WINE GRAPE INFORMATION FOR PENNSYLVANIA AND THE REGION
From Penn State Cooperative Extension

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Upcoming Meetings

I was always told as a grower that this was a "quiet" time, the proverbial calm before the harvest storm but I don't think I actually every experienced that phenomenon. Anyway, if it is, there are some really good meetings and workshops coming up that I think you would enjoy and benefit from attending.

Cabernet Franc Workshop in Leesport (Berks County), PA - see attachment
I gnash my teeth a lot about Cabernet Franc. Is it or should it be or can it be the flagship variety among Eastern vinifera varieties? Or do we only consider it as such because of its cold hardiness? What is the marketability of CF? From a viticulture perspective it is too vigorous and a lightning rod for leaf roll virus but at least it ripens ahead of Cabernet Sauvignon. We know it succeeds in the Loire and is a great blender in Bordeaux but is it right for us? I think we need to understand the potential of this variety and have a conversation about it. Here's a workshop that should give us some insight. Jean Hubert Lebreton from Domaine des Rochelles in the Loire Valley will shed some French perspective on CF and Lucie Morton, the eminent viticulturist from Virginia will give the local viticulture view. Dr. Gavin Sacks from Cornell University is working hard to decipher the problem of methoxypyrazines in red wines. An outstanding panel of regional CF producers are invited to pour their wines. This should be a unique look at this puzzling variety. The meeting is hosted by the Pennsylvania Premium Wine Group and Penn State Cooperative Extension.

When: Tuesday, August 21, 2007
Time: 9 a.m. to 4:30 p.m.
Where: Berks County Cooperative Extension. 1238 County Welfare Rd, Leesport, PA 19533
Cost: $85 per person
Info/Reg: Contact Stephen Menke at 717-334-6271 for registration and more information. See brochure attachment to this message.

Science-based Organic Grape Production Field Day in Erie County, PA - see attachment

I am pretty much asked by every new grower if and how they can farm their grapes organically. The answer is not easy and very complicated. Many go right ahead with often unpleasant results. Organic is the buzz in agriculture now and we have to participate but only if the outcome if good wine. Our Achilles Heel is black rot. Fortunately, we have some very smart people at Penn State, particular Dr. Jim Travis and his plant path team, working on these problems. The Lake Erie Regional Grape Research and Extension Center, located just east of the City of Erie near the town of North East, is part of the Pennsylvania State University Experiment Station and has been dedicated to conducting research in support of grape production for over 50 years. An organic grape production field day will focus on the results of research conducted over the last 5 years on the production of both processing and wine grapes utilizing organic practices. Caution: vinifera growers DO NOT read this and think "oh, it's research on non-vinifera grapes so it isn't for me." Smart growers know that most of the research results translate to vinifera growing practices. It is well worth attending. This workshop is jointly sponsored by the Pennsylvania Association for Sustainable Agriculture (PASA) and Penn State University.

When: Tuesday, September 6, 2007
Time: 9:00 a.m. to 4:30 p.m.
Where: Lake Erie Regional Grape Research and Extension Center.
662 Cemetery Road, North East, PA
Cost: $15 includes registration, lunch, handouts, etc.
Info/Reg: Go to the PASA web site at http://www.pasafarming.org/ or contact PASA at 814-349-9856

The Pennsylvania Association of Wine Growers Annual Summer Vineyard Walk Around

PAW has scheduled its summer walk around for Tuesday, August 28th. It will be held at Manatawny Creek Vineyards in Douglassville, PA (Berks County) and the theme will be "Preparing Your Vineyard for Winter". Even with climate change the threat of winter injury is ever present and the more you know the better prepared you will be to prevent or deal with it. MCW is one of our best wine producers and grows both vinifera and hybrid varieties. We will spend time in the vineyard with Joanne and Darvin Levengood talking about measures to avoid winter injury. Please mark this date on your calendar. More information and registration if forthcoming...soon!

