

# Virginia Cooperative Extension

*Knowledge for the Commonwealth*



VIRGINIA POLYTECHNIC INSTITUTE  
AND STATE UNIVERSITY



VIRGINIA STATE UNIVERSITY

Vineyard and Winery Information Series:

## VITICULTURE NOTES ..... Vol. 25 No. 1, January - February, 2010

Tony K. Wolf, Viticulture Extension Specialist, AHS Jr. Agricultural Research and Extension Center, Winchester, Virginia

[vitis@vt.edu](mailto:vitis@vt.edu)

<http://www.arec.vaes.vt.edu/alson-h-smith/grapes/viticulture/index.html>

I. Current situation .....	1
II. Update on cold hardiness .....	3
III. News from grape pathology program .....	4
IV. Other news .....	7
V. Upcoming meetings .....	7

### I. Current situation:

*Cold weather:* Wow, that's cold. Saw 1°F briefly on the thermometer this morning (31 Jan) and instinctively thought about sunny beaches somewhere warm. Then I thought about our vines. Single digit temperatures start pushing the tolerance envelope with vinifera and even some hybrids, particularly those that we think of as being relatively “cold-tender” – Syrah, Merlot, Tannat, etc.. Should we be concerned about this morning's temperatures, the coldest that we've seen for the winter here in Frederick County? Sure. But read the hardiness update on page 3.

*New Viticulture website:* Cooperative Extension and Virginia Agricultural Experiment Station websites were upgraded to a new server and hosting system this fall, requiring a revision of content and change of URL. The new viticulture website is:

<http://www.arec.vaes.vt.edu/alson-h-smith/grapes/index.html>

Follow the links from here to viticulture and Extension and Outreach to find most of the materials that were posted to my old website. Additional content will be added this spring. Several readers have inquired about where old **Viticulture Notes** editions are maintained. They are still available; however, I have lost the cumulative index with hyperlinks and will have to rebuild that as time allows. The URL for the archived Viticulture Notes newsletters is:

<http://sites.ext.vt.edu/newsletter-archive/viticulture/>

*Dormant pruning videos:* Dormant pruning was started in larger vineyard back in November and is likely running somewhat behind schedule given the wet, cold, and/or snowy weather of the past month or more. While growers of cold-tender varieties prefer to wait as long as possible before pruning, larger vineyards cannot afford to wait if the practice is done entirely by hand. We devote an entire chapter to pruning and training in the new [Wine Grape Production Guide for Eastern North America](#). I would remind readers that Fritz Westover, formerly with Virginia Tech and now with Texas AgriLife Extension Service in Houston, has three very informative Adobe

Presenter videos available at my website that discuss and illustrate pruning from basics to compensating for winter injury. The website address is:  
<http://www.arec.vaes.vt.edu/alson-h-smith/grapes/viticulture/extension/growers/index.html>  
(scroll down to see the pruning presentations by Fritz Westover).

Also, if you go back (<http://sites.ext.vt.edu/newsletter-archive/viticulture/>) and look at my December 2008 Viticulture Notes, there is an extended reply to a question about cane-pruning vs. spur-pruning in which I write about pruning wound protectant fungicides.

*2010 Grape Pest Management Guides:* Virginia Cooperative Extension's 2010 Grape Pest Management Guide (PMG) can be downloaded at: [http://pubs.ext.vt.edu/456/456-017/Section-3\\_Grapes-2.pdf](http://pubs.ext.vt.edu/456/456-017/Section-3_Grapes-2.pdf)

The pesticide recommendations are annually prepared by pest management specialists with grape expertise at Virginia Tech, and form the basis of our grape pest management program. Pesticide recommendations augment cultural control practices, including integrated pest management of arthropod pests and good canopy management techniques to set the stage for effective disease control. Detailed disease management recommendations can be found in past issues of Viticulture Notes, in the Compendium of Grape Diseases (<http://www.shopapress.org/40888.html>), at Dr. Nita's website (<http://www.arec.vaes.vt.edu/alson-h-smith/grapes/pathology/index.html>) and by attending regional vineyard meetings, a number of which are listed in this newsletter.

