Northern Michigan FruitNet 2015
Northwest Michigan Horticultural Research Center

Weekly Update

June 30, 2015

CALENDAR OF EVENTS

2015

5/5 – 7/7 **Leelanau County IPM Updates**
Bardenhagen Farm

5/5 – 8/? **Grand Traverse County IPM Updates**
Wunsch Farm

5/6 - 7/8 **Antrim County IPM Updates**
Jack White Farms

5/6 - 7/8 **Benzie County IPM Updates**
Blaine Christian Church

6/30 **CIAB Grower Meeting**
Peninsula Township Hall, Traverse City, MI

6/30 **CIAB Grower Meeting**
Milton Township Hall, Kewadin, MI

6/30 **CIAB Grower Meeting**
NW Michigan Horticultural Research Center, Traverse City,

GROWING DEGREE DAY ACCUMULATIONS AS OF June 29, 2015 AT THE NWMHRC

Year	2015	2014	2013	2012	2011	2010	25 Yr. Avg.
GDD42	1263	1213	1261	1698	1175	1574	1314.8
GDD50	730	725	778	1043	670	928	775.4

Growth Stages at NWMHRC (June 29, 2015, 11 a.m.)

Apple: Red Delicious – 31 mm fruit
Gala – 27 mm fruit
Yellow Delicious – 26 mm fruit
Pear: Bartlett: 24 mm fruit
Sweet Cherry: Hedelfingen – 18 mm fruit
Napoleon – 16 mm fruit
Gold – 15 mm fruit
Tart Cherry: 17 mm fruit
Balaton: 14 mm fruit
Apricot: 30 mm fruit
Grapes: Riesling – 10" – 16" shoots

Northwest Michigan Fruit Regional Report – June 30, 2015

Tart and sweet cherries are beginning to color up, and harvest is expected to start by the second week of July

Nikki Rothwell and Emily Pochubay

Weather Report

Summer has finally arrived in northwest Michigan. Over the last week, daytime temperatures hovered in the mid- to high 70s, and we even hit the 80s on a few days. However, overnight temperatures remain cool, and most nights have been in the mid-50s. Cool overnights are predicted to continue through the week. The Fourth of July weekend is forecasted to be warm and sunny. We have accumulated 1263 GDD base 42 and 730 GDD base 50, and we have now fallen behind our 25-year GDD averages. The past week has been dry, but rain is expected today. After today, no rain is in the forecast for the remainder of the week.

Crop Report

Fruit continues to ripen, and cherries are starting to turn red on the trees. When the fruit colors up, growers are finding that they have either more or less fruit than they originally estimated. The tart cherry estimate from last week's guesstimate increased to an 86 million pound crop in northwest lower Michigan. Sweet cherries are coloring and sizing, and growers have been diligent about keeping fruit protected against American brown rot. The overall sweet cherry crop is light across the region, and brine cherry varieties are set heavier than canners. Growers are noticing more frost rings showing up on apples from the 20 May frost event. We are still in strawberry harvest, and growers are anticipating one more week of picking berries.

Pest Report

Leaf drop in cherries is widespread in older orchards throughout the region. In some orchards there is a tremendous amount of leaf drop, and within orchards, the level of leaf drop varies from tree to tree. We hypothesize that this leaf drop is likely due to virus, and we have observed a similar situation in previous years with cool springs like the spring we had this season. Leaves infected with diseases (cherry leaf

spot, bacterial canker) are also contributing to some leaf drop, but to a much lesser extent than trees infected with virus. Keeping existing leaves free of diseases is crucial for ensuring that there are enough leaves present to ripen fruit and store sufficient carbohydrates to prevent tree death or decline over the winter.

In the last week, we have scouted multiple orchards for cherry leaf spot infection. While most orchards have CLS lesions, we have observed a few orchards with high levels of CLS infection where leaves, stems, and fruit have sporulating CLS lesions. With the exception of rain today, the forecast looks dry through the end of this holiday weekend. However, the forecast is currently calling for rain early next week, and we do get rain early next week, growers will need to cover tissue to prevent the spread of CLS spores. Once leaves become infected with CLS, the numerous spores produced from a single lesion are easily spread to adjacent tissue during rain. The SDHI fungicides are the best materials available for CLS and provide excellent control of this disease. SDHIs are also excellent against American brown rot. Growers should use caution if they are planning to use copper as phytotoxicity could be a concern in high temperatures this week.

