

Northern Michigan FruitNet 2014

Northwest Michigan Horticultural Research Center

Weekly Update

April 29, 2014

CALENDAR OF EVENTS

- | | |
|------------|---|
| 5/1 | Tractor Safety Class #4
NWMHRC |
| 5/2 | First Friday Wine Grape Meeting
NWMHRC |
| 5/3 | Tractor Safety Test
NWMHRC |
| 5/6 | IPM Update – Leelanau Co.
Bardenhagen Farm, 12:00-2:00 p.m. |
| 5/6 | IPM Update – Grand Traverse Co.
Wunsch Farms, 3:00- 5:00 p.m. |
| 5/7 | IPM Update – Antrim Co.
Jack White Farm, 10:00-Noon |
| 5/7 | IPM Update – Benzie Co.
Loy Putney Farm, 2:00-4:00 p.m. |
| 7/2 | IPM Updates End |

GROWING DEGREE DAY ACCUMULATIONS AS OF April 28 AT THE NWMHRC

Year	2014	2013	2012	2011	2010	2009	24yr. Avg.
GDD42	87	89	411	110	343	167	202.8
GDD50	21	33	207	31	141	63	85.4

Growth Stages at NWMHRC (April 28, 2014, 1:00 p.m.)

Apple: Red Delicious – Dormant

Gala – Dormant

Yellow Delicious – Silver tip

Pear: Bartlett: Dormant

Sweet Cherry: Hedelfingen: Late bud swell

Napoleon: Early side green

Gold: Side green

Tart Cherry: Bud swell

Balaton: Side green

Apricot: Bud swell

Grapes: Early scale crack

Weather Report

Growing degree-days in northwest lower Michigan are continuing to slowly accumulate (Figure 1). At the Northwest Michigan Horticultural Research Center, we have observed daily minimum temperatures ranging from 28.9 – 44.1 degrees Fahrenheit and daily maximum temperatures of 44.3 – 59.4 degrees Fahrenheit in the last week. These minimum and maximum temperatures are higher compared with the previous week's observations and there have been fewer hours spent below freezing. At the NWMHRC, we have accumulated 87 GDD base 42 degrees Fahrenheit and 21 GDD base 50 degrees Fahrenheit. In previous weeks, our growing degree-day accumulation at the NWMHRC had been higher than in previous years, which was surprising given the duration of winter conditions. This week, however, we are slightly behind compared to this time last year (89 GDD base 42 degrees Fahrenheit and 33 GDD base 50 degrees Fahrenheit). Both 2013 and 2014 GDD accumulations are still lower than the NWMHRC 24-yr average of 202.8 GDD base 42 degrees Fahrenheit and 85.4 base 50 degrees Fahrenheit on this date.

The 6-day forecast shows consistently cool average temperatures in the low to mid 40s up to the low 50s with minimum temperatures potentially just above freezing in the low 30s and maximum temperatures potentially reaching 60 degrees Fahrenheit. Currently, rain is on the

forecast for today and more showers are possible through the rest of the week. This predicted rain should speed up the melting of the few small piles of snow leftover from larger snow banks and help green up the landscape. Grand Traverse Bay is mostly open water at this time, although some shifting ice remains.

Figure 1

Weather Station Location	GDD42	GDD50
Bear Lake (Manistee)	128.8	39.9
Benzonia (Benzie)	113	30.2
East Leland (Leelanau)	79.9	17.8
Eastport (Antrim)	89.3	18.5
Elk Rapids (Antrim)	109.2	33.5
Kewadin (Antrim)	93	22.6
Northport (Leelanau)	58.7	9.6
Old Mission (Grand Traverse)	86.3	21.1
NWMHRC (Leelanau)	87	21

Crop and Pest Report

Due to ongoing cool temperatures, progress on fruit tree and vine growth has been very slow this spring. Most apples remain dormant and cherry buds are swelling and beginning to show side green.

