

GRAPE & WINE NEWSLETTER

June 2, 2011

VOL 2, ISSUE 4

PAGE 1
NEWS YOU CAN USE
GROWING DEGREE DAYS

PAGE 2
REGIONAL SCOUTING
REPORTS

PAGE 4
INSECT MANAGEMENT

PAGE 5
DISEASE MANAGEMENT

PAGE 7
ENOLOGY

PAGE 9
CALENDAR



Concord in Lawton

News you can use

Disease management. The wet spring may result in early onset of powdery and downy mildew, and is also conducive to black rot, Phomopsis, and anthracnose. Carefully scout vines for disease symptoms. Include systemic fungicides for disease control during wet periods.

Insect management. Time to start regular scouting for cluster and leaf pests, and be sure to make a note of wild grape bloom timing to help your berry moth control this season.

Upcoming Grower Meetings:

Northwest: TODAY, June 3 at 3PM! Crain Hill Vineyards, Leelanau County.

Southwest: June 8 at Cronenwett Farms in Lawton (Van Buren County). See calendar for details.

GROWING DEGREE DAYS

		Base 50 from April 1					5-yr Avg*
		2011	2010	2009	2007		
<u>Lawton</u>	5/25	345	474	376	457	381	
	6/1	447	631	468	595	504	
	forecast 6/8	571	728	560	700	616	
<u>Benton Harbor</u>	5/25	318	459	357	427	355	
	6/1	n/a	601	440	564	471	
	forecast 6/8	n/a	688	527	674	580	
<u>Leelanau</u>	5/25	202	377	239	301	254	
	6/1	285	511	262	421	343	
	forecast 6/8	378	574	295	520	420	
<u>Old Mission</u>	5/25	171	347	208	259	225	
	6/1	247	465	232	364	307	
	forecast 6/8	340	524	265	455	382	

*5-yr Avg = 2006 to 2010

See enviroweather.msu.edu for more information.

NORTHWEST

Duke Elsner
Grand Traverse County MSU Extension

Even though NW Michigan has finally experienced some warmer temperatures, there were still a number of later developing cultivars at the Northwest Michigan Horticultural Research Station vineyard that had not reached one inch long shoots when observed on May 31. More advanced cultivars, such as Cabernet Franc, are way out ahead with shoots over six inches long. I cannot recall seeing such a great difference in shoot development between cultivars in the 15 years I have been observing this vineyard.

The overall slow pace of development this spring has allowed vineyard managers to get caught up on various vineyard tasks that are often hard to fit in the tight time frame of a normal spring- one small benefit to this odd year we have going in the north.

Insect activity has remained relatively light. NW vineyards should be past the growth stages susceptible to flea beetle and climbing cutworm injury. No potato leafhoppers had been reported as of May 30, but the big storm that passed through on May 31 may have brought them along to the area. Unfortunately the winds were very unkind to the yellow stickyboard traps we had out to help detect leafhoppers. A few grape berry moth adults have been trapped, but far less than one per trap on the average. Our above normal numbers of June beetles continues.

Early season disease management is our prime concern currently. A number of growers are getting out stylet oil sprays for powdery mildew.

Southwest

Diane Brown
Berrien County MSU Extension

Steve Van Timmeren
MSU Department of Entomology

Things are definitely moving now that we've had some warm weather. Concord and Niagara grapes are at immediate prebloom. Wine grapes range from 4-8" to 10-16" shoots. For diseases, quite a few *Phomopsis* infections are showing up on the leaves (Fig. 1) and some of the shoots. At this point the leaf spots are still quite small, but their presence is an indication that the disease is active and you should be applying protectant sprays to the clusters. Rachis infections occur during spring and early



Fig 1. Phomopsis leaf spots on Concord in Van Buren; Photo: S. Van Timmeren.

summer and can cause serious damage. Fruit infections occur right around bloom and can result in fruit losses up to 30 percent. Both types of infections remain latent until near harvest. The fungus does not produce spores on current season infections, which means that when spore production from last year's infected canes is depleted, there is no more inoculum to cause new infections. So far, black rot and downy mildew symptoms have not been observed at the sites we are monitoring, but we have had several infection periods favorable for black rot leaf infections in the Southwest, according to the black rot model available at enviroweather.msu.edu and favorable conditions for downy mildew.

