

## ***Wine-Grower-News #16***

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

August 24, 2007

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***Reminder: ISU Midwest Grape & Wine Industry Institute's Wine Analysis Lab is Open for Business***

Check it out here: <http://www.extension.iastate.edu/Wine/lab.htm>

### ***What Kind of Berry Shriveling Do You Have?***

I have received several complaints of grapes (primarily reds) shriveling up on the vine just prior to harvest. A few of the cases can be attributed to prior disease infections or bird damage. But, most have been associated with dry and hot conditions. *Yes there were some dry areas in the state prior to our recent Monsoon rains!*

***Shriveled Niagara Grapes from Prior Downy Mildew Infection***

There are several reasons grapes will shrivel this time of year::

- a. Insect or bird damage with associated dehydration. Physical damage to the outer skins of the most exposed grape clusters commonly shows up first.
- b. Prior disease infections with associated dehydration. Fungal fruiting spores can typically be found.
- c. Hot and dry environmental conditions. Prior to veraison water enters the berry through the xylem water transport system. As the berry matures the phloem becomes the main water transport system. The phloem is not as efficient in transporting water as the xylem. Maturing grapes under hot dry conditions can quickly become very warm and begin to shrivel. Late season leaf removal and the



- associated sunburn can be included here. (4)
- d. Bunch Stem Necrosis (BSN) is a physiological condition that causes the peduncle or parts of the rachis to deteriorate causing grapes in parts of the cluster to shrivel. Sugar accumulation stops and the berries will often remain sour. Sometimes the entire cluster will shrivel. Low temperatures and high humidity around bloom or excessive rainfall after veraison may be related to its development. Imbalances between calcium and potassium as well as low levels of nitrogen in vines are other possible causes. Unaffected portions of clusters develop normal fruit quality.
  - e. Berry Shriveling is a disorder that is very similar to BSN but the rachis and peduncle remain green and intact. Symptoms show up throughout the entire cluster. Researchers seem to feel this is a condition that can be found around the world but don't know what causes it. (1)
  - f. Dehydration or raisining is the natural process of grapes as they mature under hot and dry conditions while sugar accumulation ceases. Individual grapes scattered throughout the cluster and not the entire cluster will show this condition. Wine fruit quality is still maintained.

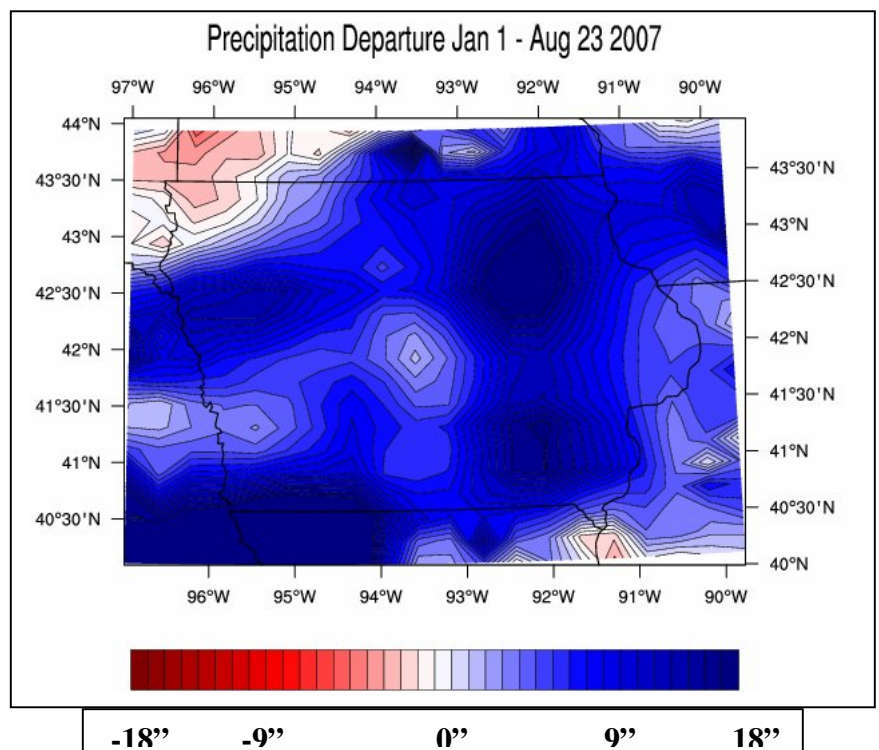
1. "Berry Shriveling" All the same? Washington State Univ. Viticulture article:  
<http://winegrapes.wsu.edu/archivedTOM/topic11-06.html>
2. "Grape Shriveling" UC Davis article:  
<http://postharvest.ucdavis.edu/Produce/Disorders/grape/grpeshriv.shtml>
3. "Berry Shriveling & Bunch Stem Necrosis" UC Davis research summary:  
<http://www.winebusiness.com/GrapeGrowing/webarticle.cfm?dataId=44319>
4. "Grape Ripening & The Determining of Grape Maturity": WSU:  
<http://ecommons.library.cornell.edu/bitstream/1813/467/1/200413.doc>
5. "Grape Disorder Shrivels Profits" Good Fruit Grower, May 1996:  
<http://www.goodfruit.com/issues.php?article=1379&issue=35>
7. "Mysterious Berry Shriveling" Wines & Vines, July 2007:  
<http://www.winesandvines.com/template.cfm?section=features&content=49017>
8. "Bunch Stem Necrosis" Tom Zabadal, Michigan State Univ:  
<http://www.grapes.msu.edu/bunchstem.htm>