Growers in the region have started dormant season applications in sweet cherries targeting bacterial canker and scale, where present. The NWMHRC began monitoring for scale last week and have identified scale in sweet cherries orchards in the region with higher incidence in Leelanau county and on Old Mission.

To address possibilities for saving trees from rodent damage, a bridge grafting workshop was held on the Fruit Ridge last week. Dr. Ron Perry from Department of Horticulture at Michigan State University and Robbi VanTimmeren from VanTimmeren Grafting Services in Grand Rapids provided information on collecting and storing scion wood, when to begin and end grafting during the season as well as a hands-on demonstration of bridge grafting.

Wine Grapes

Chardonnay and Riesling are still very dormant in appearance in NW Michigan. With the prediction of continued cool weather, we will not see much happening in vineyards over the next week. Although mouse and rabbit injury is quite widespread and serious in tree fruits, it does not appear to be a significant problem in area vineyards. I have received photos of rodent injury to vines from the northeastern lower peninsula.



The Viticulture First Friday Meeting Series for 2014 starts this week, **May 2, 3-5 p.m.**, at the Northwest Michigan Horticultural Research Center in Leelanau County. Hosted by Parallel 45 Vines and Wines, in cooperation with MSU Extension.

We will look at the various levels of bud, cane and trunk injury that resulted from last winter's severe temperatures, comparing the impacts on common NW Michigan varieties and the test varieties in the NE 1020 wine grape cultivar trial. Pruning and training strategies to address winter injury issues will be discussed and demonstrated. Tailgate wine tasting will follow. Early arrivers are welcome, bring your pruning shears and we'll put you to work!

For more information, contact Duke Elsner at elsner@msu.edu, 213-922-4822 (office) or 231-357-8353 (cell).

PRUNING SEVERELY WINTER-DAMAGED GRAPEVINES IN MICHIGAN

Many grape cultivars that normally survive Michigan winters with little to no damage may have sustained extended levels of damage. Once the damage is assessed, the challenge is to take the necessary steps for the 2014 growing season.

Posted on **April 25, 2014**, MSUE News, by [Paolo Sabbatini](#), Michigan State University Extension, Department of Horticulture

The 2013-2014 winter in the Midwest and Eastern United States was impacted by the polar vortex; extreme cold temperatures that normally float around the poles year-round, but "thanks" to climate change are unfortunately propagated farther, transporting warmer air to the North Pole and polar air into lower latitudes, directly in our vineyards. Temperatures plunged into the sub-zero digits and the extended duration of the cold events severely impacted the cold hardiness of the vines. Many cultivars that normally survive our winters with little to no damage may have sustained extended levels of damage. The extent of the damage will depend mainly

on cultivar and location. This winter will show dramatic differences between cultivars and the spring will reveal what type of damage (bud, trunk, and vine death) growers will have in different vineyard locations. Once the damage is assessed, the challenge is to take the necessary steps for the 2014 growing season.

Reports of the extent of winter injury in vineyards across the Midwest and Eastern United States are rolling in. In Ohio, almost 98 percent bud damage is reported on *vinifera* grapes, with hybrids at 60 percent and American grapes at 30 percent. Even cold-hardy grapes are extensively damaged. In New York, the average *vinifera* bud damage, as surveyed by the [Cornell Extension](#) team, is 67 percent. However, the level of damage varies depending on vineyard location. For example, in Pinot noir, bud damage ranges from 18 to 100 percent, depending on vineyard site.

This year, the strategy for coping with the extensive winter injury should start with delaying pruning as long as possible during the dormant period. The delay should be used to assess the extent of winter injury and then adjusting the pruning strategies in relation to bud and vine damage and mortality levels. Therefore, before pruning grape growers should carefully evaluate each cultivar for bud damage.

Each bud or node is a compound bud or a complex of three primordia. The primary primordia, or “primary bud,” is the largest meristematic tissue in the middle of the compound bud. On each side of the primary bud, the secondary bud is located towards the base of the cane while the smallest, generally not-fruitful, tertiary bud is located towards the apical portion of the cane. For most of the varieties grown in the East and Midwest, the primary bud is carrying 70-75 percent of the cropping potential of the compound bud (primary + secondary + tertiary).