On the insect side of things, grape berry moth adults continue to be caught in traps in high numbers at all sites except the Allegan Chardonnay site where adults haven't emerged in large numbers yet. Insecticide sprays can wait until after bloom since no larvae have been found on the clusters yet. We did observe wild grape bloom at the beginning of the week in Berrien County and at mid-week in Van Buren County. Fifty percent bloom on fifty percent of the flower clusters of wild grape starts the clock for GDD accumulation for the grape berry moth model. 810 GDD (base 47) from this point is the predicted start of the next generation of egg laying. Incidentally, full bloom of Black locust (*Robinia pseudoacacia*) occurs at this time also, and its fragrant, showy white clusters of flowers serve as a good reminder that it is time to check wild grapes for the development of bloom.

The other main insect pest we started seeing this week were leafhoppers. Grape leafhopper adults were found on leaves at both the Van Buren Concord site and the Berrien Niagara site. We also found potato leafhopper (PLH) adults in a couple of the vineyards and even a PLH nymph at the Allegan Chardonnay site. The



Fig 2. Grape flea beetle larva and adult; *Photo: S. Van Timmeren.*

presence of a nymph indicates that eggs are hatching and you should be scouting leaves in your susceptible wine grape varieties. Remember that grape vines can handle some damage from PLH without having a detrimental effect on the crop, so if you're planning on spraying for GBM in a couple of weeks, you probably don't need to apply an separate spray for PLH.

A lot of grape flea beetles were found during scouting this week, including an adult and a larva present on the same cluster at the Berrien Vignoles site (see picture). However, since flea beetles are only really a threat when buds are swelling, no control is warranted.

Also showing up this week were a whole host of minor insect pests. These included Lygocoris nymphs, banded grape bug nymphs, grape plume moth larvae, grape epimenis larvae, lecanium scale, grape tumid gallmaker, and grape cane girdler. While this is an impressive list, most of these pests were present in low numbers and only at the borders. Only occasionally will any one of these pests reach levels where control measures need to be taken. Most of the time it's more cost effective to just wait until your post-bloom grape berry spray takes care of them.

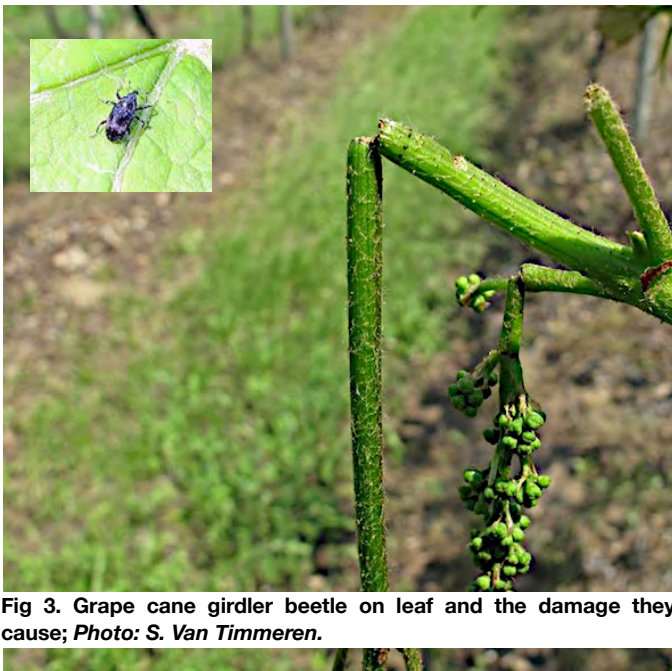


Fig 3. Grape cane girdler beetle on leaf and the damage they cause; *Photo: S. Van Timmeren.*



Fig 4. Grape plume moth; *Photo: S. Van Timmeren.*



Fig 5. Grape Epimenis larva; *Photo: S. Van Timmeren.*



Fig 6. Banded grape bug nymph; *Photo: S. Van Timmeren.*



Fig 7. New shoot positioner to be demo'd at the next SW grower meeting on June 8.

