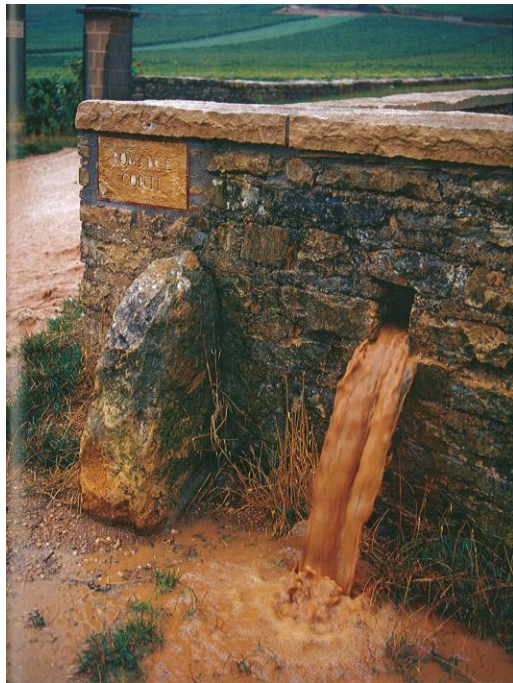




The Problem with Pinot (and Riesling, Chardonnay, Pinot Gris, Vidal, Vignoles, etc.)



Yes, it rains in Burgundy, too. Draining the Romaneé-Conti vineyard in Vosne-Romanée

If you have read my stuff in the past you may know that my holy grail for Eastern viticulture is to get Cabernet Sauvignon fully mature using proper terroir and, additionally, have it survive the winter. We have actually made quite nice progress with this quest in the past decade. I have had for a while a second grail to chase (going for the complete set) and that is getting thin-skinned varieties like Pinot Noir and Riesling to survive on the vine to full maturity in less than ideal vintages, like the one we just had. All too often these two important varieties, along with tight-clustered cousins like Chardonnay, Pinot Gris and Vidal, fail to make it to the finish line, succumbing to sour rot, botrytis and other such maladies often associated with anything less than ideal harvest conditions. Riesling is the king of the Finger Lakes so there is a big stake in its durability there and Pinot Noir can make fine wines in a number of areas such as the Lehigh Valley, Niagara Peninsula and Finger Lakes. Varieties like Pinot Gris, Chardonnay, Vidal, Vignoles and others are widely planted around the region.

Maybe we are too hard-headed as wine growers, thinking that we can grow varieties outside of their ideal elements. Typically, great Pinot and Riesling are grown on the very margin of ripeness (Mosel, Cote d'Or) but maybe we are pushing it too far with our additional post-veraison rain. In Oregon, dry summers could be followed by very wet harvest seasons, and although I experienced the occasional Riesling meltdown, Pinot Noir very rarely disintegrated on the vine as it does here. Just to keep in touch with viticultural reality, our wine growers need to consider if Pinot Noir is a suitable variety for the region. It could be that the burden of hurricanes, low pressure system, nor'easters and the like are simply too great for the consistent and successful cultivation of certain rot prone varieties in the Eastern U.S. In addition, there is the daunting economic challenges that are unique to a low yielding variety like Pinot Noir, which is a real bummer when it comes to production costs and the occasional devastating losses in the vineyard. Significant issues to be resolved include the ability to achieve a bottle price that can

justify the cost of production and just how many weather hits can a wine grower take before it no longer makes sense to grow a variety?

The hope is always that science and technology will save the day even in the most dire of circumstances but it seems clear that research has not yet provided the answers for the Pinot problem (yet), even as much as Dr. Wilcox has put this problem under his microscope. I don't believe you can spray your way out of a vintage like this one. The work of Bryan Hed offers some hope to fend off late season rots by early leaf removal to loosen clusters and enhance the fruit environment. Nothing short of the best practices, each and every year, good or bad, can provide a measure of security that the fruit will cross the finish line. And as much as I would like to believe there is a scientific/viticultural solution to the meltdown problem, it may be simply that thin-skinned varieties simply are not a viable option near the ocean where hurricanes, tropical depressions and nor'easters can reach them.

