

Wine-Grower-News #17

Midwest Grape & Wine Industry Institute: <http://www.extension.iastate.edu/Wine>

August 31, 2007

Information included in this issue includes:

***Multicolored Asian Lady Beetle (MALB), *Harmonia axyridis*
Should We Be Washing Our Grapes?***

Edelweiss Must Adjustment, by Dr. Murli Dharmadhikari

UMN Annual Grape Breeding & Enology Fall Tour, Sat. Sept 8th

4-Sale - Whisky Run Creek Vineyard & Winery, Brownville, NE

***A Letter to NY Winemakers (10-5-06): A “MUST READ” for Iowa Winemakers
this Season.***

Consider Frontenac Roses for Your Frontenac Vineyard

Cold Tolerant Pinot Noir, Cabernet, or Shiraz? -- Maybe sooner than later!

500 lbs Harvested from (1- Uno – One) Niagara Vine in Manhattan, NY

Harvest Parameters – When to Pick?

Iowa’s Rank in U.S. Wine Production

“Wine Drinkers Find A Bit of Napa Valley in the Midwest” 8-15-07, CNN article:

Grand Opening – Whispering Pines Winery, Keosauqua, IA

Neeto-Keeno WWW Stuff

Multicolored Asian Lady Beetle (MALB), *Harmonia axyridis*

MALB are becoming a problem in our vineyards. Rain cracked grapes, insect damaged grapes and bunch rots are providing an inviting scent to attract MALB to your vineyard. Calls of what to do about MALB were common this week. The problem will get worse as the harvest season progresses.

A quick review of MALB: MALB’s were first introduced into the U.S. as a biological control insect predator into California in 1916. From 1972-81 there were quite a few more releases in OH, CN, DE, MS, LA, GA, MD, PA, WA and the District of Columbia. They were first reported within Iowa in 1994. The primary problem with MALB is their habit of “reflex bleeding” when disturbed. They will secrete alkaloid laden blood through their leg joints. Methoxy pyrazine is the bitter tasting chemical that is secreted. Birds and other predators quickly learn not to dine on MALB. Though the research varies, most studies indicate that it only takes 0.5 to 1 beetle per lb. of grapes for wine drinkers to begin sensing the methoxy pyrazine in the wine. The taste has been described as a burnt peanut butter taste with a slight scent of a dirty damp and musty basement.



Purdue University

What to do? I would suggest checking your vineyard every other day this time of year to determine if MALB's are becoming a problem. They like to hide deep within the cluster so it might be a good idea to grab some clusters and place in a plastic bag. Then come back in about 30 minutes to count the MALB's that have come out of the cluster. Small batches of grapes can be harvested and floated in water. The MALB's will float to the top and can be discarded. About the only option for a commercial vineyard is to spray an insecticide. I am not aware of any insecticide specifically labeled to control MALB in grapes but there has been enough research done to show that the following insecticides have been effective in the past in removing MALB off of the grapes. Note that the pre-harvest intervals (PHI) and re-entry intervals (REI) are key components of your decision when spraying during the harvest season.

Insecticide	Restricted Use	Rate/acre	\$/acre	REI (b)	PHI (c)
Assail	no	2.5 oz	15.22	12 hrs	7 days
Aza Direct (a)	no	2-3 pt	45 - 67	4 hrs	0 day
Baythroid XL	yes	2.4 - 3.2 oz	7.50 - 10	12 hrs	3 days
Malathion 57C	no	1.5 - 3 pt	6 - 12	12-24* hrs (d)	3 days
Mustang Max	yes	4 oz.	8	12 hrs	1 day
Provado 1.6F	no	3-4 oz.	10 - 14	12 hrs	0 day
Sevin XLR	no	1-2 qt	10 - 20	12 hrs	7 days

- a. Aza Direct is a certified organic insecticide
- b. REI = Re-entry Interval
- c. PHI = Pre-harvest Interval
- d. REI varies by manufacturer & formulation

Note: Baythroid and Mustang are pyrethroid insecticides. They both have a rapid knockdown and act to repel insects.

: Aza Direct is shown good knockdown and repellency.

: Research by the University of MN showed Sevin XLR as the best choice when considering cost.

: Provado tends to quickly knock them to the ground but does not kill MALB.