*Virginia Tech's new Dean of the College of Agriculture and Life Sciences:* Dr. Alan Grant has been hired, effective October 1 2009, as the new dean of Virginia Tech's College of Agriculture and Life Sciences. Dr. Grant succeeds Sharron Quisenberry who moved into a university position at Iowa State University. Dr. Grant was a professor and head of the department of animal sciences at Purdue University prior to starting his role as CALS's dean. In his words, "I am committed to Virginia Tech's land-grant mission and believe the college is a natural leader in this area due to its strong assets – quality agricultural and life sciences programs and their integration with Virginia Cooperative Extension and the Agricultural Experiment Station. I am excited about the prospect of working with university colleagues on building the university's future and expanding existing partnerships with internal and external stakeholders. Through these efforts, the college will continue to develop solutions to relevant problems in the agriculture, food, health, and natural resources sectors across its teaching, research, and Extension missions." Dr. Grant will be visiting with interested industry members and the public in a series of 7 town-hall meetings starting in early March (see attached), one of which will be here at the AHS AREC (April 29<sup>th</sup>). The public is invited to these meetings and I would call your attention to the attached flyer if you are interested in meeting dean Grant and discussing your ideas of how Virginia Tech and the College can best serve the grape and wine industry.



*Organic Grape Production Guide:* The New York State IPM Program recently published a new guide for those interested in growing grapes organically. While centered on New York State conditions and issues, the Guide is relevant to others in the East who wish to adopt organic practices in their vineyards. The '2010 Production Guide for Organic Grapes' was edited by Tim Weigle and Julie Carroll of the IPM Program, with contributions from many researchers and extension staff from New York and Pennsylvania. Production of the guide was funded in part by the New York Department of Ag & Markets.

The guide is not just about pest management in an organic production system. It includes chapters on soil health, cover crops, site and variety selection, and nutrient management, in addition to pest management. The guide provides very good information for grape growers in general, even for those who are not interested in being *certified* organic growers. Congratulations to Tim and Julie for putting together a very comprehensive and easy-to-use guide. The guide may be freely downloaded at [http://nysipm.cornell.edu/organic\\_guide/grapes.pdf](http://nysipm.cornell.edu/organic_guide/grapes.pdf). It is only available in an electronic format, but it can be downloaded and printed if you want a hard copy.

## II. Update on vine cold hardiness:

We have only one cold hardiness project going on this winter in which we are monitoring bud cold hardiness from Cabernet Sauvignon vines in our vine growth management project. An overview of the project can be found at my website: <http://www.arec.vaes.vt.edu/alson-h-smith/grapes/viticulture/research/ground-cover.html>

Research technician Kay Miller has been looking at cold hardiness of buds collected bi-weekly from 8 of the specific treatments involved in this research. Treatments include under-trellis cover crops (vs. herbicide strips), 3 different rootstocks, and root restriction vs. no root manipulation. Our initial results from this work (2008 and 2009 growing seasons) have been very encouraging and have generated a good bit of interest as practical means of creating more desirable canopy architecture, reducing berry size and producing some potentially positive changes in fruit chemistry. These responses are linked to the reduced vegetative development of the vines where we've imposed the competition for soil moisture via cover crops or restricted rooting volume.

Our interest in potential effects of treatments on cold hardiness is based on the fact that Cabernet Sauvignon is not a particularly cold-hardy variety in Virginia, and stresses imposed on the vine during the growing season may have an undesirable impact on the vine's ability to withstand winter cold injury. The data plotted below in figure 1 are Mean Low Temperature Exotherm (MLTE) temperatures for buds of Cabernet Sauvignon vines grown with a companion cover crop under the trellis (creeping red fescue) or managed with an herbicide strip under the trellis. Both of these treatments involved vines that had no root manipulation (NRM) and these particular vines were grafted to riparia Gloire. The dormant bud MLTE temperature is an approximation (but a good one) of the temperature at which approximately 50% of the buds would be expected to freeze, and be killed at the time of the test. The data trend in Figure 1 is typical of what we'd expect to see. Vines were "hardy" to single digit figures in late-October, but became much more acclimated with the onset of very cold weather in mid-December