We would like to remind growers that American brown rot is also a concern as fruit are ripening and increasing in sugar content. American brown rot will readily infect cracked fruit as well as fruit that are damaged by insects and birds. We have also observed poorly pollinated fruit that did not drop that could become infected with brown rot.

Based on the 19 April biofix, we have called an end to primary apple scab. Low levels of apple scab infections have been observed in orchards, and growers will need to keep fruit protected from this pathogen in orchards that were infected during primary as we move through the season. Growers should be aware that the pre-harvest intervals for EBDCs tend to be long; there is a 77-day PHI for the EBDC dithane (mancozeb). Protective sprays applied prior to rain prevent scab infections and are the best way to keep this disease in check. We would like to remind growers that apple scab is resistant to the strobilurin fungicides in Michigan and as a result, strobilurins are not an effective material against apple scab in our region.

We found obliquebanded leafroller (OBLR) for the second week in a row (3.33 OBLR/trap) and have set biofix at June 22 at the research station. Last week, OBLR began emerging throughout the region and thus far, the OBLR populations in northwest Michigan are low so far this season. Pheromone baited delta traps are highly attractive to OBLR and 20+ moths in a trap is an indication that treatment of this pest is needed.

Codling moth (CM) activity in the region has decreased in the last two weeks. We found one CM at the station this week and no codling moth were found last week. We have had reports of a decline in CM activity last week in the region.

Greater peachtree borer (GPTB) activity began late last week and we found 1.33 GPTB/trap at the station this week. Lesser peachtree borer (LPTB) activity is ongoing (13 LPTB/trap) and trunk sprays targeting LPTB and GPTB this week and last would be well-timed for these borers.

Cherry fruit fly traps are up in orchards, and at this time we have not detected cherry fruit fly at the research station. We expect that this pest will become active following rain today. The first black cherry fruit flies detected in the region were found in Leelanau and Antrim counties early last week.

We did not detect spotted wing drosophila in any of the 91 traps currently out in northwest Michigan last week.

Grapes
Duke Elsner

In vinifera blocks the flagging of small shoots higher in the canopy is now evident. I am still expecting that most shoots arising from cane tissues that were above the snow line in February and March will fade out soon. Fruit set appears to be pretty good on the low-growing shoots of vinifera vines, but the overall crop is going to be very short- perhaps 30% for some Chardonnay and Riesling in the best of sites; many other varieties have much smaller crop loads. It will be difficult to manage the fruit so near to the ground—problems with downy mildew, powdery mildew and cluster rots are to be expected, and then animal depredation will be a problem later in the year.

Hybrid varieties also appear to have a good berry set. Some discoloration of tiny berries has been seen, but the cause and importance of this is unknown at this time.
There have been reports of high rose chafer numbers at a few sites in northern Leelanau County, but the population has remained low in much of the region. The adult moths of the hornworm caterpillars are now flying, so small larvae may start to appear in vineyards over the next couple of weeks.
Berries are in a critical stage for protection from powdery mildew, and coverage is going to be a big issue when trying to protect the fruit growing in the crowded canopy near the base of vinifera vines.

Meetings and Events
Duke Elsner

The Parallel 45 Vines & Wines/MSU Extension Friday meeting series continues on July 10, 3-5 pm at Bel Lago Vineyards. Our guest speaker will be Dr. George Bird from the MSU Department of Entomology, talking about the root biosphere and soil health. There is no charge for this meeting.

The 7th Annual Parallel 45 Pig Roast will take place on 18 July 2015 at Werner and Margaret Kuehnis's home located at 12467 Center Road. The Roast will begin at 2:30pm. The cost for the pig and the pig-roaster will be about $550. Marcel will order two portable bathrooms. Tom will bring glasses, plates and silverware and order the pig and the keg. Georgia will take care of the P45 Check-in table. All attendees should bring a dish to pass and a bottle of wine. The cost will be $10 for P45 members and $15 for non-members.

The 26th Annual Viticulture Field Day & Steak Cookout will be held at the Southwest Michigan Research & Extension Center in Benton Harbor on July 29. Informational sessions and the equipment show start at 9 am, and the day finishes with the ever-popular steak cook-out. Parallel 45 is working to take a group to the meeting this year, and some expenses may be covered. Contact Duke for more details.

Saskatoons
Duke Elsner

Early varieties are starting to color up. Insect egg laying and feeding activity on fruits appears to be dropping off a bit now, but the symptoms of saskatoon-juniper rust are coming on strong. The spore masses produced by this fungal disease are the most strikingly bright orange material you may ever see in nature.

