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Northern Michigan FruitNet 2004 Weekly Update

NW Michigan Horticultural Research Station

[Jim Nugent](#)

Position Vacant

[Bill Klein](#)

District Horticulturist

District Fruit IPM Agent

Farm Mgr, NWMHRS

[Duke Elsner](#)

Agricultural Agent

[Jim Bardenhagen](#)

Leelanau Extension Director

April 13, 2004

GROWING DEGREE DAY ACCUMULATIONS as of April 13, 2004 at the NWMHRS

Year	2004	2003	2002	2001	2000	14 yr. Av. (90-2003)
GDD42	63	72	46	59	161	82.6
GDD50	11	19	11	19	56	29.2

WEATHER

Soil moisture is very good this spring following this year's heavy snowfall. Degree day accumulation through 4/12 is very slightly behind the 14 year average at the NWMHRS.

COMMODITY REPORT

By Jim Nugent

All fruit is still basically dormant. Fruit buds on all crops are looking good at this time. Peach leaf curl sprays should be applied as soon as possible on peach, as predicted warmer weather will begin to advance buds. This is also a good time to apply copper to sweet cherries for bacterial canker suppression.

BACTERIAL CANKER MANAGEMENT IN SWEET CHERRIES

By George W. Sundin and Jim Nugent

Bacterial canker is a serious disease of sweet cherry in the Eastern United States caused by the bacteria *Pseudomonas syringae* pv. *syringae* and *Pseudomonas syringae* pv. *morsprunorum*. The bacteria overwinter at the margins of cankers, systemically in the vascular system of the tree or in buds. The bloom period is the time when the bacteria are most active. Rapid multiplication and spreading is facilitated by cool, wet weather and rain. Bacterial infection occurs following the invasion of wounds or natural tissue openings such as nectaries of flowers or stomata. *The level of infection is greatly influenced by the occurrence of frost damage or extended periods of cool, rainy weather.* Since infections are so weather dependent, the severity of this disease varies greatly from year to year.

Copper has been widely proposed as offering some level of control of this disease, however, the use of copper on sweet cherries to aid in the control of bacterial canker is a controversial subject. Some growers swear that it helps and others don't bother applying it, as they see little value in it.

When using copper to help control bacterial canker, full rate applications of copper should be applied during the dormant to early bud swell periods only. Researchers in some regions have shown success with applications made in the fall at 75% leaf drop. Most applications in Michigan are applied in the spring prior to the bud burst stage. Rates are typically cut in half if the applications are made beyond the mid to late swollen bud stage. Once bud burst occurs to expose the tender, green tissue inside, then copper may cause serious phytotoxicity particularly if warmer temperatures prevail. However, if copper is applied between bud burst and bloom, follow labeled rates for blossom blight (generally 25-35% of the dormant rate). Again, it should be stressed that significant phytotoxicity may occur when copper is applied to green tissue on sweet cherries. *Copper applications later in the growing season are not recommended, as the bacteria do not thrive in the warmer weather.*

Sweet cherries on Gisela rootstocks have demonstrated an increased susceptibility to bacterial canker, so are good candidate orchards to receive copper treatment. One and two year old sweet cherry trees that have been partially debudded to aid in proper limb placement should be treated with copper immediately after debudding takes place – if debudded before bud opening. Also, consider treating orchards with a past history of canker problems.

The MSU Fruit Management Guide indicates a multiple application program using Tri-Basic

Copper Sulfate for Bacterial Canker control on tart cherries. This is not registered in the same way on sweets due to increased phytotoxicity problems on sweets. Note also that the program indicated will cause leaf defoliation even on tart cherries if applied during warm conditions.

