



The National Grape and Wine Initiative and Old Vine Zinfandel

The National Grape and Wine Initiative (NGWI) is an industry-driven partnership with academic and government representatives designed to focus emphasis on research and extension, as a means to strengthen the competitiveness of America's grape and grape product industries. This includes Pennsylvania with its 14,000 acres of process and wine grapes. I have participated in NGWI since its inception in August, 2004 and since that time an idea has evolved into an organization of great potential. The reason I decided to sign on is my firm belief that a "new" wine region like Pennsylvania can not realize its full potential without significant assistance from local extension and research services. The reality of this situation is the need for funding to transform needs into research projects and extension workshops. NGWI seeks to secure funding from all sources – local, state and federal, to advance its priorities. While research will be the engine that pushes quality in all sectors, there is a strong recognition at NGWI that the extension component is vital to get new information and technology to the growers. The beauty of NGWI is its geographic and industry diversity, it is truly a national organization and a small wine state like Pennsylvania can be a part of the process and receive benefits from it. I am hoping that funding resources will be available to my own program as well as faculty researchers at Penn State and other agricultural research institutions in the state.

In Sacramento the first board for NGWI was approved. I will serve as an at-large member. The board consists of representatives from six geographic regions. Pennsylvania is part of the Northeast Region. A committee chaired by John Martini, owner of Anthony Road Winery in the Finger Lakes, will make recommendations to the board about research and extension needs in the region. As NGWI matures, I have little doubt that it will make its mark on the research and extension agenda in our region so it's worth participating or, at least, paying attention to what John's committee is doing. I know it drives everyone nuts when I harken back to the old days in Oregon but I feel very confident in saying that vit/eno R&D at Oregon State was one the major factors in the incredible development of Pinot noir as the signature variety for northern Oregon. From long-term clone, vine density and trellis trials to putting out fires like boron deficiency in 1987 – OSU gave growers confidence that they could count on research evidence to support empirical knowledge gained in the vineyards as well as create new knowledge and technology. It was a very effective relationship. I'll toss myself into the fire and say that I think that Eastern N. America, from Ontario to North Carolina, has the best research and extension apparatus on the continent but it needs to be engaged, directed, funded and improved. But we can still do so much more, here in Pennsylvania and elsewhere and NGWI will help us.

A set of seven key research priority areas have been defined by NGWI in four key areas:

- Understanding and improving quality
- Consumer insights, nutrition and community
- Production and processing efficiency
- Sustainability

Already initiatives such as the NE-1020 variety, clone and rootstock trail, the national clean plant network that may include a Mid-Atlantic FPS component and a national viticulture extension leadership conference with priorities such as developing a national vit/enol distance education curriculum are moving forward. ARS is being engaged with its enormous viticulture research resources that includes over 40 scientists and a budget pushing \$300M. A national wine and grape economic impact study is being conducted by MKF Research, LLC that will reveal the incredible economic clout of these combined industries. If you think NY's recently unveiled \$6B is impressive, just wait until our congressional representatives check out the collective national industry. A survey of existing R&E resources reveal that Penn State has the equivalent of about 12 FTE positions working on grape related research and extension. These positions are valued at almost \$750,000. Penn State is working for and with grapes and wine. On a national level, existing resources are in the many millions. NGWI hopes to prioritize and set the R&E agenda for all regions and help to coordinate R&E efforts for the most impact and efficiency. Already, NGWI is guiding researchers towards grant funding sources such as the National Research Institute and creating new opportunities for funding in specialty crops and the 2007 Farm Bill legislation. My personal belief is that a national grape check off system, a la milk, pork and beef, is need to create industry funds that can be leveraged at the federal level for increased funding for R&E programs. NGWI should be like the Australian Grape and Wine Research and Development Corporation, which gets its \$14M matched by the government. GWRDC and other Aussie initiative is one reason Yellow Tail is crowding our wines off the shelves.

Best of all, a national conversation about the quality of grapes and grape products and the research and extension systems that support them is going on. It is not just about California. The meeting room is full of debate that, amazingly, includes Pennsylvania as an equal partner and voice. I am very proud to be on the board of NGWI and look forward to serving the interests of growers in Pennsylvania and across our very viticulturally diverse nation. If you have any questions about NGWI, please call me. If you want to learn more, see the research priorities, identify granting opportunities for viticulture research and extension or know when the next meeting is, just go to the NGWI web site at <http://www.ngwi.org/>.

