

**WINE GRAPE INFORMATION FOR PENNSYLVANIA AND THE REGION**

From Penn State Cooperative Extension

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Notes from the field: Recent travels took me to vineyards in Pennsylvania and New Jersey and I was disheartened to learn about the amount of crop loss wrought by the frosts in late April and May. Early varieties like Lemberger and Chardonnay were the most affected with as much as 50% crop loss. Oddly, as always seems to happen, the vines during or just finishing bloom look very healthy but upon closer inspection there is very little or no fruit on many of the secondaries (often much smaller clusters). I refer you to an excellent article in *Appellation Cornell* by Dr. Alan Lakso that explains the finer points of [bud fruitfulness and yield](#) and myriad of conditions or events that can influence yields. There is a lot we can do in the vineyard, from vineyard site selection, design and management to improve bud fruitfulness and yield. After yet another year of losses frost mitigation should be a major topic of conversation in the wine industry. The situation is complicated by the presence of multiple shoots at a single node – sometimes the primary shoot was burned by frost but a lateral continues to grow, and secondary and-or tertiary shoots are pushing, creating a rosette-like, bushy bunch of short shoots. Thinning to the shoots with dusters would be ideal if it's worth the time and expense. Otherwise, hopefully hedging will relieve some of the crowding and help to suppress fungal diseases. It's not an easy situation to cope with. On the road I was asked how growers should manage vines with little or no fruit on them. In discussions with them we arrived at the conclusion that minimizing hand labor, but continuing to spray and hedge was probably the best compromise. I have surmised that in the past 5-6 years vineyards in Pennsylvania may have suffered greater economic loss from frost than any other single destructive force in the vineyard. It's a serious issue across the country. No wine region has done more work to understand and manage frost than Ontario, and I would recommend acquiring knowledge from their key viticulture resources – the Cool Climate Oenology and Viticulture Institute at Brock University, [Ontario Ministry for Agriculture, Food and Rural Affairs](#) (OMAFRA – scroll to weather and

climate section), and Dr. Kevin Ker at [KCMS Consulting](#). I report on measures for frost and winter injury prevention in my article about [Nova Scotia](#) in this newsletter. The damage was, as expected, very site and variety specific. At one vineyard with a gentle slope and Chardonnay and Merlot planted side by side up and down the slope, the Chard was heavily damaged while the Merlot suffered much less loss, but the effects from the bottom of the hill to the top are most dramatic. Wind fans are being strongly considered for the lower sections of the vineyard. At an estate vineyard, the losses in wine value are too much to tolerate so some action must be taken. I have heard reports that the use of KDL, applied hours before a predicted frost event has helped to lessen damage, or turning on drip irrigation to soak the soil before an event can help, but these are not well documented methods. With bud break so early this year, perhaps the dormant oil sprays to delay bud break might have been helpful in retrospect. There's always so much to learn from 20/20 hindsight. Frost is one of those intractable chronic problems like viruses and crown gall that gnaw away at vineyards slowly, constantly, and painfully, but it needs to be addressed at some point.

There is a new vineyard team at Karamoor Farm Vineyard in Ambler, Pennsylvania, an important vineyard and winery because of the scale of the investment, quality of design, development and management, and early indications of wine quality. I have written about this vineyard in the past. Lucie Morten has been involved from the start and they have applied her design and management philosophy. For the first six years Nelson Stewart did a superb job of developing and managing the vineyard and the wines, made by Carl Helrich at Allegro Vineyards, have been enormously impressive, from a site that I would consider pretty average, but capable of demonstrating the power of high quality viticulture on the outcome of the wines, and some very serious wine making. There is a new team at Karamoor this season. Kevin Robinson has an enology degree from UC Davis and brings 30 years of experience in California and Josh Gerard was trained at the Lincoln University in Marlborough, New Zealand and worked in NZ, California and Oregon. These two bring valuable and much needed professional experience to Pennsylvania, something I have always argued is an essential ingredient to a successful wine region. The wines from Karamoor have been outstanding in good vintages such as 2008 and 2010 but even in the lesser ones such as '09 and '11, they show the influence of good vineyard design and management. Denise and I had a chance to taste wines from 2010 and 2011 wines with Kevin and Josh and I was impressed by both. The 2010s were big and bold and the Cabernet Franc and Merlot renditions were classically rendered with concentration and fine balance, as I have believed and discussed with other wine makers in the region the reds seem to straddle a line between the fruit forward ripeness of sunny California wines and the elegance and restraint of Bordeaux. These wines exemplify that ability to offer the best of both new and old world virtues. Kevin told me that the 2011s were being declassified and would be sold in bulk. I might argue for second label for the wines, perhaps a claret-style blend in the tradition of Bordeaux or Linden Vineyards in Virginia. They pale when compared to the 2010's but still offer great generosity in their fruit, body and texture. The Karamoor philosophy is only to show their best wines to the world, which they have just begun selling to the public, so they have elected to skip the 2011 vintage. While I am not a spokesperson for the winery, I can say that these wines are being offered for bulk sale and they may help to improve other wines from around the region (see listing at the end of this newsletter). The quality of 2011 white and red wines are in line with the wines produced by some of our best producers like Black Ankle, Boxwood, RdV and Linden and they optimistically demonstrate how far we have come in our ability to manage a difficult vintage. While the customer rarely understands or cares about vintage variation, we are learning, as the Europeans have, how to make fine wines under challenging conditions. It may mean a harsh triage, as much as 75% of the Cabernet Sauvignon culled out of the crop at one winery, but if that's what it takes to build in consistency and quality into wine so that customers have confidence in our products, well, that's what needs to be done. I know for a fact that it helps to have seasoned professionals like Morten,