Above: Orange spores of Saskatoon juniper rust

Controlling cherry leaf spot in orchards with existing CLS symptoms

George Sundin, Emily Pochubay, Nikki Rothwell

Cherry leaf spot (CLS) is the most important fungal disease of tart cherry in Michigan. The leaf spot fungus, *Blumeriella jaapii,* typically infects leaves and symptoms first appear on upper leaf surfaces as small purple spots. As lesions accumulate on leaves, the leaves turn yellow and fall from the tree. However, the number of lesions required to cause leaf yellowing and drop is variable. Sweet cherries can tolerate quite a few more lesions than Montmorency tart cherries before leaf drop occurs. CLS also impacts Balaton tart cherries. Effective leaf spot management is especially critical to prevent defoliation in tart cherries.

At the start of infection, leaf spot can be difficult to see on the leaves. The first symptom of CLS are small (1-3 mm) red to purple spots on the upper leaf surface. These spots can be more easily detected if back-lighting is used when looking at leaves. Eventually, lesions produce visible white sporulation in the middle of the lesion on the bottom side of the leaf. The presence of these spore masses can be a defininative method to determine that the lesion is indeed due to CLS infection. Spores produced on these masses are the source of inoculum of new infections and will spread to adjacent tissue with each rain event.

In heavy CLS infections, lesions can coalesce and produce larger areas of dead leaf tissue. CLS is evident in most tart cherry blocks across the state, likely as a result of our wet conditions in May and June. Additionally, we have observed a few orchards with high levels of CLS infection, and in these orchards,

leaves are already turning yellow and dropping from trees. Early defoliation will increase the potential for tree mortality in a hard winter. In some cases of orchards with larger crop size, early defoliation will prevent ripening of the fruit. As there is also bacterial canker in orchards, growers should look for the growth of white spores to identify leaf spot. Bacterial canker symptoms on the leaves are dark brown, circular to angular and often have a yellow halo; canker lesions are also larger in size than leaf spot lesions.

Cherry leaf spot is usually effectively controlled early in the season with proper fungicide application timing. In years with extended dry weather, leaf spot symptoms are not visible in most orchards until August-September. However, in years when we receive significant rainfall early in the season with extended wetting periods, early infections of leaf spot can occur. This year was a particularly challenging year for keeping tissue covered during multiple days with rain and long infection periods. Most growers have been scouting their orchards for leaf spot infections, and we encourage growers to continue looking for lesions on newer tissue. If CLS symptoms are evident, this is an indication that spore loads in orchards will soon be very high and this disease will be difficult to control through September.

If CLS symptoms are currently present in the orchard this early in the season, tart cherry leaves will need effective fungicide protection from now until after harvest. In orchards with CLS infection already started, there is potential for high disease pressure. Therefore, *we recommend growers use the maximum label rates of fungicides and cover entire orchard blocks* (i.e., do not use an alternate middle row spray plan). Coverage of all leaves is critical to protect from new CLS infections because infected leaves are producing spores that will spread relatively easily to adjacent leaves in the tree during rain. Full cover sprays will minimize the impacts of this fungal disease by reducing the potential of a CLS epidemic this season. Growers should also slow down to provide excellent coverage of full tree canopies.

The next 2-3 fungicide applications should be full cover applications. The goal of this strategy is not to burn out existing infections, but to protect all healthy tissue from new infections. Although existing CLS infections are evident on older leaves, we are more concerned with the spread of this disease to uninfected leaves, and as a result the next sprays to prevent this spread are critical. Fungicides with partial systemic activity (i.e., Merivon, Luna Sensation, Syllit) are excellent choices right now mixed with Captan. These fungicides provide the best potential for control.

Leaves that currently exhibit multiple sporulating lesions are almost sure to defoliate, and the goal of this season's management plan is to limit the amount of infection of currently healthy foliage through protection against subsequent infections. The CLS spore load will probably be high in most orchards for the remainder of the season, and these blocks must be intensively managed for the next several months to minimize impacts on overall orchard health.

Table 1. Fungicide options for CLS management in tart cherry orchards with existing infections.

