forecasted warming trend. Use mild or aggressive thinning rates based on your best judgment of the potential crop set. Use your past year's experience with your block to help select your program.

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

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Last Revised: 5-07-02

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NW Michigan Horticultural Research Station

Michigan State University

May 14, 2002

GROWING DEGREE DAY ACCUMULATIONS through May 13 at the NWMHRS:

Year	2002	2001	2000	1999	1998	1997
GDD42	275	428	494	464	514	220
GDD45	204	338	380	357	401	154
GDD50	128	222	234	217	249	77

WEATHER

Weather this past week has been very cool, generally windy with precipitation recorded on 5 of the 7 days at the NWMHRS. Conditions for pollination have been very poor.

GROWTH STAGES

Apple: Red Delicious—pink

Pear: Bartlett – white bud

Sweet Cherry: Napoleon – petal fall

Tart Cherry: Montmorency –10% bloom

Plum: European type – full bloom

Grapes: Chardonnay – late bud swell

COMMODITY REPORTS

Apple: The recent rains of Sunday and Monday provided enough wetness and high humidity to result in light to moderate infection period for **apple scab**, depending on your location. **Spotted tentiform leafminers** averaged 7/trap. Occasional **apple grain aphids** can be found.

Cherry: Sweet crop potential varies greatly by variety and site with Gold generally showing the least freeze damage; pollination conditions poor. Significant freeze damage reported to tart crop last week in Utah. Northwest Michigan tarts in early bloom. **Leaf spot** is a concern on sweet cherries and Balaton cherries that have leaves that are fully expanded. Montmorency does not, at this time, have enough leaf surface unfurled. The recent rains did not result in a leaf spot infection. Adult **green fruit worm** continue to fly.

Pear psylla nymphs are starting to hatch in pear orchards.

The wet, cool spring has been ideal for **slugs**. Many homeowners have reported them. Strawberry growers should be regularly scouting for this pest and take control action if necessary.

USDA SCHOOL LUNCH PURCHASE OF TART CHERRIES

By Jim Nugent

The USDA school lunch program recently announced an intent to purchase tart cherries in a variety of forms, including various packs of IQF, 5+1, dried and waterpack. If bids for all of the products are accepted, the raw product equivalent (RPE) using CIAB conversion factors would be 24,772,347 lbs. This figure is calculated utilizing the CIAB's newly adopted very low conversion factor from RPE to dried, so is likely a conservative estimate of potential RPE. Fruit for this bid can come from either the 2001 or 2002 crops.

VOTE SET FOR AMENDMENTS TO TART CHERRY FMO

By Jim Nugent

USDA announced that a referendum will be conducted May 20-31 to determine support for proposed amendments to the tart cherry Federal Marketing Order (FMO). Ballots will be mailed by USDA to all known tart cherry growers and processors in the order's production area. USDA has indicated to the CIAB that the amendments that are approved by the industry will be made effective for this season.

One proposed amendment would lower the production threshold - the basis for which districts within the production area are subject to volume regulation - from 15 million pounds to six million pounds.

Other proposed amendments would: make shipments of cherry juice and juice concentrate to certain markets eligible to receive diversion credit; change provisions related to alternate board members serving for absent members at board meetings; make all processed cherries subject to assessments; and eliminate the requirement that different assessment rates be established for different cherry products. Other amendments pertain to allocation of board membership; clarification of order provisions relating to exemption and diversion; release of cherries in the inventory reserve; and the use of crop estimates other than the official USDA crop estimate in developing the board's marketing policy.

or crop estimates other than the official USDA crop estimate in developing the board's marketing policy.

The amendments to the order will become effective only if approved by at least two-thirds of those growers voting in the referendum, or by growers producing at least two-thirds of the volume of tart cherries represented in the referendum, and grown during a period set by USDA. To be eligible to vote in the referendum, growers must currently be tart cherry producers, and they must have produced tart cherries in the production area during the period June 1, 2000, through May 31, 2001. In addition, processors of tart cherries who have frozen or canned more than 50 percent of the total volume of cherries would have to vote in favor of the amendments for them to be issued.

Copies of the proposed amendments may be obtained from Anne Dec, AMS Fruit and Vegetable Programs, USDA Stop 0237, 1400 Independence Ave. SW, Washington DC 20250-0237; tel. (202) 720-2491; fax (202) 720-8938 or via the web at www.access.gpo.gov/su_docs/fedreg/frcont02.html – then click on date (May 10, 2002) and PDF for Adobe format.

CERTIFY FRUIT CROPS WITH FSA

By Debi Stephens, FSA

From now until **July 15, 2002** farmers should be certifying crops grown for harvest in 2002. For those of you that may not have certified your crops before, I would encourage you to do so this year, especially if the crop may have been damaged by a weather related event.