Additional MALB resources:

1. MALB, North Central Pest Mgt. Center:
<http://pestmanagementcenter-mn.coafes.umn.edu/Ladybeetle.pdf>
2. MALB is a Potential Threat to Wineries This Year, 10/03. Cornell Univ:
http://www.nysaes.cornell.edu/fst/faculty/henick/harvestpdfs/Asian_Lady_Beetle_1OCT03.pdf
3. MALB on Grapes, Missouri State University:
<http://mtngrv.missouristate.edu/Publications/Ladybug1.pdf>
4. MALB, ISU IPM Newsletter, 4-10-06:
<http://www.ipm.iastate.edu/ipm/icm/2006/4-10/ladybeetle.html>
5. MALB, Clemson Univ.:
<http://entweb.clemson.edu/creatures/ladybird.htm>
6. MALB, Update by Kevin Ker & Neil Carter, Ontario, Canada:
http://www.brocku.ca/ccovi/news/MALB_QA_2004_update.pdf
7. MALB, UMN USDA-RMA report:
<http://www.extension.umn.edu/distribution/horticulture/DG8232.html>
8. "Efficacy of Selected Insecticides on MALB" UMN, 10/2006:
<http://www.plantmanagementnetwork.org/sub/php/research/2006/lady/>

Should We Be Washing Our Grapes?

A couple of years ago I visited Peterson & Sons Winery in Kalamazoo, Michigan. Duane Peterson is the owner and winemaker. Duane opened his winery in 1983 and now has a capacity of 20,000 gallons. What is unique about Duane's operation is that he washes his grapes before processing them into wine. This is the statement Duane has posted on his Winery WWW site:

Washing the grapes prior to crushing gets rid of the spray residues, insects, bird droppings, and most importantly, any bad grapes and their vinegar spores!

I called Duane on Thursday this week to make sure I got this story right. He filled in many of the facts I had forgot. Duane uses a stainless steel link conveyor and several people holding garden hoses with regular nozzles at around 60 psi water pressure to wash the grapes as they move down the conveyor to the hopper. The wash water and debris passes through the conveyor into a trough below. The secret of making this work is to cool the grapes down to around 35-38°F prior to washing. Duane says that the good grapes become firmer and the diseased and damaged grapes become less firm as they are cooled in his walk-in cooler. Washing the individual clusters with the garden hose cleans the grapes, washes out the diseased berries, removes unwanted debris and removes insects, INCLUDING MULTICOLORED ASIAN LADY BEETLES (MALB). Duane confirmed this over the phone!



I am not aware of any other winery doing this. It is such a simple system to remove the bad things you do not want in the wine. I think it is worth considering. Just Google “screen conveyor or stainless steel conveyor or produce conveyor”, and you will quickly find that used conveyors are for sale all over the place. Having a wash conveyor system on hand during a harvest season of heavy bunch rots and MALB in the grapes could quickly pay for itself. Something to consider?

You can check out Peterson & Sons Winery here: <http://www.naturalwines.net/>

Edelweiss Must Adjustment

by Dr. Murli Dharmadikari off: 515-294-4362 or murli@iastate.edu

In a cold climate such as Iowa, generally the grapes ripen with higher titratable acidity and low pH. But in some varieties such as Edelweiss, we can find low acid and higher pH at maturity. For example this year, Edelweiss samples at harvest from two locations showed following fruit composition

	A	B
Brix	17.1	16.5
TA	4.8g/l	4.7g/l
pH	3.66	3.99

The analysis shows that the must is deficient in sugar and acid content and has a high pH

To produce higher quality wine from this must, both sugar and acid levels need be adjusted prior to fermentation.

Sugar should be added to bring must to 21-220Brix

The must acidity should be raised to 7-9 g/l (depending on dry or sweet wine) with a target pH of 3.1 to 3.4.

For acid addition tartaric acid is the acid of choice because at wine pH it is not degraded by organisms. Where as citric and malic acid can be metabolized. The tartaric acid addition will increase acidity and also lower pH. Optimum must acidity and relatively low pH positively affects must fermentation. It produces wine with greater degree of fruit flavors, promotes healthy growth of yeast cells, growth of undesirable organisms is checked and the resulting wine is more resistance to microbial attack. In general, a lower wine pH is desirable because the wine is less prone to oxidative and microbial spoilage. The preservatives such as SO₂ and Sorbate are more effective, proteins and bitartrate stability is positively influenced and the in red wine, the color is improved.