Fungicide	Rate (per acre)	Comments
Merivon + Captan 80WDG	5.5 fl. oz. + 2.5 lb	Best choice; combination of partially systemic Merivon + Captan protectant. This combination will also

		minimize American brown rot infection.
Luna Sensation + Captan 80WDG	5 fl. oz. + 2.5 lb	Best choice; combination of partially systemic Luna Sensation + Captan protectant. This combination will also minimize American brown rot infection.
Coppers, ex. Cuprofix Disperss, Badge, Kocide, etc.	1.2 lb metallic copper	Excellent protectant. Do not use if dry conditions and temps above 80 F forecasted for next 3-5 days. For safening, add hydrated lime at 6 lb per acre.
Syllit FL + Captan 80WDG	24 fl. oz. + 2.5 lb	Excellent fungicide choice for CLS.

Pre-harvest cherry fruit fly and spotted wing drosophila management

N. Rothwell, E. Pochubay, J. Wise, and L. Gut, Michigan State University

There are two species of fruit flies that attack cherries in Michigan, the black cherry fruit fly, and the more abundant cherry fruit fly. Black cherry fruit fly, which typically emerges sooner than the cherry fruit fly (CFF), was detected in northwest lower Michigan early last week, and we expect that cherry fruit fly will also become active soon. Neither the black cherry fruit fly nor the cherry fruit fly have been detected at the research station at this time.

Cherry fruit fly emergence is related to temperature and soil moisture; hence, at this time of year, cherry fruit fly activity usually begins after a rain event. Currently, there is a chance for rain on Tuesday (6/30), and we anticipate that CFF will emerge following this rain. Once emerged, the adult flies undergo a pre-oviposition and feeding period of 8-10 days prior to egg-laying, and the optimal management timing is during this period to prevent eggs (and the larvae that hatch from eggs) in fruit.

Spotted wing drosophila (SWD) is also a concern in cherries prior to harvest. Thus far this season, the only SWD found in northwest lower Michigan was a female fly in a Trece lure-baited trap in Benzie County on June 11. However, growers should be prepared to manage this pest in the event that SWD are consistently detected in traps as we approach harvest. We would like to remind growers to wait to begin SWD management programs until cherries are susceptible (i.e. straw-colored) and SWD are detected in nearby areas. Finally, if SWD are present, using materials that are effective for both cherry fruit fly and SWD will potentially help growers save on the number and expense of sprays.

Control of cherry fruit flies has been traditionally achieved with organophosphate (OP) insecticides, like Imidan (phytotoxic on sweet cherries), but some label or processor restrictions may limit the use of OPs and other insecticides near harvest. Growers should check with their processors on any pesticide restrictions prior to application and all pesticide applications should be made in compliance with their respective labels. In addition to fruit fly control, imidan also has excellent efficacy against SWD. Carbamate and synthetic pyrethroid compounds are also toxic to adult fruit flies, but are generally viewed to be moderately effective because they have a shorter field residual. The efficacy of these materials against SWD is not well-known at this time, but some pyrethroid insecticides have provided good to excellent control of SWD in Michigan State University research trials.

There are several new reduced-risk and OP-replacement insecticide products that include cherry fruit flies on their labels. The neonicotinoids Actara, Admire Pro, Calypso and Assail are labeled for cherry fruit fly control. These materials have performed well against cherry fruit flies in small plot field-performance trials. Results from SWD efficacy trials of the neonicotinoids have been variable, and the material, Assail, provided better control of the flies than some of the other insecticides in this class (ex. Admire Pro). There has been a voluntary cancellation of Calypso, but remaining product can be legally used through 2016. The Spinosyn compounds Delegate and Entrust (organic formulation) are active on cherry fruit flies, but their need for ingestion by adult flies requires excellent spray coverage. Both of these spinosyn materials have provided excellent SWD control. Rimon has shown good sub-lethal activity on cherry fruit flies, such that when adult flies contact foliar residues, subsequent eggs that are laid in fruit are not viable.

GF120 NF Fruit Fly Bait (spinosad) is registered on pome fruits for control of cherry fruit flies and is listed by the Organic Materials Review Institute (OMRI) for use in organic production. Because the primary route of entry is through ingestion, applying this product during the fruit fly pre-oviposition period is important for optimal performance. GF120 must be applied with specialized equipment, and is designed for low-volume application. The bait is not rainfast and should be re-applied after rain or heavy dew.