I think what really stunned me was the suddenness of the change of direction of the vintage, from so promising before Irene to terribly compromised after, especially for Pinot. During the deluge, I called friends in California and Oregon and asked them how much rain a crop can take before quality is compromised. In California, they hit the panic button at about 2". In Oregon, they are a little more stout and can handle 4-5". But here, we seem to rather regularly cope with up to a foot, and in this year, over 3' in some places. In the words of Jean-Philippe Roby from Bordeaux (shared with us by Jim Law), in *Bon Courage*. Our growers and wine makers battle bravely under these conditions but, alas, there is little hope for the wine. For sure, I have tasted nice wines miraculously nurtured by talented wine makers but they are not what we wish them to be.



Even though I have seen it many times before it's always a bit of a shock to see grapes being run over by the metaphorical truck. I kept thinking throughout the vintage, "what can we do to make this better?" The answer is probably nothing, but "nothing" is not an acceptable response. So in good ol' extension fashion I gathered a group of our best grape pathologists and some of our most respected growers and wine makers to focus our collective brain power on the problem. There certainly isn't a "silver bullet" out there and to my chagrin, there are mostly old rusty ones. Perhaps the most constructive

and realistic suggestion was to develop a line of alternative wine products, such as rose, sparkling wine, lighter sweet wines, etc. that can be made from underripe grapes. Planting the "correct" varieties for the terroir was also mentioned. I place correct in quotations because every wine grower has his or her idea of what those may be and they often do not correlate to the site specific environmental realities. In the strictest sense, if we were truly correct, there would be no *vinifera* grapes planted in Eastern North America.

But there are, so I offer these suggestions about how to grow Pinot Noir where it probably wasn't meant to be grown:

- Alice Wise is the very appropriately-named viticulture extension educator on Long Island. She knows her *vinifera*. She suggests, as I have also in the past, that if you insist on growing risky varieties, then you must treat each year as if it will be the most awful in history. 2011 was lousy at the start, decent in the middle and horrible in the end. The middle got our (and their) juices flowing but it all caved-in so quickly. The growers who remembered the spring conditions and farmed for the worst, did the best in the end. Sorry, you have to farm for the stretch run in the East.
- Canopy management. What can I say? You just gotta do it and better than everyone else. Jim Law says that canopy work in June sets up the entire vintage and I believe him. Suggestions from the group are to closely regulate shoot spacing, usually 3-5 shoots per foot, and to make sure that both head and inter-vine areas are not over-grown. Prune the cordons and canes to leave at least 6-8" between vines. Leave 1-2 renewal spurs in the head position and thin this carefully to keep the canopy even and open.
- Leaf removal is the biggie for me and I'm going to stick my extension neck out here and say that if you are growing an ultra-sensitive, high value variety like Pinot Noir you should be removing leaves pre-bloom, and at minimum trace bloom, according to Bryan's recommendations. But won't I get sunburn? Well, probably, if we get some hot days. But what's worse for the wine, sunburn or rot? Pull leaves smartly. Morning side first and more vigorously, then afternoon a bit lighter. As the season develops, remove leaves as the weather dictates – cold/wet more, warm/dry less. Removing laterals and interior leaves also helps to open the fruit zone. Yup. This is all skilled hand labor and really expensive, but there are good machine leaf removers that do a good job after fruit set. We need technology that will do it earlier in the season.
- Fruit zone management. NO clusters should be touching. Cluster clumping must be avoided! Clusters should be evenly spaced and in a zone that can be effectively sprayed. On Long Island in September fruit zones were wide open, as they needed to be.
- Yield management on high quality varieties like Pinot Noir has to be spot on. No getting greedy because the vintage looks fine in June or July. I still go for the lag phase crop estimation and, if necessary, an aggressive crop adjustment between lag phase and veraison with touch up passes as the fruit colors. The low side of crop yields is encouraged, especially on red varieties.
- The pesticide part of IPM is not pleasant but a reality here. Sure we'd like to farm organic and in dry years like 2007 and 10 we can almost get there, but be prepared for years like 2011. On rot prone, high value varieties I would suggest the "everything but the kitchen sink" approach to disease management. That would include 4-5 botrytis applications and saving Pristine for the end game. As much as I hate to say it, captan probably needs to be available, too. I have an uneasy feeling that diffuse powdery mildew, as well as botrytis and all of its accomplices, are opening the door just a wee crack for the bad guys to get in. A lot of products were used at the end of the season this year for rot and downy mildew. I do not have a clear sense of what worked or didn't. I do know that anything less than squeaky clean leaves the fruit vulnerable to attack.