The tartaric acid addition to must should be experimentally determined. For conducting a bench trail, take a must sample and add increasing amounts of tartaric acid and note the resulting changes in TA and pH. The dose of tartaric acid that yields the most desirable TA/pH combination should be the amount used to treat the must.

Note that some of the added tartaric acid will precipitate, so the increase in TA will be less than the expected. The effect of acid addition on pH is not predictable due to the buffering capacity of the must, therefore, it is necessary to do the bench trail to determine the effect of acid addition on wine pH.

Using the above mentioned Edelweiss must, we conducted a bench trail with tartaric acid additions. The effect of acid addition on the must pH is shown in the table below. Due to low TA of 4.8g/l and 4.7g/l , we can add up to 4.0 g/l of tartaric acid and still stay in the desired range of 7 to 9 g/l TA and also get good pH values.

Effect of tartaric acid addition on Edelweiss must pH

Amount of tartaric acid added Grams /liter	Resulting pH	
	sample A	Sample B
0.5g/l	3.59	3.92
1.0g/l	3.47	3.81
1.5g/l	3.41	3.73
2.0g/l	3.34	3.65
2.5g/l	3.28	3.56
3.38(below target of 3.4)		
3.0g/l	--	3.49
3.5g/l	--	3.44
4.0g/l	--	3.38

Comments: Results of the bench trial show that in sample A, addition of 2.5 g/l of tartaric will yield a TA of 7.37g/l (4.87+2.5) and pH of 3.28. These values are in the desired range to make quality wine. Therefore, 2.5 g/l of tartaric acid should be added to this must prior to fermentation.

In sample B, with high pH of 3.99 we will need to add 4.0g/l of tartaric acid to obtain a favorable pH of 3.38. This addition will also give a final TA of about 8.71g/l

As you can see the two samples require different acid addition treatment and this is why we should do the bench trial to make the necessary must adjustment.

UMN Annual Grape Breeding & Enology Fall Tour, Sat. Sept 8th
(Folks, this is a good one to attend if you can. Short but very informative.)

What: The University of Minnesota Horticulture Research Center (HRC) Grape Breeding and Enology Projects annual Fall Tour

When: Saturday, September 8th from 10 a.m. to 12:30 p.m.

Where: UMN HRC, 600 Arboretum Blvd, 1.5 miles west of MN Landscape Arboretum
(Located approx. 5 miles west of Minneapolis)

Cost: Free to the public, no registration necessary

Agenda: Features a free tour of the HRC research vineyards, tips on growing and trellising techniques for UMN grapes, and an opportunity to see and taste fruit from many wine and table grape cultivars.

More information and directions can be found at this website:

<http://winegrapes.cfans.umn.edu/calendar2.html>

This tour will be a great opportunity to see and taste fruit from a large number of named varieties and breeding selections. It will also be a chance to see the effects of a severe drought followed immediately by 80 mph winds and 7-8" of rain! In addition, there will be examples of various grape diseases on hand to help familiarize you with their symptoms. After touring some of the U's research vineyards you will have a chance to visit the research winery and hear about some of the work being done there. There is no charge for this event.

4-Sale - Whisky Run Creek Vineyard & Winery, Brownville, NE

In issue #8 of Wine Grower News (8-24-07) I informed you that Bob Curttright, founder/operator of Whisky Run Creek Vineyard and Winery has passed away in his home at the age of 68 on Friday, June 22, 2007.

I received the following e-mail notice today (8-31-07) that the winery is now for sale. I also confirmed this with a telephone call

For Sale

After very careful consideration, Bob Curttright had decided to sell Whiskey Run Creek. Bob's family also agrees that selling the winery is best. That said, we are enjoying continuing the business with the same integrity and commitment to fine wine as he always insisted upon, until a buyer is found. We are confident that we will be handing over an exciting, healthy business with positive paths for the future.

If you are interested in finding out more, please contact:

tammy@lynch2.com or call 224.659.3699

Rumor Control

Many people have approached us stating that they heard the winery was already sold. Just recently we have also heard that a past potential buyer is stating that, "the heirs changed their minds". Both are FALSE statements. We may live in the country, but even we understand, you don't own it until you pay for it. And, at all times, the "heirs" were willing to sell it.