The pre-mix insecticides Voliam flexi, Voliam Xpress, and Leverage are also labeled for cherry fruit fly control. Voliam flexi combines the two active ingredients, thiamethoxam and chlorantraniliprole, as a pre-mix formulated compound. Voliam Xpress combines the two active ingredients, chlorantraniliprole and lambda-cyhalotrin as a pre-mix formulated compound. Leverage is contains the two active ingredients, imidacloprid and cyfluthrin as a pre-mix formulated compound. Growers need to be sure to apply these pre-mixes at a rate that is effective for CFF control.

As a final management note from Michigan State University Extension, CFF populations that infest fruit that remain on the tree after harvest may be problematic because resident populations are a source of infestation the following year. Growers with known high fly captures or fruit infestation post-harvest should consider applying an insecticide at this time to combat the resident populations and maintain them at such a low level that the threat of infestation prior to harvest is negligible. Our initial work on post-harvest cherry fruit fly treatments has indicated that the critical time to apply an insecticide is within the first week after harvest.

***OMRI-approved for organic production**

Compound trade name	Chemical class	Residual activity	Effectiveness rating**	Effectiveness on SWD***	PHI (days)
Imidan	Organophosphate	14+ days	E	E	7
Sevin	Carbamate	4-5 days	F-G	-	3
Asana, Warrior, Danitol, Baythroid, Mustang Max	Pyrethroid	7-10 days	F-G	G-E	3-14
Delegate	Spinosyn	7-10 days	G	E	7
Entrust*			F	E	
Assail, Actara, Admire Pro Calypso	Neonicotinoid	10-14 days	G-E	G (curative activity)	7-14
Altacor	Diamide	10-14 days	G	-	10
Exirel	Diamide		E	E	3
Rimon	Insect Growth Regulator	10-14 days	G	G (sub-lethal activity)	8
Voliam flexi	Neonicotinoid and Diamide	10-14 days	E	G	14
Voliam Xpress	Pyrethroid and Diamide		E	-	14
Leverage	Neonicotinoid and Pyrethroid	10-14 days	G	-	7

****Effectiveness rating of insecticides (2015 Fruit Management Guide E154); E – excellent, G – good, F – fair**

*****SWD – spotted wing Drosophila**

SDHI fungicides for protecting fruit from brown rot infection

Using fungicides to protect from American brown rot will be critical if weather conditions favor disease. SDHI fungicides represent the most effective current class of fungicides for protecting ripening fruit from brown rot.

Posted on **July 1, 2014** by MSUE News, **George Sundin**, Michigan State University Extension, Department of Plant, Soil, and Microbial Sciences; and Nikki Rothwell, Michigan State University Extension

American brown rot infection on ripening sweet cherries.

American brown rot is caused by the fungus *Monilinia fructicola*. This fast-growing fungus is an important pathogen on cherries (sweet cherries in particular), peaches, apricots, nectarines and plum. The fungus attacks fruit, blossoms, spurs and shoots; under ideal infection conditions, the fungus can rot individual cherry fruit within 24 hours (see photo). The fungus sporulates from infected fruit, continually increasing inoculum for further infections to other fruit on the tree. Under ideal conditions, sporulation can be initiated within three days after infection. American brown rot causes fruit rot before and after harvest, greatly reducing quality and quantity of the crop, particularly in heavily bunching sweet cherry varieties.

Factors that contribute to American brown rot infection before harvest include warm, wet conditions as the fruit begin to ripen and increase in sugar content. The optimal temperature for infection is between 67 and 77 degrees Fahrenheit, and spore production is greatest between 59 and 74 F. Although fruit injury may lead to increased infection, the American brown rot fungus can cause infections when no wounds are present. Other factors influencing increased infection are fruit-to-fruit or fruit-to-branch contact on trees.

The American brown rot fungus is a prolific sporulator; each infected fruit is a ready source of large numbers of new spores. As stated above, initial fruit infection to sporulation occurs in as little as three days; thus, growers need to keep fruit surfaces covered when conditions are optimal for infection. Also, if growers are scouting and observe fruit infected with American brown rot, it is likely that there are many other fruit that are infected, but not showing symptoms yet. It is not possible to stop brown rot infections on fruit once they are initiated; however, fungicide applications will protect other fruit that have not been infected.

The two most important issues in American brown rot control of fruit infection are use of an effective fungicide and fungicide coverage of fruit surfaces.