When: Tuesday, August 28, 2007
Time: 9 a.m. to 4 p.m.
Where: Manatawny Creek Winery, 227 Levengood Road, Douglassville, PA
Cost: TBD

Berry Sensory Analysis Seminar at the NY State Agricultural Experiment Station in Geneva, NY

This is a bit far afield for many PA wine growers but I listed it because it is an excellent

workshop and method. ICV presented it in 2 places in NY last year with great success. Making great wine is all about figuring out when grapes are fully ripe and when to pick. The BSA method object of the seminar has been originally developed by Jacques Rousseau group at ICV in Montpellier. The goal was to provide the viticulturists and the winemakers a common language to characterize grape maturity in great detail by a method with the following traits:

ÿ Easy : after a 3-4 hour training session, people can directly apply the method and transfer it to colleagues and employees
ÿ Quick: the field evaluation can be completed within the time normally requested to visit the vineyard for maturity sampling or sanitary status check
ÿ Recordable: the sensory impressions will be written on a specific score sheet
ÿ Reliable: when putting attention to some simple sampling rules, the method allows comparisons among data obtained in different weeks or years on the same vineyard

The method quickly become the reference one for BSA, and is widely recognized as the most useful and practical implemented method currently available worldwide. Moreover, the original method can be easily adapted to regional specific needs or habits. ICV and the group VinideaNet, exclusive partners in their educational activity, has been trained more than 5000 people in France, Italy, South America, Australia, Spain, Portugal. The 2006 NY BSA Seminars will be hold by Dr. Gianni Trioli, Vinidea Italy. After a specific training at ICV, he has been transferred the ICV method in more of 30 sessions in Italy and Spain, since 2001.

The ICV BSA seminar has a total duration of 4 hours, according to the following program:
o Principles and goals of the method
o Vineyard sampling rules
o Analytical Score sheet for training and experimental purposes
o How to evaluate the 20 descriptors on whole berry, pulp, skin, seeds
o The Field Score sheet and its 4 synthetic descriptors
Each step of the seminar will be coupled with the tasting of berry samples specifically prepared for training: this allows a complete comprehension of the method and greatly increases the evaluation skills of the participants. The seminar entirely happens in a meeting room, but elements for correct field evaluation will be provided.

When: Wednesday, September 5, 2007
Time: ???
Where: Food Science and Technology Building at NYSAES, 630 W. North Street, Geneva, NY
Cost: $180
Info/Reg: Call Nancy Long at 315-787-2288

Grape Production by Lake Erie

My state-wide viticulture assignment allows me to wander all over Pennsylvania and I recently visited vineyards in NW PA and W NY. I'm always amazed by what I see wherever I go. In the case of Erie I am doubly impressed by the human resources in the Lake Erie Regional Grape Program, a cooperative working viticulture research and extension program between Penn State and Cornell and the growers and wine makers in the region. While mostly known for its juice grape production there is a wine community with lots of history and potential. Stephen and I spend two days in the vineyards and hosting grape and wine workshops with our colleagues in the region. I'll highlight a few things that impressed me during my visit:

- Research: at the Cornell Viticulture Lab in Fredonia Dr. Terry Bates walked me through his soil pH and rootstock trial and I definitely got my socks knocked off when I saw the treatments and some of the effects he was getting on vinifera vines. Soils are very gravelly with naturally low pH (high 4s to mid 5s). "Normal" pH soils were lime adjusted to 6. Varieties are 5 year old Riesling and Cabernet Sauvignon on Riparia Gloire, 3309C, Gravesac and own-rooted. The differences in vine size were marked in these low nutrient, low pH soils especially between rootstocks. CS and Riesling were very tame on RG in low pH. Wines made by Hans Walter-Peterson reflected some of these viticultural effects with low pH/RG wines having better flavor, concentration, mouth-feel and less green flavors. These are just my uninformed observations. Terry may cringe when he reads this so you should wait for his detailed analysis. But it demonstrates a soil and rootstock effect that can definitely impact wine quality in a positive way.
- Research: at the Penn State Grape Research and Extension Center in North East Bryan Hed showed me his continuing cluster compactness trial. Again, I saw some pretty amazing treatment effects on tight clustered Chardonnay. Leaf removal at trace bloom, 3 weeks post bloom and veraison by hand and/or machine was performed and in some of the treatments there was noticeable loosening of clusters which would have a significant impact on incidence of rot. There is still a lot of study to be done on this process and possible residual effects but the impact this year looks promising for growers of high value and quality wine grapes. Again, you'll have to wait for Jim and Byan's results to fully understand the research and its implications for wine production.
- Wines: Stephen hosted a wine sensory analysis tasting and we tried some very interesting wine trials done at commercial wineries, from enological additions to different treatments but the most interesting wine for me was a blend of equal parts Concord, Cabernet Sauvignon and Cabernet Franc made by Deb Phillips at Trolley Line Vineyards in North East, PA. We tasted it blind and I thought it was a Pinot Noir. Hmmm. You are probably questioning my palate but this wine had loads of black cherry fruit, spice, pepper, amazing aromatics, great balance and concentration with nicely integrated oak and a soft, supple mouth-feel. I nearly fell off my seat when Deb told us what it was. Yikes! It was ripe Concord (over 17) and that, apparently, blew off most of the grapey flavors. I sure didn't get any in the wine. We also tasted a Concord from Johnson Estates that had such purity