- Birds and yellow jackets. The birds were early and ferocious this year. I was rather surprised by the number of growers who called me and seemed rather puzzled that the birds were decimating their crop. Bird control is not a passive activity. Nets are needed and anti-bird patrols are necessary. The shoulder nets seem to work well, white appears to discourage birds more than black and net spacers should be used for Pinot Noir and Pinot Gris, the early varieties that seem to get the most attention. A few unattended canons and bird guards are not, in my book, bird protection.
- Oh, and don't forget about the insects, too. Grape berry moth, and the newly arrived spotted wing drosophila and brown marmorated stink bug all have the potential to open wounds that the opportunistic fungi look for like Black Friday at Walmart. We need to learn a lot more about SWD and its threat potential. BMSB was oddly absent in much of Pennsylvania. I have had testimony of direct feeding from a number of growers but have not seen it myself. There is a complete set of instructions about GBM control developed for the Finger Lakes and Michigan. Growers in other regions can use these as reference tools. Hopefully, management of GBM will also help with SWD. And, oh, the horror of the fruit flies this year (SWD surely among them), the wineries and tasting rooms were inundated. It was like a bad movie. Some growers sprayed the fruit flies hoping to slow the spread of rot. It's an idea worth exploring.
- Alternative products? We talked about the use of Vapor Gard on cherries to keep them from splitting. Many growers believe the splitting was the main cause of the rot. If rain is getting into the berry via the stem receptacle or skin, then some kind of barrier would make sense. Of course, there could be many possible side effects, for example, we know that stilet oil slows sugar development later in the season. Again, if I was a wine maker, I would sacrifice some sugar for less rot. But anything a grower can do, such as the "baseball cap" leaf positioning, to help shed rain from the clusters will be helpful. Can anyone explain to me why Vidal was more prone to splitting than Cayuga this year? There are other products that may be effective on sour rot but have not been studied or registered here.
- Pick fast and early. Growers agonized over when to pick this year. Most who waited on whites after Irene got dinged, especially if they didn't pick in the teensy window between Irene and Lee. Early is safe, waiting clearly increases risk, often dramatically. The stakes can be very high, including the economic viability of winery and-or vineyard business. I wish meteorologists understood this fact. What we really, really need is better, more accurate weather forecasting, or maybe a little less global warming and climate change. Right now, in my estimation, climate change is net minus for our region given the instability of the weather conditions in the past five years. With high quality varieties like Pinot and Merlot, that have narrow maturity windows, being able to get into a vineyard and get them off before the next big one is essential. Labor availability, one of our industry's biggest problems is, well, a big problem. I have no idea what the solution is and it will take a resourceful group of growers to figure it out.
- Design and site considerations abound but are too late for the grower with a vineyard already in the ground. There is SO much you can do here to improve your chances of getting consistently ripe and clean grapes but if you didn't think about it then, it probably doesn't much matter now. I still subscribe to the small to medium sized balanced vine as the one that has the best potential to ripen fruit and wood early enough to deliver consistent quality of wine and vine survival.

There isn't anything really new here and many growers are already doing a lot of this stuff. I want to believe if you do it just a little bit (or a lot) better that it will pay off if the vintage crumbles. I do not exude confidence. Growing Pinot takes a lot of determination and more luck than any grower would care to admit. Do you have any ideas how we can get tight-clustered varieties to the finish line so wine makers will smile when the bins arrive at the crush pad? If so, please share them with me so I can share them with others and we can all make better wines together.

2011 was one of those years that encourages a few to embrace religion but most simply persevere and look towards the next vintage. My preference is to seek answers from growers' experience and viticulture and pathology research. Maybe between the two we can cobble together enough knowledge to make better wines the next time this happens.

Mark L. Chien
Viticulture Educator
Penn State Cooperative Extension
<http://pawinegrape.com/>
November, 2011