Stewart, Helrich, and now Robinson and Gerard out in the vineyard and in the cellar to gain these stellar results. This is nothing new. It's all in the instruction manual for making fine wine.

I wish everyone in the wine industry and business knew Dr. Gary Pavlis at Rutgers Cooperative Extension in Atlantic County in New Jersey – with the exception of Dr. Joe Fiola, tweedle-dee to his tweedle-dum, there simply aren't any two in the business who combine their knowledge of viticulture with a passion for wine, it's at a level that is simply off the charts. When not working with vineyards, Gary is one of the foremost experts on the cultivation of blueberries in the world and works with 8000 acres of blues in NJ. We stopped at the largest blueberry patch in the world, a 1400 acre farm of highbush blues that grows in a soil as unique as I have ever encountered – super low pH of 4.5, almost pure sand with high organic matter (7-8%) and a very high water table (nearly a foot or two from the surface). 85% of the berries are destined for the fresh fruit market and most are still hand-picked – they haven't quite figured out the technology to harvest fresh berries although a new pulsed-air system offers promise. What struck me most in our conversation of blueberries and wines is how different wine is from almost every other cultivated crop in the world. Gary said that if you put 100 blueberry growers in a room and asked them how they grow their berries every single one of them would say exactly the same thing. In contrast, a hundred wine growers would certainly offer a much wider range of production methods, and explain with great enthusiasm and passion why their method is superior to their peers. This gets to the essence of what makes wine so interesting at every phase of production and appreciation. Along with Denise, we tasted a variety of wines and talked about the difference between the appreciation of wine and the study of wine. As an enologist, Denise takes the latter approach, a deliberate and analytical understanding of wine. The analogy that comes to mind for me is art appreciation and an undergraduate class in art where the professor seemed to know a lot about art but did not convey any particular appreciation or enthusiasm for it, but I would never claim that he was not an art expert. Gary, Joe and I drink wine for pleasure first, and then as an intellectual exercise, trying to understand it – if one must, its origins in terroir, and why and how, for example, an estate grown and bottled 1984 (Denise's birth year) Buena Vista Carneros Cabernet Sauvignon (12.9% alc) could possibly be so fresh, vibrant, alive with fruit, miraculously balanced with acidity, deep and dark color without a hint of brick, and so utterly pleasing after being closed in a bottle for 28 years and sitting in Gary's cellar for most of it. By the way, he bought it from Circle Liquors, the wine shop down the road for \$11.29. It was a remarkable experience drinking this wine, appreciating its fine quality and trying to understand how the grower and winemaker captured it in the bottle. Buena Vista, for those who may not know, may be California's most historic winery, having been founded by Agoston Haraszthy, the Hungarian immigrant who brought European vine stock to California and essentially started the California wine industry in the 1800s. His book, [Grape Culture, Wines and Wine Making](#), about his travels to European wine regions in search of the best grape varieties and his viticultural methods is one of the most interesting I have ever read. The Buena Vista was a perfect foil for the Karamoor wines tasted earlier in the day, and a 2000 Chateau de Cruzeau from Pessac-Leognan (Graves) from Andre Lurton, a blend of 55% Cabernet Sauvignon and 45% Merlot. This wine had also retained its freshness but had greater depth and complexity than the Buena Vista, 2000 being a very fine year in Bordeaux. Both wines seemed to barely scratch the surface of their potential even in their mid-life condition. We could taste the sun in the Buena Vista (but also the cool acidity from Carneros), and the structure and layers of flavors in the Cruzeau, and understand how the Karamoor was able to straddle between the two. A third wine of considerable note was a 2009 [Outer Coastal Plain](#), barrel fermented estate signature Chardonnay from [Heritage Vineyards](#) in southern New Jersey. Gary and I have been equally frustrated and enamored of Chardonnays from our regions and this was one of the best examples I have tasted. Made by winemaker Sean Comminos, the label notes state: sandy loam with gravel, predominantly southwest slope, 2.2 t/a, 100% Dijon clones, elevelage of 12 months in 50% new French oak, 10/15 harvest date and