Grape insect management around bloom time

“Time to start regular scouting for cluster and leaf pests, and be sure to make a note of wild grape bloom timing to help your berry moth control this season”

Wild grape (*Vitis riparia*) is blooming in some Berrien County sites this week and is close to blooming in some Van Buren county sites. *Why is this important?* Because tracking this phenological event is the foundation of improved management of grape berry moth (GBM) in Michigan vineyards. In recent years a degree day model has been developed and implemented by MSU to help grape growers time their applications to protect clusters from the second and third generations of this pest. These are the most economically important generations and they must be the focus of GBM management to reduce the infestation at harvest-time and to prevent the yield loss, larval contamination, and cluster rots associated with this pest.

To run this model, you must know the date of wild grape bloom near your vineyards. This is the ‘biofix’ from which you can track growing degree days to time sprays for GBM later in the season. Step 1 is to mark the date of wild grape bloom on your calendar so you remember this later in the summer. From there, use the MSU grape berry moth degree day model, available online at www.enviroweather.msu.edu to track accumulation of degree days to the predicted start of egg laying by generation two at 810 GDD from biofix and generation three at 1620 GDD from biofix. These spray timings for the predicted start of egg laying by these two generations are ideal for using the reduced-risk insecticides Intrepid or Altacor. In our tests using these new insecticides timed with the degree day model, growers have consistently achieved better control of GBM compared with sprays on a calendar spray program with conventional broad spectrum insecticide products. Growers have many other options available to them for berry moth control, but these two provide targeted control along with long residual activity that is critical later in the season for GBM control.

As an example of how different seasons can affect the timing of egg laying by this pest, in the hot 2010 season we made the generation two application around July 1 whereas in the cooler

2009 season, it was on July 15th. As a growth regulator insecticide with activity on eggs as well as larvae, Intrepid applied with good coverage works well for GBM control at this timing. For conventional broad spectrum insecticides with primary activity on young larvae, timing for egg hatch is more appropriate with sprays timed for 100 degree days later. This means that applications at 910 and 1720 degree days after biofix (wild grape bloom) are most appropriate for broad spectrum insecticides targeting the second and third generations, respectively.

So far, we have discussed only generation two and three that occur in July and August, respectively. What about the first generation of larvae in clusters during June? These larvae are generally at very low levels, have no measurable impact on yield at harvest (they eat some flowers and berries but the cluster only sets about 30% of the ~100 flowers anyway), and so they are of relatively low economic impact compared with the later generations. While it is tempting to add an insecticide with the post-bloom fungicide spray, for the reasons outlined above it is recommended that growers focus their GBM management effort and money on control of the later season generations in July and August to prevent problems at harvest in September.

While the first generation of GBM is rarely large enough to warrant an insecticide, growers may need control of other insects at this time such as leafhoppers and rosechafers, such that a spray to control these insects can provide control of first generation GBM larvae as an added bonus. In the past week, scouting in SW Michigan vineyards has detected some infestations of grape leafhopper and potato leafhopper along with some minor pests (see the scouting report elsewhere in this Grape & Wine Newsletter). If you scout your vineyards and find economically important levels of these pests, then consider protecting vines from their activity. If there are only low levels present, it is better to remember this location and come back next week to check and determine whether the pest is increasing towards economic levels. Juice and wine grape vines can withstand some leafhopper feeding early in the season. Our recent research on potato leafhopper indicates that even the highly sensitive winegrape varieties such as Pinot gris can recover from significant leaf injury early in the season, with no measurable effect on vine growth or cluster quality at harvest-time.