Keep in mind that the weather does play an important role in the level of infections that take place and some of those infections can be avoided through the use of sound cultural practices. When training young sweet cherries use clothespins to spread the main scaffolds. Steep crotch angles are more susceptible to winter injury and often leads to damaged tissue that can provide the bacteria a means to enter the tree. Pruning is best done prior to the cool, wet periods of the spring, when the trees are still fully dormant and temperatures are still generally below freezing. If you have to prune later, avoid pruning sweet cherry trees when cool, wet weather is in the near forecast. A few days of warm, dry weather can allow those pruning cuts to dry off and reduce their susceptibility to canker, although it won't prevent all infections from occurring.

In the long term, reducing bacterial canker problems should be addressed by doing all of the horticultural practices that keep trees healthy. This pathogen is an opportunist that causes increased problems when trees are stressed. Factors that increase the predisposition of trees to canker infection include such things as low soil pH, high nematode populations, exposure to wind, and low (cold) pockets, but any stress factor may lead to increased problems.

DWARF SWEET CHERRY PRUNING DEMO

Date: Friday, April 16, 2003

Time: 1:00 to 3:00 PM

Location: Joe Klein's Dwarf Sweet Cherry Block
3975 13 Mile, Sparta, MI 49345

(Located at the NE corner of Fruit Ridge and 13 Mile Roads)

Featured speakers will be:

Dr. Greg Lang, MSU Department of Horticulture

Jim Nugent, MSU Extension

Bill Shane, MSU Extension

Wally Heuser, Summit Sales

MSU PESTNET FORECAST

By Jim Nugent

MSU PestNet will provide fruit growers throughout Michigan with easy to access information on disease and insect development. The predictive models use information from the statewide Michigan Automated Weather Network (MAWN). Some models couple this real time data with weather prediction at the local site to better predict the timing of future pest development. Disease reports during wetting events will be produced twice per day through mid-June in 2004 (up from once per day in 2003), then once per day from mid June through August. Fireblight reports will be produced daily during bloom.

Insect development assist charts are a convenient way to predict pest development based on a single biofix for your farm, or they can handle multiple biofix dates from individual blocks. The insect assist reports and a 21-day weather summary will be delivered twice per week.

In 2003 we received funding from some much-appreciated sponsors, which allowed us to provide this valuable service for free in electronic format. However, we received less than one half of the funds needed. A grower advisory group decided that for 2004 we would ask more agribusinesses to provide financial support, plus we are asking for voluntary contributions from growers. We are suggesting a contribution rate of \$100 per farm, though no subscription fee is required. Hopefully, this voluntary system will generate the necessary funds. Thanks to everyone for your support! Please make checks payable to Michigan State University and earmarked for MSU PestNet. Send to NW Michigan Horticultural Research Station, 6686 S. Center Highway, Traverse City, MI 49684.

There are two options to receive the PestNet reports.

1. Via email – If you did not subscribe last year, then subscribe by contacting the NW Michigan Horticultural Research Station at nwmihort@msue.msu.edu, or call 231/946-1510. In order to read the reports via email you will need to have Adobe Acrobat Reader. If you do not have this software, you can download the Adobe Acrobat Reader for free at the following WEB address:

<http://www.adobe.com/products/acrobat/readmain.html> Click on "download".

2. Via internet – All reports can be accessed on the internet at www.mifruit.com. This page also has convenient links to weather reports and various MSU sites.

The following are the weather stations that you can choose from for the reports. You can choose more than one, but keep in mind that it does increase the number of documents that you receive.

Stations: Bainbridge (Coloma), Belding, Benzonia, Clarksville, East Lansing, East Leland, Eastport, Elk Rapids, Fennville, Fremont, Grand Junction, Hart, Kewadin, Manistee, Mason, Northport, NWMHRS (Traverse City), Old Mission, Petersburg, Sparta, SWMREC (Benton Harbor) and West Olive.

60 HOUR WEATHER FORECAST

By Jim Nugent

The 60 hour weather forecast delivers daily forecasts for the Grand Traverse area during the

The 60 hour weather forecast delivers daily forecasts for the Grand Traverse area during the growing season. The forecast is given in 3 hr. increments for a 60 hr. period. It is available by e-mail and fax. There is a \$30 subscription fee for the [fax version](#). There is no fee for the [e-mail version](#) in 2004. The Traverse City 60 hr. forecast is also available free on the web at: <http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous14ktvc>

The predictions are based on the Traverse City airport, so you will need to adjust temperature forecasts as appropriate to your site.