Although this article focuses on the succinate dehydrogenase inhibitors **(**SDHI) fungicides, there are three main classes of fungicides with effectiveness against American brown rot:

Sterol inhibitors (SIs): Indar, Elite, Orbit, Quash
Succinate dehydrogenase inhibitors (SDHIs): Merivon, Luna Sensation, Fontelis
Strobilurins: Gem

The SIs, Indar in particular, have been the most effective fungicide class to protect fruit from American brown rot since the late 1980s. However, based on orchard surveys conducted over the previous three years, our results have shown that the sensitivity of the *M. fructicola* isolates to Indar has been declining. Fungal sensitivity or resistance to SI fungicides acts in a quantitative manner, meaning that a fungus with a decreased sensitivity to one rate can be controlled by a higher rate of the same fungicide. Results from orchard surveys conducted by the Sundin lab from 2007-2013 have indicated that there is

clear shifting in the American brown rot population, and that approximately 5 percent of the American brown rot isolates in Michigan are resistant, and 50-75 percent of all isolates are shifted, which indicates reduced sensitivity. Our work has shown that the 12 fluid ounce per acre rate of Indar does not affect many of the SI-resistant isolates at all; at best, this rate of Indar will only limit growth of reduced sensitive isolates for four to five days maximum.

Thus, to ensure effective control of American brown rot this year, especially on sweet cherries and peaches, if SIs are used they should be rapidly alternated with fungicides from other classes, including Merivon, Luna Sensation or Gem. All American brown rot applications should be tank-mixed with Captan for resistance management as Captan has some activity against American brown rot and will be critical for protection of the SDHIs and strobilurin fungicides from future resistance development.

Merivon
Merivon is a premix of the SDHI fluxapyroxad and the strobilurin pyraclostrobin and has shown excellent activity against fruit American brown rot in tests conducted on peaches in orchards in Georgia with SI-resistant *M. fructicola*. The rate range on the label for Merivon is broad, 4 to 6.7 fluid ounces per acre. In studies conducted in Georgia and North Carolina, similar results were obtained using 5.5 or 6.5 fluid ounces per acre. For Michigan in 2014, a tank-mix of Merivon at 5.5 fluid ounces per acre plus Captan 80WDG at 2.5 pounds per acre should provide excellent control of fruit brown rot.

Luna Sensation
Luna Sensation is a premix of the SDHI fluopyram and the strobilurin trifloxystrobin. Trifloxystrobin is also sold individually as Gem. Luna Sensation has also shown excellent activity against fruit American brown rot and should be used in a tank-mix with Luna Sensation at 5.5 fluid ounces per acre plus Captan 80WDG at 2.5 pounds per acre. Luna Sensation is not registered on peaches.

Fontelis
The active ingredient of Fontelis is the SDHI penthiopyrad. Fontelis has good activity against American brown rot fruit infection and should be used at the high label rate of 20 fluid ounces per acre plus Captan 80WDG at 2.5 pounds per acre. Michigan State University Extension reminds growers that on cherries, Fontelis has no activity against cherry leaf spot.

Summary
Staying ahead of fruit brown rot infection means keeping fruit surfaces covered with effective fungicides, especially when weather conditions favor American brown rot infection, as we have seen for the majority of the 2014 growing season. Use the best fungicide combinations, Merivon or Luna Sensation + Captan, on the most susceptible crops, such as sweet cherries and peaches. For less susceptible crops such as tart cherries, Indar at 12 fluid ounces per acre plus Captan application may be more effective. Gem plus Captan can also be used.

The 24(c) SLN label for Indar calls for applications at seven- to 10-day intervals. Thus, an alternative fungicide must be applied within four to five days of an Indar application, particularly if weather conditions are warm – highs in the 70s, low 80s – with rain. The best alternative to Indar for American brown rot fruit rot control are the new SDHI premixes Merivon and Luna Sensation. An alternating fungicide approach of Indar plus Captan, SDHI plus Captan, Indar plus Captan, SDHI plus Captan would represent our current, best strategy for American brown rot control. Also, the use of the SDHI as the last spray before harvest would ensure the longest effective control of American brown rot post-harvest.

Dr. Sundin and Rothwell's work is funded in part by MSU's AgBioResearch.

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Strategic Growth Initiative Grant Program Announced to Boost Michigan's Growing Food and Agriculture Industry

LANSING, Mich. – A grant opportunity designed to encourage growth in Michigan's food and agriculture industry was announced today by Michigan Department of Agriculture and Rural Development Director Jamie Clover Adams.

"This is a great chance for our food and agriculture businesses to find innovative ways to expand and grow. Food and agriculture in Michigan is a $101 billion industry. This is one avenue to help spur job creation, support local communities and drive new economic development," said Clover Adams.