of flavor it reminded me of the color of Crater Lake, which is the definition of the color blue. How can you not love a wine like this?

This is what it's all about and how you put a viticultural region on the wine map. Talented researchers working with equally talented wine makers and grape growers. I was impressed mostly by the people I met on both sides. Hard working, creative, grounded and passionate about growing grapes. It was really fun for me to be there. Finally, Jeff Murphy showed me a field at Johnson Estate just below the escarpment that gently slopes down to the lake and has extremely gravelly, low pH soils. You had to think Cote d'Or looking at it and it was easy to taste wonderful wines in the imagination. That's how it starts.

Pre-harvest Consideration from Dr. Tony Wolf, viticulturist at Virginia Tech
I simply could not summarize the current situation in the vineyard better myself. I am grateful for Tony for allowing me to share his notes with you. Everything here should apply to wine growers in Pennsylvania. - MLC

I am "re-using" this article from my July-August 2005 Viticulture Notes, with some updates for 2007. There are some reminders for all, and maybe new stuff for newer readers (*TKW*)
August is often our slowest summer month in vineyard management, and it's a good time to re-group and look ahead at pre-harvest considerations. A check-list of such activities might include the following:

Canopy management: Do a final check of the vine canopy. Prematurely senescing, yellowing leaves should be pulled from the fruit zone. They do not contribute carbohydrates to fruit maturity. Dead leaves retard the drying of clusters when they are in contact with clusters, and they can promote botrytis development on fruit in both direct and indirect ways. Keep the leaf layers in the fruit zone of the canopies down to 2 or less on average (a real or imagined probe run through the canopy should contact no more than 2 leaves on average as the probes passes from one side of the canopy to the other). While there is still a chance of causing fruit sunburning by being too aggressive with leaf-pulling, in my experience, the sunburning is more apt to occur closer to the summer solstice. A majority of the clusters should receive some direct sunlight for *some* portion of the day. Look for congestion at the tops of hedged VSP-trained canopies. If the hedging was not done in a timely fashion, the shoot tops might be growing horizontally along the top wires, giving rise to leafy laterals. Normal hedging can also produce several laterals where there was originally only one growing point. Collectively, this lateral growth can create very dense regions at the top of the canopy. It is often in these shaded, poorly ventilated regions that downy mildew gains a foothold on young, susceptible leaves.

Crop management: It's not too late to reduce crop levels on vines that are carrying a heavy crop. Clusters at 50% veraison weigh about 80% of their harvest weight and fruit at 15 to 17 ºBrix will essentially represent final weight, with some variation due to

precipitation extremes. If you failed to collect mid-season cluster weight data you can still estimate crops and make downward adjustments to the crop if you feel the crop level is excessive. As I've used in previous communications, a good range of desired crop is about 1.5 to 2.0 pounds of crop per foot of canopy, irrespective of vine density in the vineyard. Are you there? What about drought and the prospects for ripening that crop (see related article in this newsletter)? Drought will slow the ripening of grapes and the effects will be greater for heavily-cropped vines than for lightly cropped vines. If you're seeing drought effects, and don't have irrigation, and don't see storm clouds coming your way, you might want to drop some crop and aim more towards 1.0 to 1.5 pounds of crop per foot of canopy.