### ***Too Much Rain!***

The adjacent rainfall map taken from the Iowa State University's Mesonet weather station site shows the huge deviations we are seeing from our normal rainfall patterns in Iowa.

ISU Mesonet can be found here:  
<http://mesonet.agron.iastate.edu/climate/>

Heavy thunderstorms do not make for a good grape harvest.



The water from a significant rainfall will enter the berries in 24-26 hours. Excess water entering the ripening berries will:

- a. Lower the Brix level (1-2 points is common)
- b. Lower the total acidity
- c. Raise the pH
- d. Flavor components will decline

Heavy rains will increase the risk of fruit splitting which leads to:

- a. Decreased yields
- b. Increased risk of bunch & sour rots
- c. Increased bee, yellow jacket and hornet problems
- d. Increased risk of multicolored Asian Lady Beetles (MALB)
- e. Delayed harvest with increased risk of animal damage

Here are some management considerations under wet conditions:

- a. Keep the winemaker informed of changes in Brix, Total acidity and pH levels.
- b. Keep a close eye on the weather report.
- c. Monitor for cracked and deteriorating berries.

It normally takes about a week of dry weather to lower the Brix, Total Acidity and pH back to prior conditions. Get ready to salvage what you have if wet conditions persist or berry quality deteriorates.

1. "Rain & Ripening" by Dr Joseph Fiala, Univ. of Maryland:

<http://www.oardc.ohio-state.edu/grapeweb/OGEN/10142005/ogen10142005.htm>

### ***Time to Remove Those Grow Tubes***

A good rule of thumb for Iowa vineyards is to remove those grow tubes in August. This will help your young plants become acclimated and begin the process of "aoutement". Aoutement is a french term used to describe the period beginning when the vine's rate of growth slows and the shoots and canes begin to show woodiness (lignification). Untubed vines will have a much better chance of making it through the winter. Some of you will want to put on the grow tubes again next spring to protect weaker plants or plants cut back to just several buds. This is fine, just make sure they come off now so that the lower part of that vine can acclimate, lignify and make it through our upcoming variable and cold winter.

1. MDT & Associates "Grow Tubes FAQ's": <http://www.mdtgrow.com/growtubes.html>

2. "Post Harvest Vineyard Care" Univ. of NE Vine Lines, Sept. 2002:

<http://agronomy.unl.edu/viticulture/september2002.htm>

3. Muscadine Grape Production Guide for NC, p12, NC State University:

<http://www.smallfruits.org/Muscadines/production/MuscadineGuide2003.pdf>

4. Midwest Grape Production Guide, Ohio State Univ, p 41:

<http://ohioline.osu.edu/b919/0008.html>.

### ***Have You Registered Your Winery on the Iowa Market Maker WWW Site?***

Market Maker is an interactive mapping system that locates businesses and markets of agricultural products in Iowa, providing an important link between producers and consumers. An increasing number of Iowa farmers, producers, wholesalers, restaurants, processors, farmers markets and wineries are posting their information on the Iowa Market Maker site.

There is a huge amount of information on the Iowa Market Maker site. Iowa maps relating to demographic Iowa marketing information and types of businesses can be quickly brought into view.