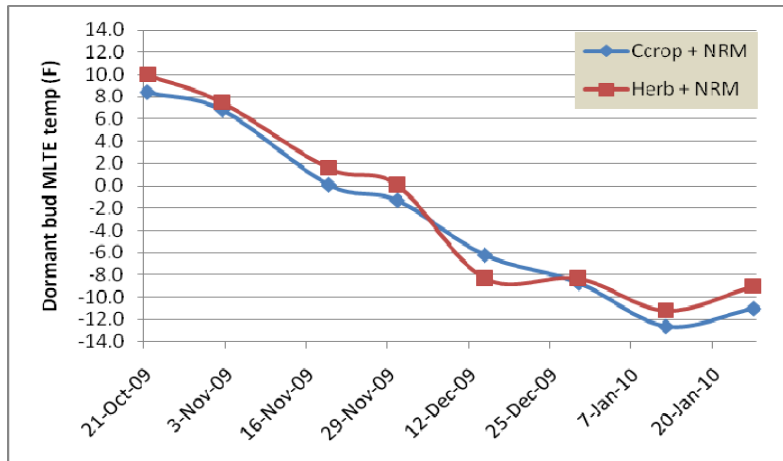


Figure 1. Mean Low Temperature Exotherm temperatures of Cabernet Sauvignon dormant buds collected from vines grown with under-trellis cover crop (Ccrop) or in herbicide strips (Herb) at Winchester.

There are two important points to make with the data presented. First, the nadir, or low point in acclimation for these vines was greater than what I've ever seen for Cabernet Sauvignon in our freezing tests here at Winchester. Similar freezing tests that we did in the nineties would normally show Cabernet Sauvignon acclimating to an MLTE of only about -5°F at best [take a look back at an old newsletter that included January 1997 and January 1998 data at <http://sites.ext.vt.edu/newsletter-archive/viticulture/98janfeb.html> to see just how different the current winter's data are!]. Our results for the 2009/2010 winter are far superior, with both treatments achieving an MLTE of greater than -10°F shortly after the first of the year. I suspect this is due to the low -- at times very low -- but non-damaging temperatures that we've experienced at Winchester. The slight uptick or loss of hardiness during the last two tests reflects the relatively warm temperatures that occurred around 24-25 January. The second point to make with the data is to comment that our use of under-trellis cover crops, which do impose some stress on the vine, have not appeared to adversely affect bud cold hardiness. If anything, the data suggests a slight advance of acclimation in the fall and a slightly greater mid-winter cold hardiness with the vines grown with under-trellis cover crops. This has really been the perfect fall and winter for optimizing vine cold hardiness. It got cold and dipped into sub-freezing temperatures fairly gradually, but then turned very cold (low teens and some single-digit figures) in December without going so low as to injure our commonly grown variety. It has also stayed cold. Prolonged warm periods (greater than 50°F) can result in appreciable deacclimation at this time of year. It would still be wise to do some cane and bud cutting to look for winter cold injury before you complete your winter pruning.

Be sure to attend the presentation by Tremain Hatch at the VVA's annual technical meeting in March to learn more about what we're learning from the Cabernet vegetative growth management project.

### III. News from the grape pathology program Dr. Mizuho Nita, grape pathologist

First of all, A Happy New Year to everybody! I wish you all a wonderful 2010 season. There are several announcements I would like to make.

- **My phone extension has been changed.** Due to a malfunction of the phone line, my extension number has been changed to 540-869-2560 ext 33.
- **Our webpage has been changed.** My new official webpage is (<http://www.arec.vaes.vt.edu/alson-h-smith/grapes/pathology/index.html>). The contents are not fully uploaded yet, but should be by the time of budbreak.
- **As in 2009, I will keep my blog updated as frequently as possible** (<http://grapepathology.blogspot.com/>). For information on upcoming meetings and within a season disease management discussions, please take a look at my blog. You are very welcomed to post comments too. Last year I was able to update it 3-4 times a week, and I will do my best to keep the same pace. If you are a tech savvy, the blog has the RSS feed that you can subscribe to it. It will give you a note (or the whole article, depends on the setting you have) when the page is updated so that you do not need to check the page everyday.
- **2010 version of Virginia Tech's Pest Management Guide (PMG) is uploaded** ([http://pubs.ext.vt.edu/456/456-017/Section-3\\_Grapes-2.pdf](http://pubs.ext.vt.edu/456/456-017/Section-3_Grapes-2.pdf)). There are a lot of useful information on disease, insect, and weed management. Please take a look at it for your reference. (A link to the PMG is also available from my blog.) As with the last year, I will prepare my version of application guide which focuses on fungal diseases. I'm planning

to publish it before the VVA winter meeting. Also, if you would like to discuss your fungicide schedule, please feel free to contact me.

