

The Oregon Wine Community and Its Viticulture

It's interesting to note that the modern day renditions of the Oregon and Pennsylvania wine industries both began about the same time 30 years ago. Yet, contemporary comparisons reveal stark differences in the evolutionary process of a wine industry. I can't help but wonder why this is. There are many contributors to a growing wine community, such as state funding for research and marketing efforts and a serious wine and grape research program. Oregon has always been a progressive state, witness the first bottle bill and recent health care initiatives, and when it set its eyes on a world class wine industry, it wasted no time or expense in getting there. The core of its success, however, is most certainly the creative, industrious and visionary people who help build the industry. Even now, with success firmly in hand, I saw no signs of a senior slump in these virtues that put this region on the world wine map. Oregon does not represent a formula for success. While there were various strategic plans to build the industry, progress was driven mostly by hard work, cooperation and ingenuity. Yet, any lessons that we can learn from their efforts would be valuable in establishing our own successful wine industry in Pennsylvania. The following is a short representation of what I saw.

First, some facts. There are currently 170 wineries in the state, up from 40 when I arrived in 1985 and second most after California in total wineries. Most are small (<5K cases) but usually sophisticated and well funded. A new wave of extremely high quality operations are now moving into the state (eg. Domaine Drouhin, Archery Summit, Willakenzie Estate, Lemelson Vineyard, Domaine Serene), these are world class wineries. Growth has been constant and steep. Acreage is approaching 12,000. The best vineyard land in the north Willamette Valley is running around \$15,000 per acre. Development costs are \$12-15,000 per acre. Most of the vineyards are being developed into high quality, low yield, VSP trained, hillside sites with a variety of clones. The dominant variety by far is Pinot Noir, with lesser amounts of Pinot Gris being planted. Chardonnay is being removed, except for a small amount of Dijon clones. The climate is warm and dry in the summer, and rainy in the winter and spring. Phylloxera is one of the greatest challenges, as it is now very widespread in the Willamette Valley with 55 vineyards identified and certainly many more infested. With the high cost of replanting, this is causing a severe hardship for many independent vineyards.

It is important to remember that Pinot Noir was not always king in Oregon. In fact, until the mid eighties, it was thought that Chardonnay might dominate as the main grape variety. Much of the Pinot Noir was being made into sweet blush wines. A timely interest in red wines (see 60 Minutes) and the growth of an affluent wine culture, helped to propel premium wine consumption to new heights. Oregon rode that wave for all it was worth.

Marketing efforts have played a huge role in the rapid expansion of the wine community. Oregon was able to easily establish its regional identity around Pinot Noir, which allowed it to market to that sophisticated wine niche (aka Burgundy consumers). Innovative ideas seem to flow constantly from the creative minds of Oregon vintners. Recently, an annual Pinot Camp was established which brings in wine writers, distributors and geeks from all around the country. They tour vineyards and wineries for three days of fun and interaction with the wine community, and then take their experience back to restaurants and shops and sell more Oregon wine. The

Oregon Wine Marketing Coalition has been extremely active in creating new out of state markets for Oregon wines. Events like the International Pinot Noir Celebration and the Steamboat Pinot Noir Conference help to bring international attention and respect to the wine industry. The celebration is so popular that it could sell out its \$800 tickets many times over. The message is that making wine is fun, selling it takes creativity and hard work.

A credible and well funded research and extension program is vital to the development of a viable grape and wine industry, and this is not a cheesy form of self promotion, its really true!. Anne Connelly is the new viticulture extension agent at Oregon State University. Her job is almost as challenging as mine, at least in terms of the diversity and scope of the region she must cover. From Pinot Noir in the north to Syrah and Cabernet in the south, she has a lot of viticulture to oversee. While she has only been on the job for a few months, the current focus of her efforts are on canopy management, irrigation management, vine nutrition and vineyard economics. Sound familiar? Her issues are much the same as they are here, with many new growers entering the vineyard community and a large base of experienced growers that need servicing. She is supported by five extension agents in other areas of the state and works with Dr. Carmo Candolfi, viticulture professor at OSU specializing in vine physiology. OSU also has a very active enology program headed by Dr. Barney Watson, who also makes commercial wines at Tyee Vineyards. Barney has served the wine industry for almost 30 years and has made invaluable contributions to the quality of wine in Oregon.

Funding for research comes, in part, from funds raised through a grape and wine tax via the Oregon Wine Advisory Board. These resources are allocated between marketing and research needs by a board within the department of agriculture made up of wine makers and grape growers.

In Salem, the Northwest Center for Viticulture and Enology has been established this year using federal matching funds, private industry donations and with cooperation from Chemeketa Community College.

CCC is in the fourth year of its two year associates degree viticulture program that provides practical, real world training and experience to people interested in learning how to manage a vineyard. The reality of our industry is many of its newer members come from other professions and do not require a four year degree program before they get their hands dirty. This curriculum addresses the basic needs and allows students to enter the industry with sufficient knowledge and experience to avoid the common early mistakes in vineyard development and management. A pilot winery and classrooms are being built. A research and teaching vineyard on a marvelous site overlooking the Willamette River in the Eola Hills has been planted. Al MacDonald is the instructor.

Making great Pinot Noir is all about the grapes. The overall quality of viticulture in Oregon is extremely high. Its driven by internal desire to make fine wine and a keeping up and passing the Jones attitude.

Here are some of my viticulture observations...