1. Whisky Run Creek Vineyard & Winery: <https://www.whiskeyruncreek.com/main.taf?p=4>

A Letter to NY Winemakers (10-5-06): A "MUST READ" for Iowa Winemakers this Season.

What to do about Bunch Rot, Low Brix, High Acid, Low Phenolics, and Low Yeast Nutrients:

<http://www.nysaes.cornell.edu/fst/faculty/henick/pdf/bunch%20rof%20infected%20fruitO%201.pdf>

Consider Frontenac Roses for Your Frontenac Vineyard

Powdery mildew and black spot (not black rot) are two common diseases of roses that are easily seen when present. It was a common tradition to Europe to plant roses within the vineyard as disease indicator plants. The first indication of any disease on the roses would induce the application of sulfur or copper sulfate & hydrated lime (Bordeaux mixture) for disease control.

Many owners of vineyards in the U.S. have repeated this tradition of planting roses at the end of trellis rows to add culture and ambiance to their vineyard. The roses planted today act more to enhance the conversation than as a disease indicator. In reality, the vineyard should be treated for diseases prior to diseases showing up on the roses. But,...it does make for a good story.!

Rosa Frontenac (Frontenac rose) is a very cold tolerant (-20 to -30°F) rose that was bred and introduced by Dr. Ian S. Ogilvie of Canada in 1992. This extremely floriferous (many flowers) will produce pink flowers from June to the end of September in Iowa. It is a shrub type rose that can reach 2-4' in height and 2-3 feet in width. It can be planted in full sun to light shade. It is resistant to powdery mildew and black spot. Definitely something to consider for your Frontenac vineyard.

PS: Thank you to Lon Rombough, author of **The Grape Grower**, at <http://www.bunchgrapes.com> for bringing this to my attention.

1. "Roses for Northern Climates", The Victory Garden:
<http://www.pbs.org/wgbh/victorygarden/bestbets/northernroses/index.html>
2. "Frontenac", Heirloom Roses Canada:
<http://oldheirloomroses.com/Frontenac.htm>
3. "Rosa Frontenac" Canada's finest plants:
<http://www.canadasfinestplants.com/getPlantByID.asp?id=974>
4. "Frontenac Rose", Corn Hill Nursery:
<http://www.rogersroses.com/gallery/displayBlock.asp?bid=1138&suppid=18>
5. "Frontenac Rose",: <http://www.helpmefind.com/rose/pl.php?n=2871>

Cold Tolerant Pinot Noir, Cabernet, or Shiraz? -- Maybe sooner than later!

Dozens of Italian and French scientists of the French-Italian Public Consortium for Grapevine Genome Characterization worked to identify the entire genome of the Pinot Noir varietal of *Vitis vinifera*. The study, published in the British journal *Nature*, will be of enormous interest to genetic engineers who want to enhance wine characteristics and disease and cold resistance through genetic manipulation. Research is already underway to develop Powdery Mildew resistance to Pinot Noir.

Vitis vinifera is only the fourth complete genetic sequence ever produced for a flowering plant, and the first for a fruit crop. The other three are rice, the poplar, and *Thale Cress*, a species of wild plant related to mustard and cabbage. Check out the entire article here:

1. "Wine Grape Genome Decoded – Flavor Genes Found" 8-27-07, Agence France Presse (AFP): http://www.expatica.com/actual/article.asp?subchannel_id=25&story_id=43242

500 lbs Harvested from (1- Uno – One) Niagara Vine in Manhattan, NY

Latif Jiji, 79 year old engineering professor in Manhattan planted one Niagara stick behind his 4 story townhome in 1977. It now covers the entire back and roof. Over 100' of trunk. He harvested a new record of 500 lbs. of grapes this year. Check it out here:

1. "Iraqi Past Ferments in an Unlikely New York Winery" 8-27-07, Washington Post: <http://www.washingtonpost.com/wp-dyn/content/article/2007/08/26/AR2007082601362.html?wpisrc=newsletter>

Harvest Parameters – When to Pick?