- ***We had field trials on newer materials against downy mildew and powdery mildew in 2009.*** I will discuss in length at the VVA meeting, but in short, Revus and Revus Top (mandipropamid materials which has low to medium risk for the fungicide resistance development) from Syngenta were tested against downy mildew, Quintec (quinoxifen, medium risk) from Dow, Mettle (tetraconazole, DIM, medium risk) from Isagro, and other experimental chemicals from Gowan and DuPont were tested against powdery mildew. All tested treatments resulted in significantly lower disease than the unsprayed control, and the percent control ranged from 78% to 100%. Thus, these new materials will be good tools in the near future.
- ***Grape Leafroll Disease survey has been conducted in 2009 season, and it will be continued in 2010.*** We have been gathering very useful information, which will be presented at the VVA meeting. If you have any vines that you suspect, please let me know. We will run a free virus tests (for leaf roll viruses (GLRaV-2 and -3), and grapevine flecks virus) for you!
- ***There are several new materials on the horizon.*** They may or may not arrive this year, but here's a list of new product you may see or hear about it soon.

#### List of new products on the horizon (2010):

##### BASF

###### Vivando

- The active ingredient (a.i.) is Metrafenone (FRAC group U8 Benzophenone, no resistance risk information) which has an efficacy against **Powdery Mildew (PM)**. It disrupted hyphae and spore formation of PM fungus. The product is due in June 2010 in CA. The rate is 10.3 fl oz/A, it has a protective activity of 14-21 days. The PHI is 14 days. It may be locally systematic.

##### Bayer

###### LUNA

- The a.i. is Fluopyram (FRAC group 7 Pyrimidas, medium risk), which has an efficacy against PM and Botrytis. It has a protective activity and it moves systemically (probably locally systematic). Since the same a.i. has been used for post-harvest application, the PHI may be very short. The product will be a pre-mixed product of fluopyram + another compound.

##### Syngenta

###### Inspire super 2.82SC

- It is Difenoconazole + Cyprodinil (DMI + AP (Anilino-Pyrimidines): both are medium risk to the fungicide resistance development according to FRAC) pre-mixed material for **PM** control. The company aims to have it on the shelf by March 2010. It has preventative and curative characteristics; and rainfast after 2 hrs of application. The application rate is 14-20 oz/A.

###### Quadris Top

- A Difenoconazole + Azoxystrobin (DMI + QoI) combination material for **PM and Black Rot**. It is due sometimes in 2010. The application rate is 8-15 oz/A.

###### Switch 62.5WG

- A Cyprodinil + Fludioxonil (AP + PP (PhenylPyrroles): both are low to medium risk) combination material for **Botrytis and sour rot**. It has been used for other crops such as strawberry, and it obtained supplemental label for grape Sept 2009. The application rate is 11-14 oz/A.

##### Valent

###### Quash

- It is a Metconazole (DMI) product for **PM**. It has been used in stone fruit production against variety of diseases.

**Others (not named yet)**

- New powdery mildew product from Gowan (tested at Winchester in 2009 and provided a very good control). It should get a name and label very soon.
- Tebuconazole + sulfur combination product from the UPI for powdery mildew control.

Thus, it seems that there are products with a new mode of action, at the same time many others are the pre-mix of existing mode of action. I do not know how the pricing will be, but newer materials tend to be more expensive. Making a decision on fungicide application schedule is always difficult, especially during the season. Thus now is a very good time to think about what you would like to do for the season. Some of the tips are: 1) understand the target organism; 2) know the disease history of your vineyard; 3) keep the eye on the weather condition in your vineyard; 4) rotate the mode of action to prevent the development of fungicide resistant isolate; and 5) be mindful about your budget!