PLEASE NOTE: No adhoc disaster program legislation has been introduced at this time, for 2002 crops, however, I have watched many times when the program is introduced 1-2 years after the fact and then what I am about to write next comes into play.

Many USDA Programs, often made available at later dates seem to have certification and yield reporting as a criteria and often if you have not established an Actual Production History for your farm-with any crop-grains, forage, fruit, or vegetables your farm is stuck utilizing state established yields. For producers with above average (high yield), this is NOT a good thing.

Here is an example. If your tart cherry orchard averages (4-10 years) 12,000 lb. per acre and you did not have an established APH for the 2000 crop disaster program, the procedure required FSA to utilize a state average of 7960 lb. per acre, before any age/spacing reductions were applied. Let's say no additional reductions applied, and the orchard production was 5,500 lb., representing a 60%+ loss of production for the farm. This example would not have qualified for a payment because the production was not below the established loss threshold of 5,174 lb. per ac. When using state average numbers.

While the example I gave is for cherries, a similar formula applies for grapes, peaches, cucumbers, strawberries, plums, Christmas trees, fish, maple sap taps, and bees. (any crops grown and harvested in our area when Crop Insurance

Policies are not available)

Apples are an insurable crop in our region so the production history for apples grown must be kept with the insurance company. We would still encourage crop certification for the apple orchard.

When fruits and/or vegetables are grown on Production Flexibility Contract farms, Crop Certification is a requirement of the contract. The Conservation Reserve Program(CRP) and the Environmental Quality Incentives Program (EQIP) acreage is also required by the contract to be certified, annually.

If you are interested in certifying crops please phone Lori Kwasky at our office. Lori's number is 941-0951 x 104. She will set up an appointment time. Remember **July 15, 2002** is the last date to certify 2002 and submit yield data for establishing a production history.

I would strongly encourage you to take the necessary steps to establish a Farm Actual Production History (APH) on all crops to be harvested in 2002.

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

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NW Michigan Horticultural Research Station

Michigan State University

May 21, 2002

GROWING DEGREE DAY ACCUMULATIONS through May 20 at the NWMHRS:

Base 42	2002	2001	2000	1999	1998	1997
Base 45	296	558	558	600	703	242
Base 50	218	448	427	473	569	167
	135	298	258	302	382	80

WEATHER

Weather this past week has been very cold. Inversion freeze events occurred on the mornings of 5/19, 5/20 and 5/21. The coldest morning in NW Michigan was Sunday, 5/19, with low temperatures throughout NW Michigan's fruit belt in the 20's Fahrenheit. Significant frost damage occurred to tarts, sweets and apples, particularly in the lower areas and areas where air flow is more limited. Unfortunately, the best tart crops left in NW MI after the wind freeze on 4/21 and 4/22 were in the lower, protected sites, and these sites tended to receive the most damage on 5/19. Pollination conditions were very poor last week, with high temperatures reaching the lower 60's only one day.

GROWTH STAGES

Apple: Red Delicious—pink

Pear: Bartlett – white bud

Sweet Cherry: Napoleon – petal fall

Tart Cherry: Montmorency –full bloom

Plum: European type – petal fall

Grapes: Chardonnay – late bud swell

COMMODITY REPORTS

Apples survived the wind freeze in April, but they were significantly damaged in colder sites on 5/19. The apple crop potential remains fair to good in sites with excellent air drainage. **Scab spore** release has been very low throughout the state these past two weeks. Between the pink and petal fall stages, apple scab spore release is typically at its peak. This peak has not occurred yet, but with warm temperatures in the future it still may materialize. Insect activity has been very slow to develop this spring. **Spotted tentiform leaf miner** averaged only 7 per trap this past week at the NWMHRS, and no **American plum borers** were caught. The first **codling moth** was caught this week. Growers who will be monitoring for this pest need to hang their traps this week. The warmer temperatures being forecasted will dramatically increase trap catches this next week.

Tart cherries in NW Michigan were further damaged by frost on 5/19. Expect a very short crop in NW Michigan. At the NWMHRS, Montmorency has the lowest bud survival of any tart cherry under evaluation. This was due almost exclusively to the severe damage caused in Montmorency by the April wind freeze, compared to moderate to no damage at that time in the other 26 selections in Dr. Amy Iezzoni's planting. Frost on 5/19 did considerable damage to **sweet cherries**. We can still expect a better crop than tarts, but the sweet crop will be well below average. Some tart cherries and all sweet cherries have leaves that are expanded enough to allow them to be susceptible to **cherry leaf spot** infections. Protectant fungicides should be applied to guard against future infection periods. A protectant, like Bravo, is excellent against cherry leaf spot, and fair to good against brown rot. Some Montmorency trees in their early bearing years are exhibiting bud death symptoms caused by **necrotic ringspot virus** (NRSV). This "shock symptom", commonly called "red bud", can occur when the trees experience a period of exceptionally warm temperatures during bud development. While we've had nothing but cold weather, in mid April there was record warmth for a few days during early bud swell. Hence, the NRSV this year caused bud death at an early stage. Those buds were killed but still remain on trees without developing.