The computer program that generates these reports is run twice per day. Reports are based on 8:00 a.m. and 8:00 p.m. data that is available electronically every twelve hours between 12:00 and 2:00. E-mail subscribers will receive both reports. Fax subscribers will receive the afternoon report only. We will begin the fax cycle by about 3:00 p.m. Reports will be sent daily from **mid April** through **mid October**.

This predictive information should complement the real-time (current) weather and pest scouting information that you are collecting to further improve your IPM implementation decisions!

To subscribe to the 60 Hour Weather Forecast (email or fax) contact Jackie Baase or Alison Heins at the NWMHRS by phone at 946-1510 or 888/749-3019, by fax 946-1404, or by e-mail at nwmihort@msue.msu.edu. Make checks for the fax version payable to **Michigan State University** earmarked "60 hr. forecast", and mail to: NWMHRS, 6686 S. Center Highway, Traverse City, MI 49684.

FRUITNET

This weekly newsletter, written by area Extension agents, is sent out of the NWMHRS. **It is available via e-mail (strongly encouraged) or via fax.** Please let us know if you would like to switch from fax to e-mail. FruitNet will be published on Tuesdays throughout the growing season. Funding for this is provided by the area horticultural organizations. Subscription is **free** in NW Michigan. Past subscribers will automatically remain on the list, unless you ask to be removed. New subscribers should contact the NWMHRS (946-1510).

CODE-A-PHONE MESSAGE

The Code-A-Phone provides regularly updated information of importance to fruit growers. It requires a touch tone phone to access the messages. To access, call:

947-3063 (Local to Traverse City)
1-877-763-3300 (Toll free statewide)

To begin this season, options include the following by pressing the corresponding number:

Stone Fruit Information: press 1

Pome Fruit Information: press 2

Disease and insect forecasts are no longer available via this system but are available through the PestNet system (see above article.) If you do not have access to a computer to retrieve PestNet information, please call our office (946-1510) to discuss other alternatives.

MSU CROP ADVISORY TEAM (CAT) ALERTS

The MSU CAT Alert newsletter has some valuable feature articles that we do not run in the Fruitnet report. Read the reports for free on the Internet at: <http://www.msue.msu.edu/ipm/aboutcat.htm>, or request subscription information by calling 517/353-4951, or email catalert@msue.msu.edu.

[ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1, 2004](#)

Please send any comments or suggestions regarding this site to:

Bill Klein, kleinw@pilot.msu.edu

Last Revised: 4-13-04

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Leelanau Extension Director

April 27, 2004

GROWING DEGREE DAY ACCUMULATIONS as of April 26, 2004 at the NWMHRS

Year	2004	2003	2002	2001	2000	14 yr. Avg.)
GDD42	169	163	192	159	230	165.1
GDD50	57	65	103	66	83	66.9

WEATHER

Cool weather the past week slowed development. Degree day accumulations base 42 and 50 now approximate average development for the past 14 years at the NWMHRS. Soil moisture is good.

GROWTH STAGES at NWMHRS (4/26/04)

Apple – Red delicious: ½" green

Pear – Bartlett: late swollen bud

Sweet Cherry: Napoleon – early tight cluster

Tart Cherry: Montmorency – early bud burst

Apricot – early bud burst

Plum: European type – bud burst

Grapes: Chardonnay – early bud swell

COMMODITY REPORT

By Jim Nugent

Rain on 4/20-4/22 resulted in a moderate **apple scab** infection in most areas of NW MI (light in the Northport area). A second wetting event from 4/25 to 4/27 (at the time of this writing) will result in a light infection period in some areas. Some tart cherry orchards have fairly high **European red mite (ERM)** overwintering egg populations. From past experience with high spring ERM egg populations on tarts, mite survival has often been poor. This makes it much less predictable in cherry than apple to estimate future ERM problems based on the overwintering egg population. Furthermore, **2-spotted spider mites** are a much more common summer problem in cherries, so even if oil is applied, there may still be the need for a summer miticide. Therefore, I rarely feel that application of oil is justified on cherries.