Pest management: If you've done a good job with disease control, you can "coast" through harvest; if not, you may still have a fight on your hands. Berries are less susceptible to PM infection once they attain about 8° Brix. Fruit may, however, continue to show lesion development from infections that occurred up to one month ago. Low levels of PM may exist on fruit, even with apparent "good" prevention programs. The "inconspicuous" mildew can increase fruit susceptibility to botrytis and other rots later in the season. So, when I say "coast" I mean you should continue to maintain a prudent mildew prevention program. Powdery mildew fungicide options in the pre-harvest period are constrained by label pre-harvest intervals (PHIs) and the need to avoid sulfur residue on harvested fruit, which can lead to sulfide production and off-odors in wine. It is advisable to avoid sulfur application within 6 weeks of harvest if at all possible. The options are sterol-inhibitors and the strobilurins and quinoxyfen (Quintec), most of which have a 14-day PHI. Other alternatives are Nutrol (monopotassium phosphate), Armicarb 100 (potassium bicarbonate), and OxiDate (27% hydrogen dioxide, aka hydrogen peroxide). These are very short-lived materials and are typically more effective as post-infection materials than as protectants. Used on a weekly (7-day) basis, they appear to effectively control powdery. The biocontrol product, Serenade (*Bacillus subtilis*) is another option. Oils, such as JMS Stylet oil, offer good protection IF used with sufficient gallonage (at least 100 gallons of water/acre). The downside of oils is a temporary depression of sugar production in treated fruit due to reduced photosynthesis. Post-harvest oil use might be an acceptable proposition though, and oil lends itself to disease resistance management by introducing a different mode of action to that of the sterol-inhibitors and the strobilurins. Once beyond harvest, the options for PM are sulfur or copper fungicides. Copper is only fair for PM control, but if the vineyard is clean, it has the advantage of offering excellent downy mildew control.

Botrytis: Botrytis incidence varies from year-to-year, but we tend to have greatest problems in large, compact clustered varieties such as Seyval and Chardonnay. Culturally, the incidence of botrytis can be reduced by removing leaves that are directly touching clusters, and opening the eastern side of N/S-oriented rows to aid air movement and spray coverage. It's certainly not too late to do some follow-up leafing in botrytis-prone cultivars, but avoid pulling too many leaves that could result in sunburning of fruit (see comments above under *canopy management*). Fungicide options, specific for botrytis, are Elevate, Scala, and Vangard. Pristine is also labeled for botrytis if used at the higher label rates prescribed on the Pristine label and its supplemental label. Should you

apply a botrytis fungicide now if you're starting to see botrytis? I'd offer a qualified "yes", simply to slow new infections. Once botrytis starts affecting multiple berries, it seems to progress quickly to adjacent berries and, in the absence of dry weather, it is both difficult to control and can progress to non-specific bunch rots.

Downy mildew: Conditions that favor the spread of downy are temperatures of 65 to 77°F and free moisture. A summer late-day shower followed by a humid evening creates the perfect scenario for a downy infection. Fruit becomes resistant to infection as it develops; however, young leaves (such as on laterals) are highly susceptible, and this is often where late-summer infections develop. To avoid a potential defoliation, continue a downy mildew protection program through harvest. Fungicide options once you are within 66 days of harvest, are captan, the strobilurins, Pristine and the phosphorous acid compounds such as ProPhyt and Phostrol. Due to wine-making concerns (haze development and suppression of varietal aromas) copper fungicides are <u>not</u> recommended in the six weeks prior to harvest; however, copper could be used post-harvest. Captan provides excellent downy protection as well as providing control of the fruit phase of Phomopsis, and perhaps some of the other late-season rots (e.g., bitter rot [*Melanconium spp*.], and ripe rot [*Glomerella spp*.]) that we occasionally observe. We do, however, have some concerns about captan use close to harvest from a wine-making standpoint. Another option, if you've not over-used it for the season, would be to use Pristine as the last pre-harvest spray (14-day PHI); it has a broad-spectrum of control and minimal wine-making concerns when used as prescribed on the label.

<u>Grow tubes:</u> As a reminder to anyone using grow tubes, the tubes should be removed from vines by 1 September to allow vines to normally acclimate to fall conditions. DO NOT leave the tubes on over winter. We have seen ample evidence that vines can be severely damaged by winter temperatures if the vines remain in tubes over winter.