All newly planted **tree fruit** are susceptible to **climbing cutworms**. Activity from this pest should increase with warmer weather. Both tar paper guards and trunk sprays work well to protect buds from cutworm activity.

Slugs are active in **strawberries**. The populations are likely higher than in recent years, due to the cool wet weather.

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

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NW Michigan Horticultural Research Station

Michigan State University

May 28, 2002

GROWING DEGREE DAY ACCUMULATIONS through May 27 at the NWMHRS:

	2002	2001	2000	1999	1998	1997
Base 42	358	654	661	675	823	309
Base 45	265	523	510	529	668	216
Base 50	165	341	311	335	450	107

WEATHER

Cool temperatures are finally giving way to more seasonal levels. A long wetting event occurred on 5/26-5/28. This spring conditions have generally been favorable for the development of bacterial canker.

GROWTH STAGES

Apple: Red Delicious—50% bloom

Pear: Bartlett – petal fall

Sweet Cherry: Napoleon – shuck split

Tart Cherry: Montmorency – late petal fall

Plum: European type – petal fall

Grapes: Chardonnay – bud burst

COMMODITY REPORTS

Apples: The latest infection period for apple scab was classified as high throughout NW Michigan. If growers didn't have protection on their apples going into the rain, they should apply either an SI or a strobilurin fungicide which has back action. These should be applied as soon as possible after the foliage dries. Fireblight may be a threat if we have rain on Thursday or later this week. Insect activity remains very light. No codling moth flight reported. Growers should hang traps if they are planning on scouting for codling moth.

Cherries: The latest cherry leaf spot infection was heavy. Brown rot has not been reported so far. The freeze on 5/19 that significantly shortened the sweet cherry crop also caused damage to spur and terminal growth tissues. It appears that this cold injury has allowed the subsequent invasion of the pathogens that cause bacterial canker into the tissues. Beginning on Monday, 5/27, we began seeing the first symptoms of the collapse of spurs, which we think is the result of this bacterial canker invasion of spur tissue.

Climbing cutworms are a threat to newly planted orchards.

GIBBERELIC ACID ON CHERRIES

By James E. Nugent

District Horticulturist, MSUE

Gibberellic acid (GA) is used in young tart and sweet cherries to reduce flowering and fruiting, which maximizes growth and minimizes pollen transmitted virus infection. GA is used in mature tart cherries to increase the fruiting capacity by stimulating the development of lateral shoots and spurs.

With the very small tart cherry crop in many orchards in 2002, the question being asked is what is the best strategy for GA use this year? GA functions by shifting a portion of the buds that would produce next year's fruit into vegetative buds. The very light fruit crop this year will likely result in strong vegetative growth, and hence, heavy fruit bud production. This could result in a large crop in 2003. Dr. John Bukovac and I discussed this situation for bearing tarts and reached the following conclusions:

1. If feasible, do not discontinue GA application to mature trees that have been receiving annual GA applications. Trees with few fruit will likely set a large number of fruit buds for next year, and GA could help reduce the potential crop in 2003.
2. It is probably desirable from a horticultural perspective to actually increase the rate this year by 20% or so, but given the current economic conditions on many farms, this may not be practical.

be practical.

The proper application timing for GA on tart cherries is typically 3-4 weeks after full bloom, or when trees have 5 to 7 leaves (3 to 5 leaves fully expanded) on terminal growth. Apply when high temperatures are expected to be above 70 ° F for a couple of days, if possible. Applications made when high temps are expected to be below 60 ° F have given poor results.

Addition of a surfactant may influence the tree's response to GA. Results with different surfactants vary from no effect to over-response and phytotoxicity. Therefore, a surfactant is not recommended with GA unless a grower has enough experience with a particular surfactant to have confidence in the response. Never use a silicon-based surfactant, because of potential phytotoxicity.

Non-bearing tart and sweet cherries – With a handgun, apply either 100 ppm (40 fl. oz. of product containing 4%GA / 100 gals of water) in a single application 3-4 weeks after full bloom, or 50 ppm (20 fl.oz./100 gal) about 3 weeks after full bloom plus a second application at 50 ppm 3 weeks later. Two applications at 50 ppm are generally more effective than a single application at 100 ppm. Do not apply to trees the year of planting.