91 cases made. This is a wine that tells us that we can grow fine Chardonnay. It had a delicate balance of acidity and oak, very clean and lively fruit, very nice length, it reminded me of a delightful Pouilly-Fuisse or Macon. Penni Heritage made an interesting comment during our visit to Heritage – she said that the use of a wine consultant was a big decision for their winery. It was expensive but in retrospect they believe it was a necessary step to lift their wine quality to the next level. It took a lot of courage to spend the money but it was worth it. As I look across the wine landscape of the region, the use of expert consultants in the vineyard and cellar is a common denominator among our best producers. It's never the answer to all the challenges of making and selling wine but if you can find the right person to help, it can help you overcome the obstacles faster. As long as I am rambling on about wines, I cannot fail to call out a 1991 Allegro Vineyards Cadenza that we tasted at the research meeting in State College. I was struck, in fact, by how much the Chateau de Cruzeau reminded me of the Cadenza. It too had aged very gracefully and was still fresh and clear with great balance and barely diminished fruit. John and Tim Crouch never advertised themselves as great wine makers or growers, what they had in spades was a great site and an intimate understanding of its qualities that they were able to capture in their wines. Thank goodness this great tradition has fallen into the hands of Carl Helrich, who is improving upon their legacy. Just as a reminder of their generosity and devotion to the Pennsylvania wine industry, the Crouch brothers left a sizeable portion of their estate to Penn State in the form of student fellowships, one of which is in the hands of Dr. Ryan Elias, whose work will benefit all wine growers in the region. They also left a deep cellar which Carl never hesitates to share and educate. And, for those of you who do not know, the Crouches gave Robert Mondavi and Baron Philippe de Rothschild the right to use the name "Opus One" for their iconic wine. Well, I digress. Back to viticulture... whenever I ask grape growers what their main concerns are invariable poor or variable yields is close to the top of the list. At [Bellview Winery](#) Jim Quarella and his winemaker, David Gardner (no relation to Denise) make a delicious Pinot Grigio but Jim wants to pull the vines because, as he explained, the roller coaster ride of yields (14,000 lb one year, 5000 the next) is just too frustrating. Then there is the Viognier and Merlot. This is a problem common to cool climate wine regions with variable weather patterns. Add frost and winter injury to the yield dilemma and it's really hard for growers to manage a vineyard for uniformity and consistent yields. We talked about leaving kicker canes to compensate for bud fruitfulness problems but this never seems to be a very reliable solution. [Silver Decoy Vineyards](#) in E Windsor, NJ hosted a twilight meeting in New Jersey and there was some excellent take home information. [Dr. Brad Majek](#) from Rutgers talked about vineyard weed management and stressed the need to implement weed control measures in the fall, specifically in the southern NJ and SE PA area in November. Yes, growers are totally pooped from the harvest but he said you need to get out there with products like Casoron and Rely to get the jump on spring weed control that will extend towards summer in case the spring weather doesn't allow herbicide application in the late winter-early spring. Chateau and Prowl are more expensive alternative products. Please refer to the [weed section](#) of the *2012 NY-PA Pest Management Guidelines for Grapes* for information about the proper use of herbicides. Dr. Peter Oudemans, plant pathologist at Rutgers explained a climate data logger placed in the Silver Decoy vineyard as part of the [NEWA](#) (Network for Environment and Weather Applications) disease and insect modeling and forecasting system. This system uses environmental cues such as rainfall and leaf wetness to determine disease infection periods and help growers when to know that their crop is at risk. For grape berry moth, it offers pest status and management information, including growing degree day data from wild grape bloom in the area. It covers phomopsis, down mildew, powdery mildew and black rot providing phenological stage (Eichhorn-Lorenz), leaf wetness and rainfall amounts, disease management information, and infection events. It is being widely established in NY and NJ but has yet to move much beyond the Erie area in Pennsylvania. Hopefully in the future more Pennsylvania wine growers will have access to it. I would like to thank Mark and Brian Carduner, and their loyal staff and friends for their

hospitality during the meeting, Dr. Gary Pavlis for inviting us to participate, and Jack and Charlie at Tomasello, Ollie and Cory at Plagido, Jim and David at Bellview and Penni and Tiffany at Heritage.