Applicants for grant funds will be asked to describe how the project potentially impacts and produces measurable outcomes for the food and agriculture industry and/or the public rather than a single organization, institution, or individual.

This initiative has been developed to focus on removing existing barriers and leveraging opportunities identified by food processors, agri-business, and those in agricultural production as critical to business development and growth. Priority will be given to projects that identify a scope of work that includes one or more of the following as it relates to the food and agriculture industry:

1. Talent/Workforce Development (i.e. training activities)
2. Infrastructure/Logistics (i.e. broadband access)
3. Feasibility Studies (i.e. enhancing value added capacity)

All application materials including the program overview and fillable application form are available on MDARD's website www.michigan.gov/mdardgrants. Applications are due to MDARD by 3pm EST on July 22, 2015.

IPM Update Cookout and Schedule Change

Emily Pochubay and Nikki Rothwell, NWMHRC

We are pleased to announce that the Northwest Michigan Horticultural Research Center and the Michigan Agricultural Environmental Assurance Program will host a cookout to celebrate northwest lower Michigan's top-notch fruit industries! We invite the area's growers and consultants to these cookouts which will be held in Leelanau and Grand Traverse Counties next Tuesday, June 23rd during regular IPM Update times: 12-2 PM in Leelanau and 3-5 PM in Grand Traverse. The following week,

cookouts will be held during the regular IPM Update times on Wednesday July 1st in Antrim from 10 AM-12 PM and Benzie from 3-5 PM. These cookouts are sponsored in-part by funds provided by Great Lakes Integrated Sciences and Assessments.

Additionally, as many of you are already aware, please note the changes to upcoming IPM Update meeting dates. Due to a scheduling conflict, the IPM Update meetings for July 14th and 15th have been cancelled. We apologize for any inconvenience as a result of this cancellation, and to account for this change, additional IPM Updates have been or will be scheduled. Please see below for details on dates and times of these additional meetings. Thank you all for your continued support of the NWMHRC, MSU Extension, and Michigan's fruit industries!

***NEW IPM Update Schedule**

Leelanau County
Location: Jim and Jan Bardenhagen, 7881 Pertner Rd, Suttons Bay
Dates: June: 23 (cookout), June 30 **July: 7* Final meeting**
Time: 12PM – 2PM

Grand Traverse County
Location: Wunsch Farms, Phelps Road Packing Shed, Old Mission
Dates: June: 23 (cookout), June 30 **August* Final meeting date TBD**
Time: 3PM – 5PM

Antrim County
Location: Jack White Farms, 10877 US-31, Williamsburg (is not correct in Google Maps) *North of Camelot Inn and South of Elk Rapids on the southeast side of US-31*
Dates: July: 1 (cookout), **8* Final meeting**
Time: 10AM – 12PM

Benzie County
Location: Blaine Christian Church, 7018 Putney Rd, Arcadia, MI 49613
Date: July: 1 (cookout), **8* Final meeting**
Time: 2PM – 4PM

CIAB Grower Meetings

The CIAB meets June 25, 2015 at 9:00am at Amway Grand Plaza, Grand Rapids, MI to discuss the Optimum Supply Formula and to set restriction and percentages, if any. The CIAB will hold grower meetings to discuss the outcomes with growers and the prospects for this harvest.

The meetings will be at the following locations and times. Please attend the one that is most convenient for you.
Tuesday, June 30, 9:00am – 11:00am
Peninsula Township Hall
13235 Center Rd. Traverse City, MI

Tuesday, June 30, 1:00pm – 3:00pm
Milton Township Hall
Kewadin, MI

Tuesday, June 30, 7:00pm – 9:00pm
Northwest Michigan Horticultural Research Station
6686 S. Center Highway, Traverse City, MI

WEB SITES OF INTEREST:

Insect and disease predictive information is available at:
http://enviroweather.msu.edu/homeMap.php

This issue and past issues of the weekly FruitNet report are posted on our website:
http://agbioresearch.msu.edu/nwmihort/faxnet.htm

60 Hour Forecast:
http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous46ktvc

Information on cherries is available at the new cherry website:
http://www.cherries.msu.edu/

Information on apples:
http://apples.msu.edu/

Information on grapes:
http://grapes.msu.edu

Fruit CAT Alert Reports has moved to MSU News
http://news.msue.msu.edu