Here are some examples to show why you may need to consider these tips: 1) **Target organism**: Many of downy mildew materials won't touch powdery mildew and *vice versa*. It will be a waste of your time and money if you fail to recognize the disease. 2) **Vineyard history**: If you had a bad case of downy mildew last year, there will be many inoculum available in this season, thus the risk of disease development is higher. Also, the vine training system and the other vineyard environment play a big role. The more air circulation, the less risk of many fungal diseases will be. 3) **Weather**: Even if you have a high risk situation for black rot, the fungus requires a rain event that last more than 7 hours under the optimal temperature (70F) to cause disease. In addition, you may want to consider the use of a curative fungicide when you know there was a risk of infection and your vines were not protected. For more information about specific disease development conditions and management, please visit my blog. 4) **Rotation of the mode of action**: If a fungal isolate develops resistant to a certain fungicide, the other fungicide with the same mode of action will be less effective, if not useless. It will most likely to cost you more and leave you fewer options because even a new product may contain the same mode of action. 5) **Budget**: Your objective should be about the quality and/or quantity of your yield, but not about to kill all diseases in your vineyard. Please consider about the economic threshold for your disease management. Most of the fungal diseases we deal with have a critical period to cause major damage to your crop. For example, it will be very difficult to cause powdery mildew berry infection when berries matured (4-5 weeks after bloom). Thus, after the critical period, you may be able to relax the fungicide application schedule somewhat. Also, there are many less expensive materials that would provide as much efficacy as more expensive, newer materials.

Lastly, there are several things you can do during the winter season to lower the risk of a certain disease. **Black rot**: The fungus survives in the previously infected berries, and if it is left on the trellis, it will actively produce spores for the entire season. Take the old berries out from the vineyard. **Downy mildew**: The fungus survives in the infected leaves. It will form a structure for survival (Oospore) that can give a rise to a new set of spores during the spring and even into the summer. Leaves should be out from the vineyard too. **Phomopsis, Botryosphaeria, and others in the wood**: They survive in the wood, and often dispersed by rain or wind to a new tissue. Pruned canes will be a good home for them, thus they should be out too. Several people asked me about a dormant season application of lime sulfur or a copper material against Phomopsis and powdery mildew. It can be done, but the efficacy is not very good, cost a lot, and may damage your equipment. Liquid lime sulfur provided better efficacy than a fixed copper for Phomopsis management, but it need to be applied at 10 gal/A, it can clog your sprayer, and the efficacy was not justifiable. For powdery mildew, a copper material was tested

with 20 gal/A, and again, the efficacy was not justifiable. Thus, unless you have a compelling reason to do it (e.g., have a history of bad Phomopsis outbreak), I would rather see you protect new shoots at 1-3 inch growth with a mancozeb product for Phomopsis. This period is often overlooked, but very important for the control of Phomopsis. In-season protection of leaves is more effective for powdery mildew too.

#### **IV. Other news:**

**A. Viticulturist sought:** Virginia Western Community College in Craig County is seeking a viticulture person to help assess suitability of land for vineyard development. The ad reads:

Virginia Western Community Colleges seeks a viticulture specialist with formal training and experience in evaluating property for grape production suitability. The selected candidate will be responsible for performing multiple comprehensive site analyses in Craig County, Virginia. The analyses will include but are not limited to climatic factors, soil considerations, topography, slope, aspect and accessibility. This temporary position is funded with a \$35,000 federal grant which requires that all work be completed by September 1, 2010. For more information, contact: Terry L. Drumheller [TDrumheller@viriniawestern.edu]

**B. Viticulture labor sought** - get valuable hands-on experience: Spraying, pruning, training, canopy management, harvest - in a small (one-acre) vineyard in Giles County. Supervise occasional day labor. Flexible hours; \$15/hr. Contact: Jessee Ring, 540-250-7291, [jessie-ring@att.net](mailto:jessie-ring@att.net)

#### **IV. Upcoming meetings:**

##### **A. VVA Annual winter meeting**

The 2010 Annual Technical Meeting and Trade Show will be held Thursday, March 4<sup>th</sup>, through Saturday, March 6<sup>th</sup> at the Omni Hotel in Charlottesville, Virginia. The *tentative* agenda for the meeting is attached as a pdf file. We are pleased to have several internationally recognized speakers lined up on the program including Andrew Landers (Cornell), Markus Keller (Washington State University), and Tony Correia (Correia Company). The program includes a panel discussion on dealing with old vines and vineyards, picking up on a topic that was introduced in a trunk disease workshop hosted by the Virginia Vineyards Association in August 2009. A panel on Sauvignon blanc and Pinot gris will include wine tastings and discussions about these 2 alternative white varieties, and the technical program is preceded by a half-day program on Bordeaux red varieties, featuring some of Virginia's finest wine growers and vintners.