Workshop for new grape growers: A [new grape grower workshop](#) will be held at the **Penn State Lehigh Valley campus on Wednesday, 13 June from 8 AM to 5 PM**. The cost is \$80 per person. It is an opportunity for new and prospective wine grape growers to learn the nuts and bolts of vineyard selection, design and development from A-Z. Instructors are Fritz Westover, viticulture extension specialist at Texas A&M (Pennsylvania born and raised and Penn State alumnus), Scott Guiser, horticulture educator in Bucks County, and Mark Chien, viticulture educator. The meeting is part of the Start Farming program run by Tianna DuPont, sustainable agriculture educator in Lehigh/Northampton counties. Topics include a regional wine industry overview, grape marketing, vineyard economics, site selection and design, vineyard supplies and equipment, training and trellis systems, wine grape varieties, clones and rootstocks, nurseries, planting, disease and pest control and vineyard care through the first year. Workshop information, program and registration are available on the [Pennsylvania Wine Grape Network](#) website (see Spotlight).

Viticulture and enology research meeting at Penn State: As an extension educator I probably deliver and attend way too many meetings. I was also a wine grower for 20 years so I experienced meetings from the other side of the fence. I have come to appreciate good meetings from those that make you wonder if you wasted your precious time. I had the pleasure to attend two exceptional meetings in May – the PWMRP/PSU research and education meeting and the Atlantic Canada Wine Symposium. Both were chock full of experts from research and vineyards that offered amazing information about grape cultivation and wine production. The research meeting highlighted viticulture and enology research funded by the Pennsylvania Wine Marketing and Research program, the marketing order (research and education, too) administered by the Pennsylvania Department of Agriculture and funded by the wine industry. Topics for the day included the first varietal wines produced from the USDA NE-1020 wine variety trial (Erie and Adams counties) and made by Denise Gardner, botrytis, grape berry moth, spotted wing drosophila, yeast assimilable nitrogen – effects in the vineyard and cellar, vine vigor management, oxidation in wine, sensory attributes in wine, and updates on USDA Specialty Crops Research Initiative projects in cold climate viticulture and Eastern viticulture production and practices. At the end of the day my brain was smoking and I was completely reenergized about the potential for research and education to push wine quality as it has in every other significant wine production region in the world. The experimental wine tasting alone was a landmark event for the Pennsylvania wine industry. For the first time, we have home-grown wines to critically taste and analyze for their potential impact on the wine industry. You can read [my summary](#) of the meeting (focus on viticulture) and go to the [Penn State extension enology website](#) to read Denise's notes on the enology presentations given by Drs. Elias, Hayes and Mansfield.

Viticulture notes from Canada: I was invited to speak at the [Atlantic Canada Wine Symposium](#) but mostly what I wanted to do is listen to the other superb presenters on the roster that included some of the best wine growers in Canada, from British Columbia and Ontario. Maritime Canada is a tough wine region, on par with our own, with climate and weather changing by the minute as well as a very short growing season. They have figured out how to make hybrid varieties, especially whites, work under their conditions and match them to the superb coastal cuisine. The industry is small but it is outsized in its ambition and early results. They are building infrastructure, such as research and education, and

marketing programs to catch up to the likes of BC and Ontario, but I always walk away with the same optimism that I felt in the early days of the Oregon wine industry. One unique feature of this industry is, like Missouri, it has built and is banking its reputation on hybrid variety wines, such as L'Acadie, Seyval, Geisenheim 318 and Marechal Foch. Missouri has been very successful on a regional basis with this approach. Topics in the article include vineyard mechanization (Wes Wiens and Joe Pillitteri), risk management in cool climate viticulture (Matthew Speck), frost and winter injury prevention (Ken Slingerland and Kevin Ker) and the promotion of Finger Lakes wines (Morgen McLaughlin). I also report on an exciting and ambitious effort by the Nova Scotia wine industry to create a brand of distinctive local wines called [Tidal Bay](#), an idea that may have some relevance down here. Click [HERE](#) to read my notes from Canada.