The questions come in often. At what Brix, Titratable Acidity (TA) and PH should I harvest so-and-so variety? Of course the answer will vary depending on harvest season, variety and style of wine the winemaker intends to make. The following resources will enlighten the reader as to what cluster weights, berry weights, harvest dates, Brix's, pH's, TA's, crop load's, etc has been seen in the past for many of the varieties we grow in Iowa:

1. Viticulture Consortium –East 2006 Cultivar Progress Report, Dr. Bruce Bordelon, Ohio State Univ. 12 yr and 5 yr averages shown here for many of our varieties: <http://www.nysaes.cornell.edu/pubs/vitcon/07pdf/10.pdf>
2. ISU Gilbert Farm & Armstrong Research Farm 2006 Grape Cultivar Mgt Systems Progress Report: <http://www.ag.iastate.edu/farms/06reports/arm/GrapeCultivar.pdf>
3. 2006 ISU Winegrape Cultivar Progress Report for farms at Lewis, Nashua, Gilbert and Crawfordsville: <http://www.ag.iastate.edu/farms/06reports/ne/WineGrapeCultivar.pdf>
4. Super Gigantic Y2 Winegrape Glossary by Anthony Hawkins: <http://www.wine-lovers-page.com/wineguest/wgg.html#hybrid>
5. European *Vitis* Database, detailed info on 15,936+ varieties: <http://www.genres.de/eccdb/vitis/>
6. Bert Dunn's "Little Fat Wino's" varietal notes: <http://www.littlefatwino.com/bertslist.html>
7. Dark Cove Cottage Farm & Winery, Newfoundland, Canada "Linked" list of varieties: Each varietal link takes you to a completely different resource: <http://www.dccw.ca/varieties.htm>
8. Univ. of MN Wine Profile for Frontenac, Frontenac Gris, LaCrescent & Marquette. Select the "Variety" and then select "Enology": <http://www.grapes.umn.edu/wine.html>

Iowa's Rank in U.S. Wine Production

The following information was taken from the Tax & Trade Bureau wine industry data posted on Wine America's WWW site here: <http://www.wineamerica.org/newsroom/data.htm>

U.S. Wine Production by State 7/05 to 6/06

State	Gallons	Rank	State	Gallons	Rank	State	Gallons	Rank
CA	713,540,700	1	PA	760,905	14	CN	95,965	27
NY	28,700,952	2	IN	542,226	15	MN	59,129	28
WA	19,728,785	3	NM	535,376	16	NE	52,122	29
OR	3,367,111	4	ID	531,380	17	KS	42,636	30
FL	1,645,087	5	WI	415,709	18	WV	37,899	31
NJ	1,624,839	6	IL	343,300	19	OK	37,357	32
KY	1,208,352	7	MD	230,163	20	MA	33,630	33
OH	1,061,940	8	CO	206,497	21	AZ	32,031	34
TX	1,037,708	9	TN	204,607	22	SD	17,253	35
MI	961,459	10	IA	137,820	23	MT	10,167	36
MO	958,360	11	GA	136,065	24	RI	710	37
VA	860,824	12	VT	107,578	25	AL	125	38
NC	767,648	13	MA	97,650	26	Total	= 780,132,065 gallons	

Here is another way to look at it:

California	= 91.5%	Oregon	= 0.4%
(% of U.S. Gallonage)		Iowa	= 0.018%
New York	= 3.7%	All other states	= 1.8%
Washington	= 2.5%		

Grand Opening – Whispering Pines Winery, Keosauqua, IA

We have a new winery in Iowa and they are having their Grand Opening this Labor Day Weekend. Steve & Becky Tucker, owner/operators of Whispering Pines Winery located 4.5 miles west of Keosauqua, Iowa will be hosting their Grand Opening from 11 a.m. to 6 p.m., Saturday, Sunday and Monday, September 1, 2 & 3. There will be live music from 2-6 p.m. on Sunday. Bring your lawn chairs. Check them out here: <http://www.whisperingpineswinery.biz/index.html>

“Wine Drinkers Find A Bit of Napa Valley in the Midwest” 8-15-07, CNN article:
<http://www.cnn.com/2007/TRAVEL/08/15/small.wineries.ap/index.html>

Neeto-Keeno WWW Stuff

- 1.” What is in a bottle of Wine - \$6 Billion” Excellent mini-poster from NY Wine Industry:
<http://www.newyorkwines.org/articles.root/809/What's%20in%20a%20bottle%20-%20web%20res'06.pdf>
2. “ Words on Wine” 15 pages of wine quotes to impress your friends:
<http://www.newyorkwines.org/articles.root/792/Words%20on%20Wine%20Final.pdf>

Past issues archived here: <http://www.extension.iastate.edu/Wine/Resources/winegrowernews.htm>

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