Knowing this simple bud morphology and making cross-sectional cuts with a sharp razor through the bud, growers will be able to identify the health status of each primordium in the complex compound bud. If the buds are alive and healthy, they should be green; brown or black is unfortunately an indication of mortality (Fig 1.).

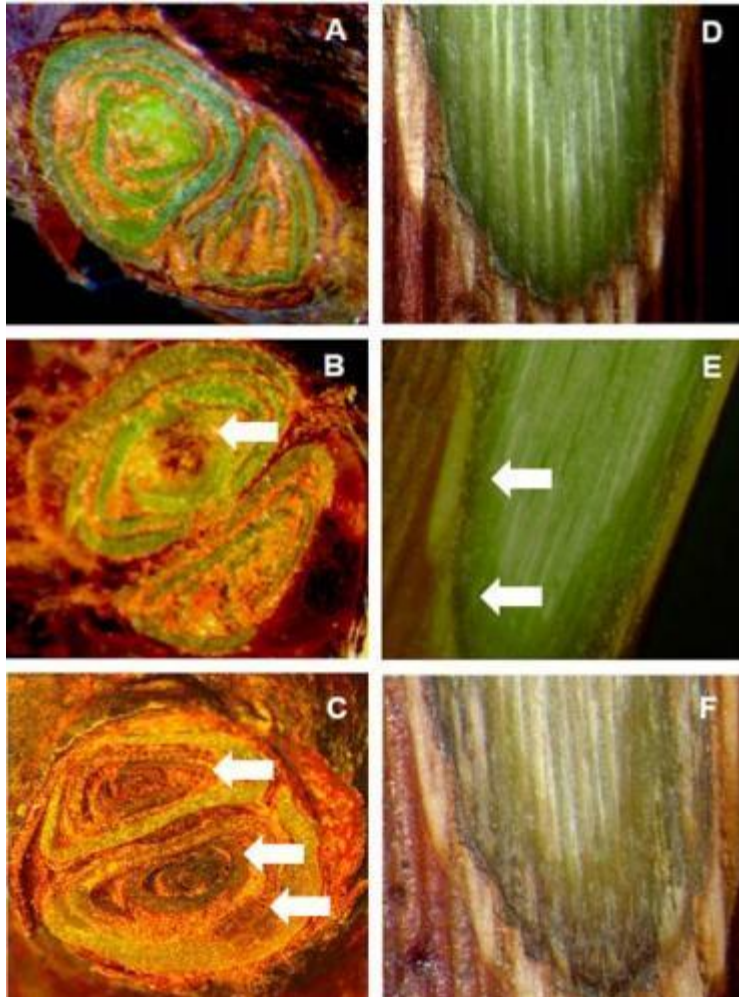


Figure 1. Cold injury to grape buds and canes. A) Healthy compound bud; B) Discolored tissues indicating injury to primary bud; C) Compound bud with cold injury to primary, secondary and tertiary buds; D) Healthy cane tissues; E) Moderate cold injury to cane indicated by discolored cambium tissues; F) More advanced symptoms of cold injury to cane. Photo credit: Paolo Sabbatini, MSU

How many buds need to be sliced is related to the amount of damage that the vineyard suffered. If in your first sample of 40-50 buds they are all dead (brown-dark), the chances of finding living buds is very slim; therefore probably there is no need to continue the assessment. Contrarily, when the results are highly variable (alive and damaged in different samples coming from the same cultivar and the same vineyard location) to have a statistically better idea of the level of damage, the number of buds that [Michigan State University Extension](#) is suggesting to check is about 100. If the vineyards are not uniform (different vine size, slope, soil), it is better to keep samples from vines/areas separated to evaluate the potential impact of those variables. When the assessment of bud damage is complete, the next step is to adjust the pruning strategy for the 2014 season accordingly. General suggestions are reported in Table 1.