Wine marketing workshop at Penn State: Almost every conversation I have about growing grapes eventually morphs into a discussion about wines and how to market them, which is the end game in our business. [Morgen McLaughlin](#) at Finger Lakes Wine Country explained how dynamic and challenging this process is. I think everyone in the biz knows something of the difficulties we face as winery businesses and wine communities. I know in the past year that I have become acutely aware, even as an outsider to the subject matter, of the presence, and perhaps the value, of using social media tools to help alter or create and image or brand, and sell wine. The Penn State has faculty members who help farmers to market and promote their wines. Dr. Kathy Kelly (horticulture) and Dr. Jeffrey Hyde (ag econ) are offering a two-day workshop called [Marketing and Social Media for Mid-Atlantic Wineries](#) on **July 23-24 in the Food Science Building, room 252 at the Penn State main campus** that covers these topics: today's wine consumers – demographics and behavior, developing a winery brand, winery design and layout, enhancing winery labels, your consumer's use of social media, how's and why's of Facebook, Twitter, Pinterest, etc., case studies of wineries using social media, and why you should monitor your on-line presence. For people like me who think that a tweet is something a bird does, this could be a valuable learning opportunity.

Plant to attend: The [37th American Society for Enology and Viticulture Eastern Section Annual Conference and Symposium](#) is being held in Traverse City, Michigan this year from July 16-19. There is a welcome reception on Sunday, July 15th. On Monday, July 16th we will have a preconference tour of NW Michigan wineries and vineyards. The conference will begin with technical/research presentations on Tuesday and Wednesday, July 17th -18th and include Tuesday's Oenolympics and Grazing Dinner with Wines of the East and Wednesday's Sparkling Wine Reception and Grand Award Banquet. The conference will be followed by the [International Symposium on Sparkling Wine Production](#) on Thursday, July 19th. The Symposium, designed for vineyard managers and winemakers, will feature national and international experts in sparkling wine production. I was in NW Michigan last year and it is a beautiful area of cherry orchards, vineyards and the Great Lakes, the food and wines are terrific and the viticulture program at Michigan State University is one of the best in the US. By attending you do the following - support your professional association (are you a member?), wine industry networking and fellowship, support the vit-enol students and receive all the great viticulture and enology information.

Vineyard cultural practices lecture from one of the best in the business: [Dr. Nick Dokoozlian](#) is the viticulturist (VP of research and innovation) at E&J Gallo, and before a highly respected viticulture farm advisor in the UC extension system. I do not believe that I know anyone who knows more about basic and applied viticulture research, and their practical application than Nick. As such, his presentations are

always chock full of fascinating viticulture insights and information for growers. He defines wine grape quality metrics and how to achieve them. Jim Wolpert recently circulated a presentation that Nick delivered titled: [Vineyard Cultural Practices: Where is the Biggest Bang for your Buck?](#) (59 mins). I really enjoyed it and suggest that commercial wine growers watch it. Caution: he talks fast and it's packed with information so you'll have to pay attention!

Virginia Tech Viticulture Notes Archive: We have many outstanding viticulture newsletter resources across the region that cover every subject from A to Z. One of my favorites is *Viticulture Notes* from Dr. Tony Wolf, viticulture extension specialist at Virginia Tech. I just happened upon a new [archive of VN](#) dating back to 1998. If you have a question about something in your vineyard, there is a good chance that you will find the answer listed by subject in this valuable archival resource. For example, if you want to compare your spray program to the one used at the VT research vineyard in Winchester, Tony summarizes their spray program each year. There are multiple listings for disease management, canopy management, insect pests, grow tubes, vine physiology, and much more. It's well worth browsing through the index for problem solving and education.

Wine in space news: Most winemakers have probably wondered at one time or other about fermentation in a zero gravity environment. Well, the Falcon 9 space capsule launched by the SpaceX Corporation in May has landed and aboard the capsule is an experiment being conducted by two students at Chaminade College Preparatory in California. They sent up a device that, once in orbit, would automatically mix grape juice with yeast to see how (or if) fermentation would occur in space and then compare the results to a more normal terrestrial fermentation. I would guess that the space wine will be lighter in color and body than the earth-bound version. Click [here](#) to read more about space wine.

2011 Bulk Wine for sale: Approx. 1750 gal. Cabernet Franc, 2150 gal. Merlot, 360 gal. Petite Verdot, and 750 gal. Chardonnay available from reputable southeastern PA producer. Price TBD depending on quantities taken. Contact Kevin @ 815-541-4420 for more info and samples.

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