Old Vine Zinfandel

It is an interesting phenomenon to walk onto a previously unknown vineyard, or even just a bare piece of ground that might be vineyard and have a sense that really good grapes are going to arise from that terroir. So much of viticulture is visual in its essence and

while by no means foolproof, you can tell so much by just being very observant. Like looking at the quality of canopy management or the size of a crop at veraison. Ann Kraemer has a vineyard that makes you smile when you see it. If I may, it wreaks of good fruit. I had the good fortune to taste the first crop last September when I ran into Ann on a windy road high above Napa on the East side. She was delivering Syrah and Petite Sirah and the fruit was dead ripe, juicy and very, very tasty. Young vines, of course, but maybe a window into the future. Visiting Shake Ridge Vineyard, outside of Sutter Creek in the Sierra Foothills confirmed my suspicions about the potential quality of the fruit. Ann was one of the vineyard managers at Domaine Chandon for many years and left to consult in Napa and Chile. Her extended family (23 nieces and nephews) began to develop the first 35 acre phase of the vineyard in 2002 after spending a year looking for the right piece of ground. They investigated almost 40 properties and got lucky – this one “spoke” to her. The trick then was to turn a hunch into a very educated guess so 20 backhoe pits were dug and Paul Anamosa was hired to do the soils work. The soils turned out to be of four different types from soapstone to quartz but all very well-drained with lots of rock content. The old volcanic soils are reminiscent of what I farmed in Oregon. Most of the pits revealed 2-3 distinct soil horizons differentiated by color and texture and each sampled individually. I saw rocks piled up the size of shopping carts as we drove around. Ann also uses her own skills to examine the type and nature of vegetation that might offer clues about soil uniformity, fertility and water holding capacity. Soil pH is 5.5-6, P and B deficient and high Mg which affects Ca uptake. The gypsum should help this problem. The site itself could be in the Blue Ridge with gentle rolling hills and amazing variability in site and slopes except the sweet spot in elevation is from 1700-2500’. Ann’s vineyard is at 1700’. Elevation and latitude are huge factors in the macro/meso climates of the foothills with as much as an 80 day frost-free differential between sites in the north and south parts of the growing region. Elevation also affects rainfall with an increase of 1” annually for every 100 additional feet of elevation. This kind of analysis on a new site, even in an established area like Amador, is vital to understanding the potential of the site. It is the viticulture crystal ball. I can only imagine the subtle differences in flavors and textures that those variations in terroir will yield. And Ann did her best to isolate them by laying out 20 distinct blocks of grapes on the 35 acres. Yes, a sampling and data collection nightmare but it will yield such interesting wines. The varieties planted are, of course, Zinfandel as well as its close cousin, Primitivo. Probably the best wine I tasted during my visit was Syrah and she has that along with Grenache, Mourvedre and Roussanne. There is also Tempranillo and a small experimental block of Bordeaux varieties. All are on fairly vigorous rootstocks including 110R and St George. Apparently it is a great local tradition to grow Zin on St George, one of the oldest rootstocks in use in California. Old is in fashion in the Sierra Foothills, which attracted Italian immigrants in the 1800s as well as the gold rush crowd. Old vine Zin is what makes Amador County wines famous. We had the pleasure to stop by the Grandpere Vineyard, which was planted in 1869. I cannot even begin to describe this head-trained and spur pruned vineyard. Words like majestic, venerable, ancient, amazing all come to mind. Each vine is its own sculpture, carved by pruning over almost 140 years. The old, gnarly trunks are so worn that many of them had holes in them so you could see right through the vine. They are pruned to 5-6 two bud spurs which means crops are very light, and fruit concentration very high. If you want to see photos of these

grand old vines, go to the Winegrape Network web site. Ann has decided to head train half of her Zinfandel vines, which are not clones but selections from famous California vineyards such as Monte Rosso. This nod to the past will keep the tradition of head-trained Zin alive in the area. Development is first-rate and part of the overall visual quality of the vineyard. The land was cleared, de-rocked, ripped in three directions to 3-4' then disced the year before planting. Compost was added back to ameliorate the pulverizing of surface soil structure from the use of a D-9. The compost helps to reaggregate soil particles. Gypsum and lime were added. Some trees were cleared but most of the planted land was open. Layout was done by a professional surveyor in the spring and irrigation then trellis was installed with irrigation wire and fruit wire. The irrigation system itself is a feat of engineering with multiple block layout using 25 separate valves and a filtration system installed. She got super lucky with two wells, one that delivers 100+ gallons of very clean water. She used an engineer with electronic gizmos to find water instead of a douser and he was dead on. There is one emitter per vine except on shallow soils where a second is added. Ann prefers a manually operated system so she must go out into the field to operate valves and see the system working instead of letting a microchip do all the work. Microchips do not detect leaks. All 35 acres were developed at once so it was a big project for Ann. Cover crops are essential in these hills. Straw was used during development to hold soils in place. After that, a mix of Zorro fescue, Blando Brome and peas, oats and barley were drilled in as a permanent cover and help to enrich organic matter. Contractors were hired for big jobs like post installation but the family did a lot of the work, too. The rest of vineyard is on VSP, 8x5 spacing, cordon-trained and spur-pruned to 2-buds per spur (for now) and fruit wire at 36", trellis topping out at 60". Ann likes to let her canopy flop to some degree and avoids hedging in order to provide some additional protection from direct sun. Training is super high quality with very minimal bi-lateral gap. She encourages multiple shoot growth in the first year to improve root development but also to minimize internode length so training is more effective. Trunks are straight using rebar fastened to wire. Two-pairs of catch wires on variable length cross-arms position the canopy. Ann likes a wider canopy in the intense sunlight conditions of the foothills, especially in the warm months of July and August. The additional shading keeps the fruit from burning. I've seen more of this around California recently, as well as SW-NE row direction. On her slopes, she chooses safety over optimal row directions but tries to orient SW-NE. End posts are 4" round steel with a spade driven 4' with no anchor wires. Line posts are 13g T-posts with clips to hold wires in place driven 2' and spaced at 20 feet. It is a simple but very effective system. Vines were planted with shovels and 2-shovels full of compost was added back to each hole to improve soil micorrhizae around the root rhizosphere. Milk cartons were used on the vines and some were filled with saw dust to slow initial growth. However, the crew put too much saw dust into some of the cartons and kept them from growing, when the sawdust was removed, some of the immature, emerging shoots were burned by heat. Take was over 98%, both on bench grafts and field-budded vines. Ann likes to fall bud, which I had not heard of before. While we cannot bud easily in the East due to rain and cold, she says the use of fresh bud material, just cut from the vines in August and September, makes a big difference in the quality of the emerging shoots. The vines need six weeks of good weather which is usually available at that time. Cost of field budding is about the same as using bench grafts. The budding or grafting service is \$1 per plant