Table 1. Suggested pruning strategies in relation to different levels of bud mortality.

Bud mortality (%)	Suggested strategy
10-15	No need to adjust your winter pruning.
20-50	Leave a higher number of buds (+20-30%) at winter pruning; e.g. prune to 4-5 bud spurs rather than the standard 2-3 bud spurs and/or leave more spurs/canes per vine.
60	Double the number of buds of your standard pruning strategy
More than 60	No dormant pruning or just reestablish the bearing structure of the vine

A classical recommendation in cool-cold climate viticulture is to prune cold-hardy cultivars first and the most cold tender varieties (*Vinifera*) last. Generally, secondary bud mortality is similar to that of the primary bud for each single variety. However, some indication of secondary buds percentage is important, especially when primary bud mortality is above 60 percent. When bud mortality is over 70 percent, pruning efforts should be directed to reestablish the fruit-bearing zone of the vines and balance the growth of the vines during the spring and the summer.

When vines are severely damaged, base buds close to pruning cuts have the potential to break bud and grow. This physiological phenomenon is very useful for increasing the number of shoots per vine during the spring and consequently increasing the total leaf area. Having a higher number of shoots in established vines with large root systems and plenty of reserves in the permanent structures of the vine will avoid excessive shoot growth (bull canes). Vigorous shoots tends to have long internodes and poor lignification, which makes them less resistant to winter injury and poor choices for next year's pruning (both cane and spur pruning).

The extreme cold during this winter could also have permanently damaged cordons and trunks. Injured cambium tissues will be brown to black (Fig 1). When damage on permanent cordons is assessed, the pruning effort should be directed at reestablishing the structure of the vine. Renewal canes from the base of the trunks are the best option for replacing injured bearing structure. Severely injured trunks need to be replaced because in cool and cold climate locations, they are very sensitive to crown gall disease, especially *vinifera* cultivars, and because diseased portions of the vine need to be removed and replaced with new, healthy tissues.

Severely winter-damaged vines often have shoots called suckers coming from the base of the vine. Sometimes due to very extensive damage, the suckers could be the only resource for leaf area for the vines in the spring. Several extension bulletins and growers' experience suggest that the suckers should not be removed or thinned to one or two per vine. Instead, the better option is to leave at least five or six suckers and to try to guide their growth towards the trellis system. Other suckers, if present, can be allowed to grow without training, leaving them on the ground, for multiple reasons: they are source of additional photosynthetic leaf area resulting in additional carbon production during the summer, and they will help prevent excessively vigorous

growth on the potential replacement canes. Again, overly vigorous growth will compromise their potential of surviving the following winter.

The 2013-2014 winter was a forceful reminder that cultivar choice and site selection are still the most important tools we have against low winter temperatures, which are typical of our viticultural regions in the Midwest and Eastern United States. While we need to prune vines to mitigate damage as best as possible for the 2014 growing season, we should also keep in mind the 2015 season and crop, and the effect our choices during pruning and training will have on it.

Several viticultural strategies can mitigate the impact of winter cold:

- Using multiple trunks, sometime defined as “spare-parts viticulture.”
- Always having replacement canes (suckers) growing under the vine, which is fundamentally important for grafted *Vinifera* cultivars.
- Covering the graft union with soil during the winter.



Figure 2. Multiple trunks provide a protection to extreme cold temperature and for varieties particularly sensitive to cold. A = *Vinifera* and B = Hybrid. Not all the trunks of a multi-trunked vine would be killed during a harsh winter. Damaged trunks are removed and the trunks that survived are the bearing structure for the following spring. For cold-hardy varieties or in viticultural regions or sites characterized by moderate winter minimum temperatures, two trunks are adequate. Photo credit: Pat Murad, MSU

Covering and uncovering vines every year is very labor intensive, but the most efficient technique to guarantee vines and fruiting canes survival for the following season.