Fungicides and weather

Fungicides can be divided into two broad groups: **protectant** and **systemic** fungicides. Protectant fungicides are contact materials that remain on the outside of the plant surface and kill fungal spores and hyphae upon contact, thereby preventing infection from occurring. Systemic fungicides are absorbed by the plant cuticle and underlying tissues and can act by killing spores as well as hyphae that have penetrated the plant surface. When they stop incipient infections and prevent symptoms from developing they are called “**curative**” and may be described as having “**post-infection activity**” or “**back action**”. However, symptoms that are already present will not be removed by the fungicide in question. After symptoms appear, some fungicides can reduce or inhibit fungal sporulation: these are called “**anti-sporulants**”. The term “**eradicant**” is often used for products that kill overwintering spores and fungal structures on woody plant tissues (e.g., lime sulfur) or for fungicides that seem to eradicate the disease from a vineyard (e.g., Ridomil Gold, which is very effective at stopping downy mildew in its tracks). The term “**translaminar**” refers to the movement of a fungicide from one side of the leaf to the other, providing disease control on both sides of the leaf. Some fungicides have “**vapor action**”, that is, they are present in a (partially) gaseous phase around leaves and other plant parts. The way a fungicide behaves on or in a plant is determined by its chemical affinity for the wax layer on the plant surface and underlying cell layers. Low temperatures may decrease the mobility of systemic fungicides.

Systemicity. Both systemic and protectant fungicides are effective when applied before infection occurs, but only systemic fungicides have efficacy after the fungus has penetrated the plant surface (for a limited time, e.g., 24-96 hours, depending on the fungicide and the disease. Systemic fungicides are not all the same, with some fungicides being locally systemic (they move only a short distance away from the droplet, e.g., Elevate), others moving to the tip of the leaf (e.g., Elite, Abound) or new leaves (e.g., Ridomil), and yet others being able to move throughout the plant including the roots (e.g., ProPhyt). Most systemic fungicides are highly effective against their target pathogens regardless if they are locally systemic or systemic. However, products that are more systemic tend to have longer post-infection activity. When relying on –post-infection activity, use the highest labeled rate.

Wash-off by rain. The main way in which fungicides are lost from plant surfaces is through wash-off by rain. Fog or dew usually are not sufficient to remove fungicide residue and may actually help to redistribute fungicide residue over plant surfaces. Since systemic fungicides are absorbed by plant tissues and get redistributed in/on the plant, they tend to be less susceptible to wash-off by rain compared to protectant fungicides which remain on the outside of the plant. However, this depends on the type of fungicide and our research has shown that even systemic fungicides are affected by rainfall. A general rule of thumb that is often used is that 1 inch of rain removes about 50% of the protectant fungicide residue and over 2 inches of rain will remove most of the spray residue. Newer “sticky” formulations (e.g., Dithane Rainshield) and fungicides applied with spreader-stickers may be less susceptible to wash-off by rain. Most systemic fungicides are rainfast after 2 hours (Revus Top even after 1 hour), but a longer period (up to 24-48 hours) will help the fungicide fully penetrate the plant surface. During rainy periods, it is better to rely on systemic than protectant fungicides. In addition, spreader-stickers can improve adherence of protectant fungicides, while penetrants (e.g., oils) may speed up penetration of systemic fungicides. Care must be taken to use appropriate adjuvants or phytotoxicity may result. For instance, copper should not be applied with penetrants, as copper is toxic to plant cells when inside the leaf. Advances in fungicide formulation technology ensure that many newer fungicide products have excellent adhesive or absorption properties and may therefore not need any adjuvants. Read the fungicide label to see whether and what type of adjuvant is recommended. Sometimes adjuvants are prohibited.