GRAFTING WORKSHOPS

Two grafting workshops, one basic for beginners and one advanced, will be offered at MSU on May 22nd and May 23rd. Both include hands-on experience. The cost is \$50 per participant, including lunch. Workshops will be held at the MSU Plant & Soil Sciences Building Head House. For more information call: 517-355-5191, ext. 9, or email mgvp@msu.edu.

MYCOSHIELD SECTION 18 CRISIS EXEMPTION

By George Sundin, MSU Plant Pathology, Bill Shane SW District Agent, Mark Longstroth, District Hort. Agent, *MSUE Fruit Crop Advisory Team Alert, April 13, 2004*

EPA has granted a **Section 18 Crisis Exemption** effective **March 26 to June 30, 2004** for the use of Mycoshield on apple for fire blight control. Mycoshield (oxytetracycline) is an alternative antibiotic to streptomycin for fire blight management. Mycoshield will work equally on streptomycin-resistant and streptomycin-sensitive strains, however, the overall level of control is not as effective as with streptomycin in orchards without resistance problems. A maximum of five applications of Mycoshield can be made at a recommended rate of 1.0 to 1.5 lbs./acre. Only one post-bloom application can be made. Supplies of Mycoshield are expected to be short in 2004, so let your ag chem dealer know your intentions for use as early as possible.

The Section 18 Crisis Exemption label for Mycoshield is posted on the MSU Fruit AoE web page at http://www.msue.msu.edu/fruit/MIfrt_s18.htm

CORRECTIONS TO THE 2004 FRUIT MANAGEMENT GUIDE (Spray Calendar)

By John Wise, Larry Gut, and Rufus Isaacs, MSU Dept. of Entomology, *Fruit Crop Advisory Team Alert, March 30, 2004*

This is a summary of pesticide label additions and corrections to the 2004 [MSU Fruit Management Guide](#). Agrichemical labels and regulations change quickly, so use this information within the context of each compound's actual label.

Corrections to Fruit Management Guide 2004 Michigan State University Extension Bulletin E-154

Page 20 – Guthion 50WP maximum rates per season are: apples-8 lbs, pears-6 lbs, peaches 4.5 lbs, cherries 3 lbs.; Guthion 50WP restricted to two applications per season in blueberry.

Page 21 – Capture 2EC not labeled for use in strawberry.

Page 21 – Pyramite 60WP is being renamed as Nexter

Page 52 – Assail 70WP has a PHI of 7 days, REI of 12 hours, and the EPA registration # is 264-609.

Page 53 – Calypso 480 SC has a PHI of 30 days and REI of 12 hours.

NEW LABELED INSECTICIDE DESCRIPTIONS

By John Wise, Larry Gut, and Rufus Isaacs, MSU Dept. of Entomology, *Fruit Crop Advisory Team Alert, March 30, 2004 & April 13, 2004*

Calypso (thiacloprid) belongs to a new class of insecticides called neonicotinoids (thianicotinyl subclass). Calypso is registered for use in apples and pears. It targets aphids, leafhoppers, leafminers, psylla, plum curculio, apple maggot, Oriental fruit moth and codling moth. This material is translaminar (locally systemic), but its residue has a stronger plant surface profile than the other neonicotinoids. Calypso has a broad spectrum of pest activity, and is effective on piercing/sucking insect pests, plum curculio, and the internal feeding insects of fruit, including codling moth and apple maggot. Restrictions for use of Calypso in pome fruit include a Restricted Entry Interval (REI) of 12 hours, a Preharvest Interval of 30 days, and a maximum usage of 16 fluid ounces (0.5 lb AI) per acre during one growing season.