<u>American Society for Enology and Viticulture Eastern Section Annual Conference and Symposium in the Lehigh Valley</u>

The Pennsylvania wine community and Penn State had an amazing opportunity to show off our best stuff when we hosted ASEV-ES in July. I thought we did a great job! I would like to thank everyone who helped Stephen and me to stage this event, especially the Pennsylvania wineries who so generously their wines for our guests to enjoy. You were awesome! Special appreciation to Pinnacle Ridge Vineyards, Galen Glen Vineyards, Vynecrest Vineyards and Clover Hill Vineyard and Winery for hosting the bus tour. We enjoyed delicious wines at each stop and terrific food at Galen Glen and Clover Hill. Thank you! I would also like to thank the staff at the Holiday Inn Conference Center in Breinigsville for their superb efforts. It's never easy hosting a wine group with all our bottles and glasses. They did a great job of keeping us on schedule. We had a great program that focused on soil moisture and vigor, as well as a variety of research presentations given by viticulture graduate students and a section of talks on viticulture in the midwest. All of them were very relevant to wine growing in Pennsylvania. Congratulations to Ms. Denise Gardner for getting the top vote in the graduate student scholarship competition. Denise just graduated from Penn State with a

major in food science and a minor in horticulture. She's on her way to Virginia Tech to study enology with Dr. Bruce Zoecklein. Five other graduate students were awarded ASEV-ES scholarships. Penn State's Taryn Bauerle won the award for best student paper presentation (way to go Taryn!) with her talk "Root Foraging in Response to Water Stress in Fast- and Slow- Growing Rootstocks." Tom Davenport, the director of viticulture at National Grape Cooperative was given the Distinguished Service Award and Terry Bates from Cornell gave a stirring summary of Tom's considerable contributions to our industry over a span of decades. We enjoyed good food and wines throughout the event. Stephen worked with Chef David Robison to create a dinner and lunch with cuisine to match Pennsylvania wines. At Galen Glen, Manfred Trautinger made the best Wiener Schnitzel I think I have ever tasted and it matched superbly with Gruner Veltliner grown by Galen Glen and from Manfred's family vineyard in Austria.

It would be impossible to summarize all of the excellent presentations offered at the conference but I'll try to hit on some of the highlights from my notes. Sessions included Root Biology and vineyard Floor Management, Canopy Management and Vine Balance, Student Papers, Midwest Viticulture and the symposium topic "Soil Moisture and Vine Vigor."

- Dr. Tony Wolf from Virginia Tech presented data from research by one of his graduate students, Gill Giese, who is also the viticulture instructor at Surry Community College. The work on cover crops and root pruning effects on vine vigor is already showing interesting results. The problem is a familiar one to all of us - too vigorous soils resulting in big vines that create disease and ripening problems. The question asked is if vigor can be restricted in mature vines and if so, will the fruit make better wine? Ideally we would like to impose early season, post fruit set water stress to limit berry size and post veraison water deficit to restrict shoot growth. The trial was planted in 1999 using Cabernet Sauvignon clone 8 and monitored for vegetative growth, shoot growth rates, evapo-transpiration, gas exchange, yields, harvest data, stem water potential. A variety of cover crop treatments were compared including different types of cover crops (K-31, fescue, hard fescue, orchard grass, perennial rye and a control with 1m herbicide strips) as well a placement of cover crop. Root pruning at bud break within 24" of the vine was also done. Research is at mercy of weather. In 2006 vines never achieved water stress and water potential was about the same. Fruit was harvested early and there was no real difference in chemistry between treatments.

There were a couple of talks that merged very well with the vineyard soils workshop later in the week…

- Hugh Fraser from the Ontario Ministry of Agriculture and Rural Affairs talked about the use of drain tile in vineyards. Around the lake almost all vineyards are installed with drain tile. Heavy clay soils necessitate this and growers have seen benefits in fruit ripening and cold hardiness from better drained soils. How do you know if your vineyard needs tiling? Look for these signs…walk around in the

rain and look for puddles, seepage into drainage ditches, look in machinery wheel ruts, post holes filled with water. If indicators point to drainage problems then a soil permeability test is needed or dig a trench and look for surface crusting, hard pan layers, root depth and mottling in soil color. Cost of tiling in Ontario is about $3700/ac. Tiling represents a long term investment in a vineyard.