Other ways in which fungicides are lost. In addition to wash off by rain, protectant fungicide residues naturally decrease over time due to degradation by sunlight (UV radiation), heat or microbial activity, and redistribution over the plant surface. Fast plant growth may result in some plant surfaces not being protected if no new sprays are applied. In contrast, the concentration of systemic fungicides may be reduced due to redistribution and dilution in (growing) plant tissues as well as possible breakdown by the plant itself. A high pH of water used in the spray tank can result in alkaline hydrolysis (breakdown) of some fungicides, e.g., Captan, before they are even applied. However, most other fungicides are not affected by water pH to any great extent. Most

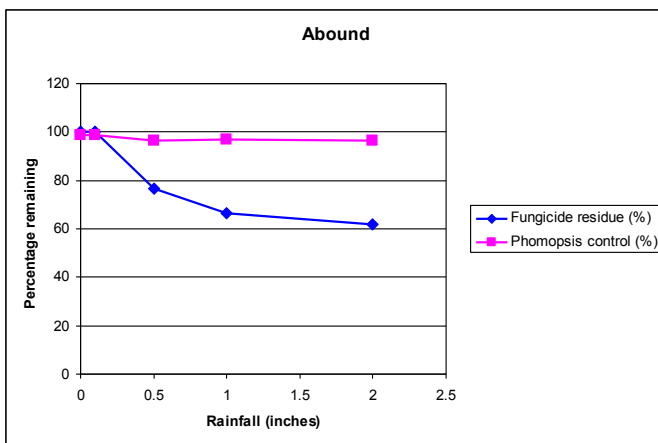
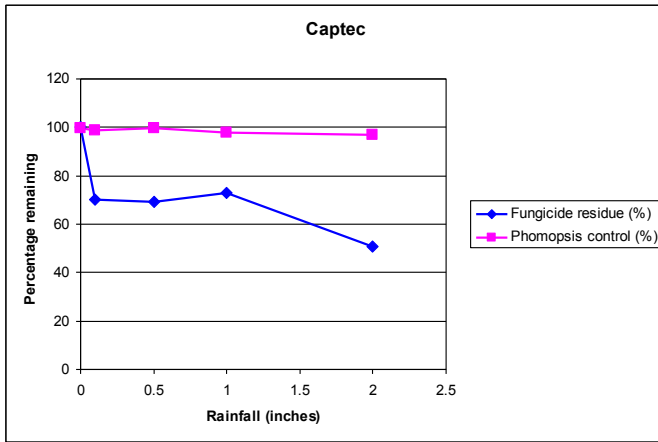
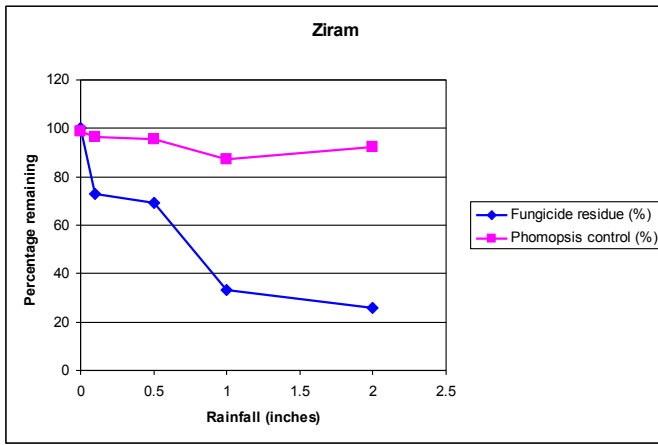


Figure 7. Results of fungicide rainfastness study in grapes with the fungus *Phomopsis viticola*. Fungicide residues were 1-day old when simulated rainfall applied.