Figure 3. Insulation of the graft union in Vinifera vines with soil or mulch by hilling up above the graft union. This method is going to provide the best protection from cold injury, especially to the graft union area and those viable scion buds above the union. Image from: MSU Extension Bulletin E2930

In 2012, the [USDA](#) released a new plant hardiness zone map because of the need to be in line with the temperature increase around United States. We are using the extra heat and the longer growing season to ripen cultivars that were impossible to grow only a few decades ago in cool and cold climate viticulture. Unfortunately, this warming trend is also producing extreme winter cold temperatures (polar vortex) and going back to the basic methods of grapevine protection during the winter is our best option to keep a sustainable grape industry in the Midwestern and Eastern United States.

VINEYARD WEED IDENTIFICATION AND MANAGEMENT PRESENTATIONS

If you could not attend the recent vineyard weed identification and management meeting, you can view the presentations online.

Posted on **April 23, 2014**, **MSUE News**, by [Duke Elsner](#), Michigan State University Extension

Vineyard weed identification and weed management with herbicides were the topics presented to grape growers on April 17, 2014, at the [Northwest Michigan Horticultural Research Center](#) in Leelanau County.

[Michigan State University Extension](#) horticulture specialist [Eric Hanson](#) and I teamed up to cover the topic of weed identification, covering the basics of weed identification, weed life cycles and 25 common problem weeds of Michigan vineyards. A number of the species covered are known to be alternate hosts of viruses that can infect grapevines, making these weeds of particular concern.

[Wayne Mitchem](#) from [North Carolina State University Department of Horticultural Sciences](#) made his presentations on herbicide products and weed management programs via a videoconference link. He gave detailed information on over a dozen vineyard herbicides and how they can be used in specific combinations or schedules to combat specific weed situations.

These presentations can be found online here:

- [Vineyard weed identification](#)
- [Vineyard weed management](#)
- [Herbicides for vineyard weed management 2014](#)

For more information, visit the [MSU Viticulture and Enology](#) website at grapes.msu.edu.

This article was published by [Michigan State University Extension](#). For more information, visit <http://www.msue.msu.edu>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).

FARMERS MARKETS NOW ACCEPTING SMALL WINERY APPLICATIONS

Because of the growing number of wineries in Michigan, many markets have embraced the PA 100, and are excited to work with small wineries and cideries.

Posted on **April 25, 2014, MSUE News**, by [Rob Sirrine](#), Michigan State University Extension



The recent passage of Public Act 100 (2013) sponsored by Senators Hansen, Walker, Jones, Robertson, Booher, Proos, Nofs and Marleau, allows small wine makers to offer samples and sell wine at Michigan farmers markets. Because of the growing number of wineries in Michigan, many markets have embraced the PA 100, and are excited to work with small wineries and cideries. Wine and cider sampling provides an opportunity for small wineries and cideries to diversify and expand sales. If other farmers markets around the country offer any indication, wine and hard cider sales will also contribute to the overall experience for Michigan farmer's market customers as well.

As with any alcoholic beverage, there are guidelines and eligibility rules that must be followed. Currently only small wine makers that manufacturer under 5000 gallons/year at all locations are eligible to apply for a permit from the Michigan Liquor Control Commission (MLCC). Tasting and sales are limited to an exclusive, clearly-marked area and the MLCC application must be signed by the local sheriff or police chief and the Farmers Market manager. Applicants must also include a \$25 Permit fee and a \$70 inspection fee in addition to any farmers market vendor fees.

By law only one permit can be issued for each 1500 of population in the county where a market is located. For more information on the MLCC licensing process, please visit the [MLCC Farmer's Market Permit Application \(LCC-3020\)](#).

For those brewers out there thinking that wineries and cideries get all of the perks, you may not have to wait long to join in the fun. State Reps. Andy Schor (D-Lansing) and Marcia Hovey-Wright, (D –Muskegon) have introduced a bill ([HB 5427](#)) that would also allow samples and sales of craft beer from micro-brewers.

For more information please visit the [Michigan Farmers Market Association Website](#) or contact your local [Michigan State University Extension](#) office.