Training is mostly VSP, but mixed in is quite a lot of Scott Henry and Lyre, with lesser amounts of GDC and hanging. Again, low to moderate vigor sites are being developed with the intention of keeping canopies small. To further reduce foliage and vegetative cycle, restrictive rootstocks like Riparia, Schwarzmann, 420A are being tested, however, 101-14 and 3309 are still the standards, with a lot of 5C and SO4. Vine density is still a widely debated matter, although it can be generally observed that spacing is tightening up. There are some meter by meter plantings, but most vineyards are falling into the 8x4 to 9x5 range for quality. Again, site characteristics are vital to the choice and success of any vine density. Many continue to battle overly vigorous vines. The perennial debate over optimal tons per acre or pounds per vine continues. Two tons per acre or less on the highest quality Pinot Noir is standard – these grapes will often sell for \$5-6,500 per acre. You do the math. Annual operating expenses on an acre of high quality vineyard are often \$3-5000/yr/ac. These prices are propped up by bottle prices upwards of \$100 and probably averaging \$25-\$30 per bottle. Again, think marketing. Joel Myer, a consultant to some of the best vineyards in the valley, uses a sensible linear feet of trellis formula to determine yields – he suggests that a pound of fruit per foot of trellis will give optimal fruit quality. For example, a vineyard on 8x4 spacing will have 5445 feet of trellis and yield 2.72 t/a. At Bethel Heights Vineyard, Ted Casteel thins all Pinot Noir to one cluster per shoot. The wines are dense and complex. He is also experimenting with planting vines side by side, about a foot apart, and training to single guyot, to increase vine competition and slow vigor – a technique I saw employed in Tuscany. He is also taking one of his most successful PN fields on VSP and converting it to Scott Henry, just to see if opening the canopy will help enhance the ripening process and flavor development. Creative viticulture is required to push quality. Ted has a whole set of criteria that he uses to analyze vine balance, including leaf size, shoot length, vine shadow. Old vines in Oregon are reaching 30+ years and showing some signs of declining productivity.

Low Input Viticulture and Enology (LIVE) is the sustainable viticulture program that was developed by the grape industry for itself, with some assistance from OSU. The program was formally approved by IOBC, an international sustainable agriculture organizations based in Switzerland and is the first such approved program for vineyards in the U.S. The guidelines of the program seek to limit off farm inputs in the ecological system and to approach farming in a holistic manner. As a consequence, the range of vineyard appearance are from squeaky clean to fairly weedy by western standards. The weeds, in this case, are generously referred to as biodiversity, a key element of any sustainable ag system. No matter what principles a vineyard is managed by, uniformity of vine size, leaf color, growth habit and number (full trellises) is a key goal of most Oregon vineyard managers. Uniformity has multiple quality benefits such as more consistent yields, grape maturity and ease of management. I must note at this point the relative ease of grape growing in Oregon, which I believe is as close to grape heaven as one can get, certainly in the U.S. With a dry summer season, the only serious disease threats are powdery mildew and late season botrytis. Oak root fungus has affected some newer vineyards. Above ground insect pests are almost non-existent with some thrips problems in certain areas and the occasional Eurineum mite. Phylloxera presents a major challenge, it has been identified in 55 commercial vineyards and surely has infested many more. For independent vineyards, the economics of replanting will be daunting. Other abiotic problems are quite minimal, with the

occasional boron or potassium deficiency. Winter injury has not been an issue since 1987. Because of these environmental realities, it is possible, even easy, to practice sustainable or organic viticulture.

Growers are thinking in more subterranean ways as well. Soil pH, microbiology and nutrition, water availability and other underground variables have been the focus of attention in the past decade. Joel Myer likes to use his cup of magic analogy to describe the micronutrient requirements of an acre of vines. Growers are always seeking to balance vine vigor with nutrient needs. In some cases, adjusting the pH can alleviate uptake difficulties. A lime company has purchased a narrow spreader for use in mature vineyards.

Cover crops are directly related to many of the issues above. The vine nutritional balance runs a very fine line. Growers want a healthy but not too vigorous vine. Cover crops offer many advantages such as erosion and vigor control. But they also can compete for resources. Nitrogen, when deficient in grape must, has been implicated in a variety of wine problems, from poor fermentation performance to the development of atypical aging (ATA) particularly in white wines. Many growers in Oregon are alternating cover crop rows, as seen in Ontario vineyards or removing them completely. In the fall, a winter cover is drilled, often a nitrogen source. This practice is complicated a bit by the requirement of LIVE for vineyards to maintain a high number of indigenous native plant species in the vineyard.

I am seeing more irrigation in vineyards. I'm not sure why, because growers seem reluctant to practice deficit irrigation, even in dry summers. Usually, people say that it's needed for early vine establishment. But irrigation and fertigation can be a useful tool. But until a user feels comfortable with irrigation scheduling and determining soil moisture content, these expensive systems will never be fully utilized.

I believe it is important for Pennsylvania grape growers to witness the success that is the result of hard work and many of the efforts we are putting forth today. The challenges were much the same in Oregon then as they are for us now. It is very important to witness high quality viticulture and taste good wines. They represent big targets for us to aim for.

I am convinced that creative thinking is the key to success. Squeezing out the last remnants of quality. In the early years, significant gains were possible with modest effort. Now, with the quality standard so high, every vineyard manager and wine maker is striving to improve quality in small increments with great effort. Yet, the drive continues. The creativity, inventiveness, desire, self motivation and pleasure are the driving forces to improving quality and the only way to succeed in a demanding and competitive world wine market. Oregon is in the world wine market. Pennsylvania may choose to participate. All the signs point to getting there.

Mark L. Chien
Wine Grape Agent
Penn State Cooperative Extension