Rainfastness. Since fungicides and formulations differ a lot in their ability to stick to or penetrate plant surfaces, more research needs to be done to describe the effect of rainfall on wash-off of specific products. Recent research at MSU with fungicides against **Phomopsis in grapes** showed that **1-day-old** residues of fungicides are removed from the plant surface by rainfall at different rates: for instance for Ziram, 0.1 inch of rain removed 25% of the residues, 0.5 inch of rain 30% of the residues, 1 inch or rain 65% of the residues,

and 2 inches of rain 75% of the fungicide residues. However, fungicide activity remained moderate despite low residues remaining even after 2 inches of rain. In comparison, Captec tended to stick better, with a 50% reduction after 2 inches of rain. Efficacy was reduced slightly but was still good with whatever residue remained. Surprisingly, even residues of Abound and Pristine, which are systemic fungicides and considered rainfast, were reduced by rainfall, which suggests that a certain proportion remains on the outside of the plant, probably in/on the cuticle. However, disease control efficacy was barely reduced. Efficacy may be reduced more with older (e.g., 1-week-old) fungicide residues where less active ingredient remains.

The question sometimes comes up if it is better to apply a protectant fungicide before or after rain, since it can wash off during the rain event. As you can see from the grape study, fungicide efficacy was still decent even after 2 inches of rain in grapes. However, this only applies to “new” fungicide residues. Older residues may not be as robust. The other problem is that if extended wet weather or windy conditions prevent fungicide application soon after the rainfall event, it may be too late to obtain disease control. I would suggest that a fungicide should be applied before a rain event and re-applied if more than 2 inches of rain have occurred. A little bit of rain is not all bad, as it can help to distribute the fungicide residue over the plant surface. Be sure that the fungicide has dried well before rain occurs, otherwise it will be lost immediately. It may be best to apply fungicides a day before rain is predicted to allow for “bonding” to occur.

Protectant/Contact fungicides: Armicarb, Captan, Copper, Bordeaux mixture, Dithane, Penncozeb, Manzate, Ferbam, Fungastop, Gavel, JMS Stylet Oil, Kaligreen, Lime sulfur, ManKocide, MilStop, Prev-Am, Regalia*, Saf-T-Side (oil), Serenade, Silmatrix, Sonata, Sporan, Sulforix, Sulfur, Tenet, Trilogy, Vegol, and Ziram.

Systemic fungicides: Abound, Adament, Alette, Bayleton, Elevate, Elite, Endura, Flint, Forum, Legion, Mettle, Inspire Super, Orius, Phostrol, Presidio, Pristine, Procure, Prophyt, Quadris Top, Rally, Reason, Revus, Revus Top, Ridomil Gold, Rovral, Rubigan, Scala, Switch, Thiophanate Methyl, Tanos, Topsin M, Vangard, Vintage, Vivando, and Viticure.

* *Regalia and Silmatrix are not systemic, but the reaction of the plant to these products (induced resistance) is systemic within treated plant parts*

Sulfites, wine, and allergies

Megan McConnell, Michigan State University

The following article was written as an honors option student project for the course 'Exploring Wines and Vines', taught by Ron Perry, Department of Horticulture, Michigan State University. It is reprinted here with the authors permission.

The symptoms vary in type and severity. Headaches, congestion, facial flushing, hives, hypotension, seizures, and even anaphylactic shock have all been claimed to be caused by sulfites in wine. It is very common to hear people object to a glass of wine because of a wine allergy or sensitivity. While there is no denying that sulfite allergies do exist in the general population, the causal relationship between sulfites and the symptoms most people associate with wine allergies is questionable. Although most wine experts dismiss the concept, the common public misconception remains that sulfites are responsible for the ill effects wine may cause.

Knowing the basic facts of sulfites and their role in wine making is an important first step in becoming educated about wine allergies. The term sulfite is the general term for compounds that release SO₂. Examples of these compounds include sodium sulfate, sodium bisulfite, potassium bisulfite, and potassium metabisulfite. Sulfites are common in nature; during the fermentation stage of any fermented product, yeast metabolism naturally produces SO₂. It is for this reason that having a completely sulfite free wine is impossible.