Another button on the site allows you to either register your business (free) or search for business that you many want to do business with. The Iowa Market Maker is managed and supported by the ISU Extension Value Added Agriculture Program in partnership the University of Illinois Extension Service. Check it out here: <http://ia.marketmaker.uiuc.edu/>

### ***Bees, Yellow Jackets and Hornets***

I have received several calls regarding what to do about bees and wasps damaging grapes. Most likely the wasps are yellow jackets (look somewhat similar). Wasps tend to prefer protein sources and not sweets. Bees, yellow jackets and hornets all have a sweet tooth. Often the problem with bees, yellow jackets and hornets begins with bird damage or grape cracking because of too much rain or hail. The sweet juice seeping out of the skin then attracts the bees, yellow jackets and hornets.

There are several methods to keep bees/yellow jackets/hornets off of grapes. None work perfectly. Here are some options you can consider.

1. Put some homemade traps around the edges of the vineyard, not in the vineyard. This option will lower the population but will not eliminate the problem.
  - a. <http://rpenland.bee.net/beetrap.htm>
  - b. [http://www.pestcontrolcanada.com/INSECTS/wasp\\_traps.htm](http://www.pestcontrolcanada.com/INSECTS/wasp_traps.htm)
  - c. <http://www.alaskaoutdoorjournal.com/Departments/Tips/yellowjacket50.html>
  - d. [http://www.pollinator.com/gallery/yellow\\_jacket\\_trap.htm](http://www.pollinator.com/gallery/yellow_jacket_trap.htm)
  - e. [http://www.ehow.com/how\\_1740\\_make-trap-yellow.html](http://www.ehow.com/how_1740_make-trap-yellow.html)

Or you can purchase traps:

- a. <http://www.brandsonsale.com/job-jb3216.html>
- b. [http://www.yankeegardener.com/wasp\\_trap.html](http://www.yankeegardener.com/wasp_trap.html)
- c. <http://www.bugspray.com/catalog/products/page1980.html>
- d. <http://www.greenfire.net/hot/P381.html>

2. There are several insecticides that can be used to kill and/or repel bees/yellow jackets/hornets off of grapes though none are specifically labeled to control bees, yellow jackets or hornets on grapes. Insecticides that you may want to consider include:

<b>Insecticide</b>	<b>Restricted Use</b>	<b>Rate/acre</b>	<b>\$/acre</b>	<b>REI (b)</b>	<b>PHI (c)</b>
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 kill and repel insects.

## *Quote of the Week*

Netting of vineyards to mitigate bird damage was necessary for many small vineyards. In Northern Kentucky, **40%** of the grape crop was lost to birds. (1)

1. Kentucky Fruit Facts, (11-12/2006), p. 3, University of Kentucky:  
<http://www.ca.uky.edu/fruitfacts/ffnovdec06.pdf>

## *Timely Tip on Crop Yield and Ripening*

Grape berries reach their maximum weight at 18 to 20 Brix (depending on the variety). The weight gradually declines as soluble solids increase. Decreases in berry weight are a function of variety, cultural practices (irrigation, nutrition, trellis system, etc.), and vineyard location. Generally, berry weight decreases 1% to 3% per point increase in Brix. (1)

1. Nebraska Vine Lines, Volume III, Issue 4, page 4, :  
<http://agronomy.unl.edu/viticulture/AUGUST%20SEPTEMBER%202005.pdf>

## *UMN Annual Grape Breeding & Enology Fall Tour, Sat. Sept 8<sup>th</sup>* *(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 at 10 am.

**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>

## *TTB Taking Public Comments Regarding New Wine Labeling Requirements*

The Tax & Trade Bureau (TTB) is accepting comments on the “Serving Facts” labeling notice of proposed rulemaking until October 29, 2007. Much of the new proposal involves putting nutrition information on the label. Further info can be found here: <http://www.ttb.gov>

## *Neeto-Keeno WWW Stuff*

1. The Adams Wine Handbook 2007 contains wine consumption by category, state and metro market. Brand data, retail sales, consumer demographics, and industry statistics are included. The cost of the publication is \$725 (with CD, \$895). The Adams Beverage Group, a division of M2MEDIA360, serves all aspects of the beverage alcohol industry through Cheers, Beverage Dynamics and StateWays magazines, Adams Beverage Handbooks, Adams Business Research:  
<http://www.adamsbevgroup.com>

2. VineGuy Productions – Videos from Budbreak to Harvest: <http://www.vineguyproductions.com/>
3. Sandra Taylor's August 2007 World of Wine Newsletter:  
<http://www.worldofwine-ia.com/newsletter.html>

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

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