with one bud per vine. Weed control so far has all been with Roundup and a spader is used to cultivate between rows where needed. Final development costs for the vineyard was about \$20,000 per acres.

Other indications of quality and care are seen in the equipment and structures. A very nice 60x40 Morton-type building has plenty of work and storage space as well as a comfortable office for Ann. It has concrete floors, a great asset at all times of year. Equipment is all new or almost new and include a JD 5520 4wd with cab and a Kubota M7030. There is a Kubota mule-type utility vehicle and a Honda Rancher ATV with mounted boom herbicide sprayer. The shop is neat and clean. An 8-foot mesh deer fence with 2 barbed strands surrounds the planted acreage. While deer are excluded, gophers are not and they are a big problem. I heard owls hooting so they will help her with varmint control. Birds are a big problem and she is ready to net the entire vineyard, a real challenge particularly with head trained vines. But the fruit must be protected.

Ann gets her labor through contractors in Lodi, one hour away. She prefers not to use large crews because of quality concerns but must do so until she develops her own labor resources. She is training a local farmer's son to do a lot of the work such as tractor driving. They own a historic farm and he hopes to plant his own grapes someday.

It was such a pleasure to visit the Sierra Foothills and I would encourage growers from the East to make the hour trip east of Sacramento. It retains much of the charm and flavors I remember from 25 years ago when I was a grad student at UC Davis and had my first viticulture experience helping Ben Zeitman at Amador Foothill Winery plant his vineyard. I can imagine it is as Napa was 30-40 years ago – rustic, unpretentious, relatively uncrowded and the natives are still friendly! Besides that, it is just about the most beautiful place you will ever visit and the wines are wonderful. In his book **Wines of California**, Matt Kramer says *Zinfandel is reminiscent of old-fashioned Barolo in their rousing intensity of fruit, high alcohol, and hard-kernel of prune and tar flavors. The prune and tar are a dead-giveaway of an foothills Zin A Sierra Zin is a bold, almost belligerent wine with alcohols often exceeding 15 percent.* Just for the record, I loved the sun-drenched Sauvignon blancs and tasted a Moscato d'Asti wine that was unbelievably reminiscent of NW Italy. It was awesome.

As an aside, there is a big debate going on in the region about what constitutes an “old vine” because there has been some misuse of the term for marketing purposes. I have had this same debate with colleagues as we try to understand the influence of vine age on wine quality relative to winter injury and the retraining of aerial vine parts. There is a strong sense of the contribution of vine age to wine quality in the foothills, as well as in Europe, but I have not encountered any scientific evidence to support it. I have tasted many wines from vines 40+ years and they tend to have great character and depth. I'll always wonder, as we struggle with vine decline and winter injury in the East, how much of an impact this has on our wine quality.

I'm going to guess that some of you who have read my descriptions of previous vineyard visits will accuse me of reporting more of the same. This is perhaps so. But I feel

comfortable in defending the notion that every vineyard, while they have vines and trellis, are very distinct and a reflection of their owners and place. I may have been in California but the viticulture and business lessons are easily adapted to Pennsylvania. Good viticulture is about getting the basics right and then learning about the subtle and unique features of each site and taking full advantage of them. It was a treat for me to see Ann's vineyard because she at least tried, and for the most part succeeded, in doing everything right and well. I'm confident Shake Ridge Vineyard will become a well-respected source of Zinfandel and Syrah from the foothills.

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