In addition to naturally occurring sulfites, further sulfites may be added while converting juice into wine and into its commercial product. The antibacterial and antioxidant qualities of sulfites make them an ideal addition to any food product that needs preserving (Roberts and McWeeny, 1972). Wine grapes have an inherent presence of bacteria and wild yeasts on their skins. During harvest and crush, these agents can end up infecting the must and ruining an entire batch of wine. Sulfites inhibit the growth of these microbes and prevent spoiling. The antioxidant aspect of sulfites allows for wines to last longer. This translates into a longer shelf life and the ability for the wine to tolerate conditions that can be less than ideal. This is important because once a wine leaves a

winery, there is very little control over the time and storage conditions it experiences before it reaches the consumer. Sulfites make it possible for the consumer to consistently have the best product.

In addition to wine, sulfites are found in many foods (Taylor, et.al., 1986) such as bottled lime and lemon juice, canned vegetables, dried fruit, dehydrated and packaged pasta and potato foods, jams and jellies, pickled products, and dried seafood. For reference, sulfite levels are measured as parts per million (ppm); levels can legally go up to 6,000 ppm (Papazian, 1996). A commonly stated sulfite concentration for consumer wine ranges from 40 to 120 ppm. Dried apricots are considered to be extremely high in sulfites, common advice to determine a sulfite allergy is to eat several of them; if no reaction occurs the likelihood of a sulfite allergy is minimal. Consumers who suggest that sulfites in wine cause headaches, should be asked if eating apricots causes the same reaction. Typically, the answer is no, supporting the theory of misinformation and the lack of medical evidence connecting headache symptoms with wine and sulfites (Waterhouse and Rantz, 1996).

According to the United States Food and Drug Administration, approximately 1% of the general population suffers from a sulfite allergy (Papazian, 1996). It has been found that the most affected subset of this are people afflicted with chronic asthma. In a study conducted by Valley and Thompson (2001), the ability of sulfites in wine to cause a reaction in asthmatic people was studied. Four of the 24 subjects were classified as having a positive response. The FDA now estimates that approximately 5% of asthmatics have sulfite sensitivity.

In addition to scientific literature documenting the existence of sulfite allergies, many case studies of patients with severe reactions to sulfites have been published (Just, et. al., 2005). Because of these findings, the FDA has established regulations concerning sulfites in wine. Legally, wine produced in the United States cannot contain more than 350 ppm of sulfites. If the wine has greater than 10 ppm, a label is required on the bottle that says "Contains Sulfites". Any wine that is sold in the United States must follow these laws; this includes wines made in other countries that are imported into the United States.

Since such a large proportion of the consumer market believes that sulfites are responsible

for a myriad of symptoms, some wine makers are catering to this population. Wine sold as “Organic” cannot have any added sulfites. This however, is different than wine made from “organically grown grapes” which can have sulfites added during the wine making process. Organic, or sulfur free wine (less than 1 ppm), does not have as long of a shelf life as regular wine and should be consumed shortly after bottling or sold somewhat locally. It would make most sense for more red wines to be organic; white wines almost always require higher sulfites levels because they do not have the tannins obtained from the grape skins to act as an anti-oxidant. This method of winemaking has many hurdles to overcome and is still in the process of making sure a consistent product is produced for consumer enjoyment.

Sulfites in wine are often blamed for the physical effects wine can have on a consumer. A vast majority of the population does not have a true sulfite allergy. Since wine is such a complex product, many other components could be the cause. Histamine content is often blamed as a possible cause, although the medical literature has sufficiently debunked that theory (Kanny, et.al., 2001, Jansen, et. al., 2003). A well-documented cause of facial flush when consuming alcohol is due to ethanol sensitivity (Harada and Agarwal, 1981). This is caused by not having an enzyme to break down acetaldehyde, a byproduct of ethanol breakdown. So although sulfites are not responsible for a vast majority of the population’s complaints, a small group of people are affected by sulfites. Although the levels found in wine are not usually high enough to elicit a reaction, a small percentage of asthmatics can experience respiratory problems that range from mild to severe. Either way, sulfites are going to be continued to be used in the production of wine. The antibacterial benefits of preventing infections and the antioxidant capabilities in extending quality and shelf life makes sulfites an integral part of wine making.