Actara (thiamethoxam) belongs to a new class of insecticides called neonicotinoids (thianicotinyl subclass). It is registered for control of several pests of stone fruits. The translaminar (locally systemic) nature of Actara provides for an extended residual inside the plant, making it particularly effective on piercing/sucking insect pests such as leafhoppers and aphids. It is effective against leafhoppers at rates of 2.0 to 2.75 ounces, aphids at moderate rates of 3.0 to 4.0 ounces per acre, and plum curculio and cherry fruit fly at rates of 4.5 to 5.5 ounces per acre. Because most of Actara's surface residue is quickly absorbed into the plant, negative impact on natural enemies is minimized. Restrictions for use of Actara in stone fruit include an REI of 12 hours, a Preharvest Interval of 14 days and a maximum usage of 8 ounces (0.125 lb AI) per acre during one growing season.

Zeal (etoxazole) is a growth regulator miticide labeled for use in pome fruits and strawberries for the control of mites. Zeal is primarily active against major tetranychid mites (spider mites and red mites) in the egg and larval stages of growth, providing control ranging from eight weeks to full season depending on mite pressure, the extent of tree vegetative growth, and predator mite populations. Zeal controls susceptible mites by inhibiting the molting process through disruption of the cell membrane. Since Zeal's activity depends upon mite development, control may not be observable for several days. Etoxazole exhibits pronounced translaminar movement in plant leaves, enhancing activity when the pest is located on the undersides of leaves. Zeal is not known to have risk of cross-resistance with other currently registered miticides. Zeal is restricted to one application per acre per season.

CYD-X (codling moth granulosis virus) CYD-X is a biological insecticide that is specific to codling moth. The active ingredient is a virus that is lethal to codling moth larvae when ingested. It may take several days to cause mortality. CYD-X should be applied in sufficient water for thorough coverage of the tree canopy. Do not tank mix with lime sulfur, copper, or BT products. The REI is 4 hours and the product may be applied up to and including the day of harvest.

Capture 2EC (bifenthrin) is a synthetic pyrethroid now registered for use on grapes, along with pears and canebery for the control of many insect and mite pests. For grapes, this includes grape leafhoppers, black vine weevil and spider mites.

Lorsban 75WG is a new formulation of the organophosphate insecticide chlorpyrifos, intended to replace the older 50W. The 75WG is a unique formulation described as an encapsulated "dry EC." One unique characteristic of the 75WG formulation is the low odor, which could be of value to growers spraying in proximity to residential populations. Lorsban 75WG is registered for use as a trunk spray on stone fruits for control of American plum borer and peachtree borers. Foliar applications may be used pre-bloom in apples and stone fruits for leafrollers, scale and rosy aphid control, either alone or in combination with oil. Lorsban 75WG is registered for post-bloom foliar use on tart cherries for control of leafrollers, fruitworms and aphids with a 21-day pre-harvest interval. Lorsban 75WG is also registered for use in grapes, cranberry and strawberries.

PRISTINE: A NEW FUNGICIDE FOR TART CHERRY DISEASE CONTROL
By George Sundin, *MSUE Fruit Crop Advisory Team Alert, April 13, 2004*

Pristine, a fungicide that combines the active ingredients boscalid and pyraclostrobin, received a label for 2004 for tart cherry disease control. Both of the active ingredients have been in use previously with boscalid, sold as Endura, and pyraclostrobin, sold as Cabrio. Trials conducted at the Northwest Michigan Horticultural Research Station over the last several years have shown that Pristine has excellent activity against cherry leaf spot and powdery mildew and very good to excellent activity against brown rot.

Pristine should be used in a program alternating with fungicides with other modes of action for resistance management. The maximum label rate should be utilized. A maximum of five sprays are allowed in a season, however, it is not recommended to apply this fungicide (or any fungicide) more than two times consecutively. An excellent timing for Pristine would be the first cover spray for leaf spot and powdery mildew control.

[ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2004](#)

Please send any comments or suggestions regarding this site to:

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