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CHERRY LEAF SPOT: BALANCING THE NEED TO PREVENT EARLY INFECTION WITH BEE SAFETY

Nikki Rothwell, Northwest Michigan Horticultural Research Station
George Sundin, Dept. of Plant, Soil, and Microbial Sciences, MSU

Recommendations to balance successful early-season cherry leaf spot control and being mindful of honeybee colonies.

Cherry leaf spot (CLS) is caused by the fungal pathogen *Blumeriella jaapii* and is the most important disease of tart cherry. Early season management of this disease is critical to protect orchards against a potential fungal epidemic. Once CLS infection occurs in the tree, the fungus will produce thousands of spores from lesions established on the leaves, and in most cases, there are more spores developing from these established lesions than ascospores that are coming up from leaves overwintering on the ground. Secondly, spores from lesions on the leaves are much more likely to find new leaf targets within the tree than spores coming up from the ground. The distance from one leaf to another leaf on a tree is minimal, and the potential for spores to infect by moving from one leaf to an adjacent leaf is “easier” than for spores shot from ground level to hit the leaf target up in the tree canopy. An early infection that can move from leaf to leaf can result in a major infection event.

Bract leaves of tart cherry can play a critical role in the CLS disease. Bract leaves are out early in the season, often around bloom time in tart cherry (Figure 1). Just like full size leaves, bract leaves have stomata that open once the leaves unfold, and the CLS fungus infects all leaves through these stomata. While stomates of vegetative leaves on trees are not open and functional until around petal fall, bract leaves can be infected during bloom if a CLS infection

period occurs. Infections of bract leaves can contribute to an early infection that can lead to a CLS epidemic. We observed this type of epidemic in 2012 when bract leaves were infected early in northwest Michigan, and many orchards had severe leaf spot infection by mid- to late-June even when environmental conditions were not exceptionally conducive for leaf spot infection. Thus, bract-leaf infections can jump-start a CLS epidemic, and in a year with disease-conducive environmental conditions, growers may be faced with challenges to effectively control CLS.



Figure 1. Bract Leaves

First fungicide applications for CLS control were recommended at or around tart cherry petal fall to ensure we are adequately protecting the first fully expanded leaves from fungal infection. However, after the 2012 incident, our goal is to prevent or delay initial infection events with well-timed early CLS sprays--with less infection early, there will be less inoculum that growers will have to control during times with more optimal conditions for CLS development. Hence, the purpose of early season sprays is to prevent or significantly delay initial infection events. Again, this early season control will help with disease control prior to harvest (severe, early season infection can affect fruit ripening) and help trees hold leaves into September. Therefore, we are recommending that at the bract leaf stage, tart cherry trees must be covered if Enviroweather is predicting a CLS infection event. If no CLS infection period is predicted and conditions are not favorable for fungal development, growers can wait until post-bloom to spray for CLS.

Prior to shuck split, the recommended fungicide for cherry leaf spot management has been chlorothalonil (Bravo and generics). This fungicide is a multi-site protectant and is excellent for CLS control and is not at risk for fungicide resistance development. Chlorothalonil has been the traditional workhorse to control CLS at this time during the season. However, a recent and preliminary initial study has shown that chlorothalonil may have some negative impacts on honeybees, particularly when hives have been treated with insecticides for mite infestations. Until further studies can confirm chlorothalonil's impacts on honeybee colonies, we are recommending that if growers need to spray at or during bloom (to protect open bract leaves), they use one of the new SDHI fungicides (Luna Sensation or Merivon). This recommendation is intended to minimize early season CLS infection while protecting our valued pollinators. Further

studies on the interactions of fungicide applications and honeybee health will be initiated in 2014.

CONSIDERATIONS FOR PRE-BLOOM AND BLOOM SPRAYS FOR AMERICAN BROWN ROT

The potential for American brown rot blossom blight infection is high this spring if infected fruit mummies from last year overwintered in the orchard. Conditional requirements for infections are listed.