References

- Roberts, A and D. McWeeny . 1972. The use of sulfur dioxide in the food industry. A review. *Journal of Food Technology*. 7:221–38.
- Taylor, S.L., N.A. Higley and R.K. Bush. 1986. Sulfites in foods: uses, analytical methods, residues, fate, exposure assessment, metabolism, toxicity, and hypersensitivity. *Advances in Food Research*. 30:1–76.
- Papazian, R. 1996. Sulfites: Safe for most, dangerous for some. *FDA Consumer Magazine*. U.S. Food and Drug Administration.
- Vally, H, and P.J. Thompson. 2001. Role of sulfite additives in wine induced asthma: single dose and cumulative dose studies. *Thorax*. 56:763-769. doi: 10.1136/thorax.56.10.763
- Just, N, M. Nyunga, J. Lelong, B. Wallaert. 2005. Immediate allergy to oral corticosteroids. *La Revue de*

medecine interne. 26:331-334.

Kanny, G, V. Gerbaux, V, A Olszewski, S Fremont, F Empereur, F Nabet, JC Cabanis, DA MoneretVautrin . 2001. No correlation between wine intolerance and histamine content of wine. *Journal of Allergy and Clinical Immunology*. 2001; 107:375-378. Doi:10.1067/mai.112122.

Jansen, S.C., M. van Dusseldorp, K.C. Bottema, and A.E. Dubois. 2003. Intolerance to dietary biogenic amines: a review. *Annals of Allergy, Asthma, and Immunology*. 91:233-240.

Harada, S and D.P. Agarwal . 1981. Aldehyde dehydrogenase deficiency as cause of facial flushing reaction to alcohol in Japanese. *Lancet*. 32:128-131.

Waterhouse, A. and R.M. Rantz. 1996. Wine and health, in *Wine in Context*. In, *Review on Nutrition, Physiology, Policy*, edited by A. Bakalinsky pub. Amer Society of Viticulture and Enology.

2011 NW Wine Grape 'First Friday' Meetings

Sponsored by Parallel 45 Vines & Wines
Info: Jay Briggs, 231-499-0763; Duke Elsner, 231-357-8353

Please note that all meetings do not fall on a Friday this year due to holidays.

June 3

3-5PM

Crain Hill Vineyards - Leelanau

Topics: Shoot thinning, leaf pulling

June 30 (Thursday)

3-5PM

Leorie Vineyard - Old Mission

Topics: Crop estimation

August 5

3-5PM

2 Lads - Old Mission

Topics: MSU cover crop trials

36th Annual ASEV-Eastern Section Conference

July 11-14

Sheraton Baltimore North Hotel - Baltimore, Maryland

(Symposium on July 12, Pest management: Impacts in the vineyard and winery)

Registration and information: <http://www.asev-es.org/>

2011 SW Grape Grower Meetings

Sponsored by MSU Extension
Info: Diane Brown, 269-605-6305

Registration includes lunch, and is 15.00 per person/meeting, paid in advance, 20.00 paid the day of the meeting. Please register in advance with Linda Gustafson at the Berrien County MSUE office (269-944-4126). Checks should be made out to Berrien County MSUE and mailed to 1737 Hillandale Rd, Benton Harbor, MI 49022.

June 8

12-3PM

Cronenwett Farms - Lawton

Registration: \$15/\$20 per person, lunch provided

Topics: Shoot thinning, leaf pulling

July 27

Viticulture Field Day - SWMREC

Topics: To be announced

Info: Tom Zabadal, 269-944-1477

August 10

6-9PM

Dongvillo Vineyards - Berrien

Registration: \$15/\$20 per person, dinner provided

Topics: Insect management, spray coverage comparisons using UV dye.