To bring young trees into bearing following treatment with high rates during non-bearing years, it is very important to not discontinue GA all at once. This results in oversetting of fruit and stunting of trees. We suggest weaning trees off GA over two or three years. The year prior to desired first fruiting, apply 30 to 40 ppm dilute (12-16 fl oz /100 gal), or about 20-24 fl. oz./acre if applied concentrate. This rate per acre for concentrate spraying already takes into account the average tree size of this age tree; i.e., do not reduce the rate further based on tree row volume. The next year, decrease this rate to 15 to 20 ppm applied dilute (6-8 fl oz./100 gal) or 10-12 fl oz./acre applied concentrate. The following year, 10 ppm is optional but often not required. In orchards where growth is weaker, it may be desirable to continue annual GA applications at 10-15 ppm, rather than discontinue at this time.

Mature tart cherries – Use 10-20 ppm of GA, which is equivalent to 6-12 fl. oz./acre on mature trees. Lower rates are typically used on more vigorous orchards or where GA was used successfully last year; higher rates are used on low vigor orchards. Rates of about 15 ppm are most common.

GA may also be applied later in the season on sweet cherries to increase fruit firmness and delay harvest. Results in Michigan have not been very consistent and may lead to increased cracking. See label for details.

PROPOSED WELL PERMITS FOR MICHIGAN

By Jim Nugent

I thought our fruit growers and processors might want to be aware of some newly proposed legislation that is currently working its way through the state legislature. I pulled the following information from the Senate's web at :

<http://www.michiganlegislature.org/documents/2001-2002/billintroduced/senate/htm/2002-SIB-1197.htm> and

<http://www.michiganlegislature.org/documents/2001-2002/billintroduced/senate/pdf/2002-SIB-1198.pdf> on 5/21. This is only proposed legislation, not a new law at this time, but now is the

time to communicate your thoughts to state legislators. The proposed legislation could significantly impact our ability in the future to irrigate orchards, cool cherries or process fruit.

Legislation has been introduced into the Michigan Senate that would require a permit for withdrawal of groundwater that exceeds "100,000 gallons per day averaged over 30 consecutive days". In other words, a permit would be required if a well or combination of wells, will pump 70 gallons per minute or more for 30 days. It appears that existing wells do not need permits, but the addition of any increased pumping capacity (adding an additional well or increasing the capacity of an existing well) would trigger the requirement if exceeding the above water usage.

To be issued a permit the applicant must meet all of the following standards:

1. Demonstrate need for proposed withdrawal
2. Withdrawal and use will prevent or minimize water loss from the watershed through return flow and implementation of environmentally sound and economically feasible water conservation measures
3. The withdrawal will result in no significant adverse individual or cumulative impacts to the quantity and quality of the waters of the Great Lakes basin and water dependent natural resources of the Great Lakes basin
4. The withdrawal will not adversely affect other users of the same aquifer
5. The withdrawal is consistent with the future water use needs identified in any master land use or zoning plan adopted by the local unit of government in which the withdrawal is proposed.

To obtain a permit the following information would need to be submitted by the applicant to the DEQ:

1. Purpose of the withdrawal
2. Location of proposed well site
3. Current ecosystem status of the water source
4. Maximum use rates per day, month or year
5. Estimation of amount, time of year, and place that water returns to the ecosystem
6. Condition of water drawn and returned

7. Frequency, duration and months of proposed withdrawal
8. Recharge rate and estimated area and depth of the cone of depression of any affected aquifer
9. Means for monitoring and documenting return flow
10. Ecosystem status of the waters that will receive the return flow, and expected impact of return flow on that status.
11. Need for water and alternatives to withdrawal
12. Measures that will be taken to do both of the following:

- a. Implement environmentally sound and economically feasible water conservation measures
- b. Improve the waters of the Great Lakes basin
13. Other requirements – can be viewed in proposed legislation

Upon receipt of the permit, the DEQ will:

1. Notify local units of government and Indian Tribes (if applicable). (Proposed legislation does not state whether or not their approval is required).
2. Hold a public comment period of at least 30 days.

The DEQ is to collect annual permit fees to offset the cost of administering the program. Users must reapply every 10 years to renew their permit.

Some of the issues that may concern to agriculture are:

1. A very high burden of proof lies with the applicant. To accomplish the permit application will require a lot of time and hydrological and ecological expertise, and costs to hire necessary consultants may exceed the resources of most family farmers.
2. Proving "no effect" can be technically extremely difficult. For example, how does one prove that water flowing through cherry tanks has no adverse impact on water quality? What if the neighbor claims during the public comment period, or to the local unit of government, that the cherries on the cooling pad warm the water (which they do). Can we prove this has no adverse impact on any water-dependent natural resources of the Great Lakes basin?
3. How do we prove that pumping ground water for agricultural production or processing will "improve the waters of the Great Lakes basin and the water-dependent natural resources of the Great Lakes basin"?

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