Posted on **April 24, 2014, MSUE News**, by [George Sundin](#), Michigan State University Extension, Department of Plant, Soil, and Microbial Sciences, and Nikki Rothwell, Michigan State University Extension

American brown rot is caused by the fungus *Monilinia fructicola* and is an important problem on peaches, sweet cherries, tart cherries, plums and prunes, and other stone fruit. American brown rot infection is typically initiated within about three weeks of harvest as fruit begin to color and their sugar content increases. However, in some years, American brown rot infection can be initiated pre-bloom (white or pink bud stage) through bloom with blossom blight infections that can result in invasion into woody tissue.

The American brown rot fungus overwinters in mummified fruit. Mummies are fruit that were infected the previous season and then shriveled up and either remained on the tree or fell to the ground. These mummies serve as the initial inoculum source for American brown rot in the subsequent spring. Mummies are the source of conidia (spores), which develop at a temperature range of 55-77 degrees Fahrenheit and are disseminated by wind and rain. The spores have the potential to infect flowers, particularly at the optimal temperature range of 72-77 F.

The risk for American brown rot infection at bloom will be directly related to the amount of brown rot-infected fruit in your orchard last year. Overall in Michigan, American brown rot levels have been low the past two years, but levels of inoculum can vary in individual orchards. If American brown rot levels were at or above 3-5 percent in an individual orchard and a significant number of mummified fruit remained after harvest, the risk of blossom blight infection is fairly high.

Blossom blight infection only occurs with a wetting event accompanied by prolonged conditions of high humidity. Typically, sustained relative humidity values of 90 percent or above for 24 hours or more are associated with optimal infection events. We have observed significantly reduced blossom blight infections if the relative humidity is 60 percent or lower. Therefore, the highest risk conditions for American brown rot blossom blight infection are as follows:

- Presence of overwintering mummies.
- Warm temperatures in the 70s during bloom.
- Rain event during bloom followed by a sustained period where the relative humidity remains high.

If these conditions are not met, a fungicide application targeting the blossom blight phase of American brown rot will not be needed.

Possible chemical control options for American brown rot blossom blight include the sterol inhibitor Indar 2F, other sterol inhibitors such as Elite or Orbit, and Rovral 4F. **However, the optimal fungicide choice at this timing is Rovral at a rate of 2 pints per acre.** We have recently documented that populations of the American brown rot fungus are shifting towards resistance to sterol inhibitor fungicides, and [Michigan State University Extension](#) is recommending alternative modes of action should be used when possible, particularly at this early timing. At the pre-bloom and bloom stages of stone fruit, American brown rot inoculum levels are lower than at pre-harvest. Thus, the efficacy of Rovral should be more than adequate for blossom blight control. This fungicide is rated as excellent against American brown rot, and since Rovral cannot be applied after petal fall, application at bloom timing is recommended. Only two applications of Rovral are allowed.

Dr. Sundin's work is funded in part by [MSU's AgBioResearch](#).

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TREE FRUIT IPM UPDATE SERIES – 2014

Emily Pochubay and Nikki Rothwell
Michigan State University Extension

After a one-year break, Michigan State University is back to offering on-farm IPM workshops in Leelanau, Grand Traverse, Antrim, and Benzie counties in northwest Michigan for the 2014 season. Workshops begin the first week of May in hopes of providing commercial tree fruit growers with a review of good practices for developing sustainable pest management programs as well as key information on early season disease protection. Workshops through the first week of July will highlight management of the season's current potential pest challenges dictated by weather and pest biology. Attendees are encouraged to bring examples of pests and damage found on the farm to these workshops for identification and discussion. These IPM workshops are free and do not require registration. Certified crop advisor continued education credits and pesticide recertification credits will be available. Tree fruit growers are welcome to attend meetings at any location and time that is most convenient. We are looking forward to interacting with you all at these meetings. For more information, please contact Emily Pochubay at pochubay@msu.edu or (231) 946-1510.