- Dr. Harold van Es is a soil scientist from Cornell. He started with a good demonstration of water holding capacity using a sponge explaining that large pores are for aeration, drainage and rooting and medium pores are for biological functions and water retention and small pores are for long-term moisture retention. Poor drainage can be the result of soil texture or local hydrological conditions such as a flat field, swale or hard pan. Soil compaction is often a problem on farms and is worse when loads are heavy and soil is wet. A wet soil will compact to a greater depth than a dry one. Roots need a minimum of 0.2mm to push between soil particles. Hard soils and low pH will reduce rooting ability of vines by suppressing biological processes, increasing root diseases and denitrification losses. Cornell has developed a soil health testing process that examines four physical, 4 biological and 10 chemical components of a soil sample. It will make management recommendations based on test results. Be sure to understand that these tests may not be in a viticulture context and you should be careful how results are interpreted. An excellent handbook has been published to help growers to understand their soils. It can be found on the web at http://soilhealth.cals.cornell.edu. Cornell is working on a protocol to assess vineyard soils.

Next year's ASEV-ES annual conference will be in St. Catherines, Ontario, 15-17 July and will precede a special Riesling conference on July 18-19.

Stephen and I would like to thank the following Pennsylvania wineries for their donation of wines: Allegro, Antler Ridge, Blair, Buckingham Valley, Chaddsford, Christian W. Klay, Crossing, French Creek Ridge, Manatawny Creek, Mazza, Mount Nittany, Nissley, Pinnacle Ridge, Shade Mountain, Tamanend, Twin Brook, Va La and Vynecrest. Again, special thanks to Brad Knapp, Galen and Sarah Troxell, John, Jan and Sam Landis and the Skrip Family and all the staff at these wineries for their participation in the bus tour.

Thanks to these non-PA wineries: Creekbend (IN), Becker (TX), Brennan (TX), Chalet Debonne (OH), Ferrante (OH), Firelands (OH), Kie Persol (TX), Lakewood (NY), Landon (TX), Llano Estacado (TX), Pleasant Hill (TX), Renault (NJ), Shelton (NC), Stone Hill (MO), Valley (OH). Special thanks to Dakota Julson and TEXAS!

The **Vineyard Soils Workshop** with Dr. Paul Anamosa of Vineyard Technologies in Napa presented very practical information about soil evaluation and site preparation. Alex Blackburn, a vineyard soil consultant from Virginia was also on hand to share his local experience. It is important to realize that vineyard soils are not necessarily interpreted in the same way as soils for agronomic or even other fruit uses. Paul helped us to understand the special nature of a soil that is particularly well-suited for fine wine

production. We visited pits at Allegro, Waltz and Round Ridge and saw and felt soil features that make these vineyards special. I'll write more about what we learned from Paul and Alex in my next e-newsletter.

Assistant Wine Maker and Vineyard Position Available at Clover Hill Vineyards and Winery - see attachment

Clover Hill Vineyards & Winery is looking for an energetic individual to help with the wine production and grape growing areas at our 65,000 gallon winery. Clover Hill is family business with over 20 years of experience and offers a modern production facility with state of the art equipment within the Lehigh Valley, Pennsylvania. Information on the winery is available on the web site, www.cloverhillwinery.com . This position offers a unique variety of duties over the course of a year and offers a hands-on approach through the entire process of grapes to wine.

Crush Job Available in Washington State

Owner Mark Newton is a friend of mine and owns a winery in the "wine ghetto" of Woodinville just east of Seattle. He has been making some of Washington's best wines for the past decade (usually 90+ WS scores). His wine maker, Hillary, asked me to post this job ad for a crush position. If you are up for some adventure this would be a great experience!

DiStefano Winery in Woodinville, WA is in need of a temporary full-time cellar worker (Mid-September to November) which could lead to a full time position. We are looking for someone with a great attitude, strong work ethic, is not afraid to work long hours when required and knows how to play. We are looking for someone fun to work with. The position will assist in a variety of cellar activities including but not limited to racking barrels and tanks, additions to must and wine, barrel cleaning, barrel preparation and stacking, topping, crushing grapes, pressing wine, and clean up. Fork lift driving desired, but will train. Previous cellar work not required, will train. A variety of skill levels will be considered. You must be able to physically work on your feet for an extended period of time, be able to repetitively lift 50 pounds, and be able to routinely climb stairs and ladders and work up to heights of 20 feet. If you are interested, please contact Hillary Sjolund, wine maker, at hillary@distefanowinery.com or 425.487.1648.

Elderberries for sale. Contact Donna Elwer in Bernville, 610-488-7958, ruly@entergatge.com

Attachments:

2007_Cabernet_Franc_Reg_Info.doc
Clover_Hill_Winery_and_Vineyard_Assistant_Jul07.doc
Organic_Vit_Field_Day_Sep07.doc

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