##### **Meeting Registration Fees (Please use the attached registration form)**

**Bordeaux Varietals and Blending Workshop on Thursday, March 4<sup>th</sup>, 1:00pm – 5:00pm.**  
The fee for this session is \$50 per member/\$100 for non-members.

##### **Technical meeting and trade show, March 5<sup>th</sup> – 6<sup>th</sup>:**

Registration fee is \$195 per member or \$275 for non-members. To avoid a \$50 late fee, registrations must be postmarked by February 24, 2010. The fee covers:

- Educational sessions on Friday and Saturday
- Morning and afternoon coffee breaks
- Trade show with exhibitors
- Wine reception on Friday evening with the vendors
- Continental breakfast on Saturday
- Buffet lunch on Saturday in the Atrium

**Cancellation Policy:** Registration cancellations received by February 24, 2010 will be fully refunded. No refunds will be made after that date.

**Hotel Reservations:** Registrants are responsible for their own room reservations. Call the OMNI at 434-971-5500 and specify that you are attending the Virginia Vineyards Association meeting. The hotel has blocked a limited amount of rooms for us. These rooms go quickly, so make your reservations early. **Reservations must be made by 5:00 pm on the Omni's cut-off date of February 11, 2010, to receive the special pricing of \$130.00 for single/double per night**

**Hotel location:** The Omni Hotel is located at 235 West Main Street, Charlottesville, VA 22902. It can be reached via McIntyre Street from Route 250 Bypass (east), or from the 5<sup>th</sup> Street exit of Interstate 64. Parking is available at the hotel for \$6.00 per day if you are not staying overnight.

### **B. Wineries Unlimited, 9-12 March 2010    Early Bird Registration Deadline is 1/31/10**

There's still time to take advantage of our lower early bird registration rates as long as you act by January 31! Choose the Full Passport for the best overall value.

Not sure what Wineries Unlimited is all about? [Watch the video!](#)

Conference Theme: Balancing Quality and Costs for Profit

Event Dates: March 9-12, 2010

Location: Valley Forge Convention Center, King of Prussia, PA

Trade Show: March 10-11

Registration and more information: <http://www.regonline.com/Checkin.asp?EventId=782847>

### **C. Virginia Wine Expo: 26-28 February 2010**

Greater Richmond Convention Center, Richmond Virginia

In the words of the organizers: "The Virginia Wine Expo (VWE) is the mid-Atlantic's premier wine and food event. It exclusively features Virginia wineries from every region of the state. Also, attendees will enjoy fine food from top restaurants and specialty food purveyors, live chef demonstrations, wine seminars and more. Each attendee receives a beautiful Schott Zweisel crystal wine glass.

The main purpose of the VWE is to highlight the quality and diversity of Virginia wine."

More information: <http://virginiawineexpo.com/AboutUs.aspx>



**D. Maryland Grape Growers Association and MD Wineries Association Annual Meeting,  
6 March 2010**

Saturday March 6<sup>th</sup> at the Clarion Hotel in Oxen Hill. Information and registration materials:  
<http://www.marylandgrapes.org/>

**E. Beginner's Grape Growing Seminars**

7 and 8 April 2010, Biglerville, PA and Winchester VA.

We've had a number of requests to provide the "basic" or beginner's grape growing seminars – one-day, team-taught sessions that provide a general overview of vineyard financial requirements, site evaluation criteria, as well as basic establishment and management operations. To that end, we are holding two workshops, one in Biglerville, Pennsylvania and one in Winchester, VA) in early April. The seminars are intended for those who are currently exploring commercial grape production in the mid-Atlantic region. Hold the date and stay tuned for further details.