IPM Update Locations

Leelanau County

Location: Jim and Jan Bardenhagen, 7881 Pertner Rd, Suttons Bay

Dates: May: 6, 13, 20, 27; June: 3, 10, 17, 24; July: 1
Time: 12PM – 2PM

Grand Traverse County

Location: Wunsch Farms, Phelps Road Packing Shed, Old Mission
Dates: May: 6, 13, 20, 27; June: 3, 10, 17, 24; July: 1
Time: 3PM – 5PM

Antrim County

Location: Jack White Farms, 10877 US-31, Williamsburg
(south of Elk Rapids on the southeast side of US-31)
May: 7, 21; June: 4, 18; July: 2
Time: 10AM – 12PM

Benzie County

Location: Loy Putney Farms, 4286 Raymond Rd, Frankfort
May: 7, 21; June: 4, 18; July: 2
Time: 2PM – 4PM

LOOKING FOR SWEET CHERRY GROWER COLLABORATORS FOR 2014 BIRD DETERRENT TRIAL

Michigan State University and the Northwest Michigan Horticultural Research Center are looking for grower collaborators for a bird deterrent trial in northwest Michigan using air dancers (inflatable tube men powered by fans). We are searching for sweet cherry orchards abutting deciduous woodlands that have typically experienced high bird pressure and that have electrical outlets nearby. Leelanau County preferred. The trial would require cooperation with experimental protocols. Research done in orchards would include cherry and bird counts for approximately three weeks before harvest. If you are potentially interested in participating in this project, please contact Catherine Lindell (517-884-1241, lindellc@msu.edu) or Shayna Wieferich (517-432-3923, shaynawief@gmail.com)

PESTICIDES REGISTERED FOR USE ON MICHIGAN HOPS FACT SHEET UPDATED FOR 2014

Review pesticide labels for changes to ensure legal use of pesticides on Michigan-grown hops.

Posted on **April 25, 2014, MSUE News**, by [Diane Brown](#), Michigan State University Extension

As another season begins in the hopyard, now is a good time to review current pesticide labeling for hops to familiarize yourself with any changes that may have taken place. Labels can and do change. Applying a pesticide out of compliance with the label is a crime and can have major environmental and health repercussions. Making sure that you are using a product in

compliance with the law will help prevent costly mistakes that could render your crop unsaleable. The [Michigan State University Extension](#) fact sheet “[Pesticides registered for use on hops in Michigan 2014](#)” has been updated for 2014 and will also be available for download on the [Growing Hops in Michigan and the Great Lakes Region](#) website.

Remember that for pesticide use to be legal, the pesticide must list the crop on the label and be registered in the state where it is to be used. An example of a product that is **not legal** to use on hops grown in Michigan is **Aim EC**. Although hops are listed on the label, it clearly states that this product is for use on hops grown in Idaho, Oregon and Washington only. It is not registered for use on hops grown in Michigan. This product is commonly used out West for chemical management of suckers to chemically remove foliage from the lower portion of the bine, and for post-emergence control of broadleaf weeds.

Another product **not legal** to use on hops grown in Michigan is **Gramoxone** (paraquat). It is used for chemically stripping lower leaves and for sucker control. Again, hops are listed on the label, but only for use in Idaho, Oregon and Washington.

Chateau SW, a preemergence herbicide for established hops, is **now approved** for use on hops grown in Michigan. The label also lists sucker control for hops when made at a rate of 6 ounces per acre and applied as a directed spray to the lower 2 feet of the hops after they have reached a minimum of 6 feet in height.

Another product **legal to use** in Michigan that is labeled for directed sprays, vegetative burndown and sucker control in hops is **Scythe**. The fact sheet lists trade and common names, mode of action codes to help in selecting pesticide rotations to manage resistance, preharvest intervals, reentry intervals, use rates and other information summarized from the label.

As always, before using any pesticide, be sure to read the actual label and supplemental labeling material.

Download the fact sheet here: [Pesticides registered for use on hops in Michigan 2014](#)

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