

## Jan Klapetzky - Amateur to Professional Winemaking

I've been fascinated by fermentation as far back as I can remember. I didn't know what an enologist was so I studied Chemical Engineering instead. I took my initial winemaking course from Devitt Ward when I moved to Rochester in 1970 and started making wine with Dutchess, Delaware, and Catawba juice. I moved to Williamson in 1977 and planted a half acre of grapes, mostly deChaunac, Steuben, and Catawba. I did everything wrong and made a lot of really bad wine – soil was too heavy, Kodak interfered with my spray program, and I harvested when my friends were ready, not the grapes.



Finally in the late 80's, I realized that I liked working with little organisms that swam in tanks in my basement, not big organisms that snapped and slapped me across the face in February. I took out my vines except for enough Steuben to keep the turkeys happy and went back to juice. Having raised grapes, I knew a lot more of what to look for in a juice supplier – avoid the ones that reminded me of myself. I got serious on the winemaking - books, chemistry, even controlled experiments. I got a lot of help and advice from the current and former people who put this seminar on.



Many years ago at Kodak, I had the opportunity to meet a National Geographic photographer whose work I admired and I asked him how he did it. He said there were three steps to being a successful photographer. First, learn the basics well so you don't even have to think about them. Second, find your niche, that is, what type of subjects do you do best. And finally, shoot a huge number of pictures and pick the best ones. I tried applying that to wine. I picked three grapes – Traminette, Vidal, and Cayuga White as a focus. I made not only a lot of wine, but a lot of batches. I might make ten or twelve 5 gal batches with five different yeasts to maximize variability, although the replicates were often as different as the features. I might stop a couple batches early to provide a residual sugar source.



Then I would take samples and do extensive blending trials, trying to put together the best nose, most fruit, mouth feel, and long finish. I'd put together the very best blends, then take what was left and make the next best blend and so on. The best third I'd use for competitions and critical tastings, the next third for family gatherings and table use. I'd generally dump 10% before anyone knew I made it and the rest went to my kids. They all knew good wine, but since they were mostly college students at the time, quality was not a requirement.

The first thing I noticed was that people stopped bringing beer to family gatherings and started drinking my wine instead. Later I started entering competitions – the NY State Fair, AWS National, Winemaker Magazine and did really well.

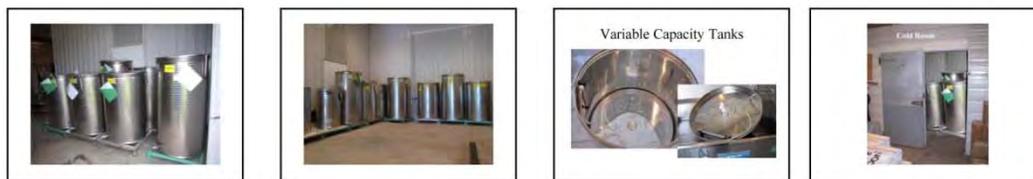
I also liked sharing my hobby by teaching winemaking classes at various venues, including out of my basement back about the time I retired from Kodak in '02. So then one day after having taken my class, Herm calls and says he wants to open a winery – would I be interested in being his winemaker? Well let me think – I guess so - more like a kid going to bed on a school night and waking up in Disney World.



Once I got into it though, I found there were some real problems with my model. You're working with someone else's juice so you feel a lot worse if you mess it up. You can't make a dozen batches and use the best few. Most batches need to be saleable so you have to stick with your best conditions and be more conservative.

It also wasn't like joining an existing operation. Herm had the building and the tasting room but I had to design the process. I looked at commercial wineries and saw big computer controlled jacketed tanks, 1000 gallons and up. Since we were looking at maybe 2000 gallons total and a variety of wines, that model just didn't seem to fit. Recommendations from a NYSWGF winery financial planner were a minimum \$1M capital. Herm and I were already making 400 gallons of very good wine between us with maybe \$2000 in equipment so that didn't make sense either. The final figure was a lot higher than we predicted but a lot less than they forecast. We knew Ashley Lynn Winery had started commercial production with 200 carboys but that didn't sound good either.

My vision was really scaling up home wine making to commercial quantities. We finally based our process on variable capacity stainless steel tanks. We have about 20 of these tanks in total - 75, 160, and 200 gallon sizes.



They have stainless dust covers and floating lids with an air vent and an inflatable bladder around the edge that seals out air. Primary fermentations are done with the dust cover, then the floating lid is added at the end of fermentation. The tanks are easily cleaned with a scrub brush and detergent or a pressure washer and sanitized with citric-sulfite. Empty, you can tilt them or roll them around by hand. It is important to remove and sanitize the bladder periodically. All the tanks are on metal skids and can be moved easily with a hand truck. We have a cold room and zone heating so tanks can be moved to warmer or cooler areas as needed. We construct an electrically heated locker as needed for ML fermentation. I was worried about cooling but the adiabatic heat rise on these tanks is only about six

degrees above ambient which is tolerable. Heater belts are available for the tanks but so far we haven't needed them.

**Materials:** We're currently making about half grape wines, a quarter real fruit wines, and a quarter grape based fruit wines (infusions). We don't have our own grapes yet but will in the future. We have a new grower near Sodus Bay, Dave Smith, with a large variety of *Vinifera* and hybrid grapes just coming to maturity. We're also getting grapes and juice from various places in the Finger Lakes. Most of the other fruit comes from Herm's own farm.



**Dealing with the Feds:** Most of the laws relative to wine – processes, ingredients, what to call it, what you have to or can't say on the label - are Federal. New York SLA laws are much worse but they deal with who, what, when, where, reporting, taxes, and the like and Herm has to deal with all that. Regulations on wine making run many hundreds of pages for both State and Federal. Only approved ingredients can be used and limits on most are specified – and most make no sense. The TTB requires complete lot tracing on all ingredients you use in wine, in case a terrorist messes with the sugar supply. Just a few TTB illustrations:

CuSO<sub>4</sub> for sulfur problems: the residual copper limit in wine is 0.5ppm; the Federal limit in municipal drinking water is 1.6ppm. Go figure.

Apple wine generally requires additional acid; tartaric consistently gives a better flavor in taste tests but only malic acid can be used because that's what nature intended for apples.

I'm a big Sparkolloid fan but it wasn't listed as an approved chemical. Doug Moorhead from Presque Isle finally found it for me – it was in the Internal Revenue Income Tax Code in some section about Corporate Tax Abatement. Now why didn't I look there first?

**Test equipment:** it's great having somebody else buy you a really nice pH meter. Of course you then feel obligated to produce accurate numbers with it, so you have to calibrate it each day you use it. Measuring TA was pretty much the same as home, as was paper chromatography for ML tracking. I'm still using Titrettes for free SO<sub>2</sub> in whites and reds. For the TTB though, I'm supposed to keep track of my bound sulfur too, so learning complete Ripper is on my things to do list. And you do have to pay attention to details now, like SO<sub>2</sub> required at a certain pH.

The ebulliometer has been fun. The TTB (Alcohol, Tobacco Tax, and Trade Bureau) charges excise tax based on alcohol content. They require that an approved alcohol measuring device be readily available. Such devices are distillation, ebulliometer, or LGC. The ebulliometer measures boiling point of a wine vs. distilled water, from which the alcohol can be calculated.



I also looked into the many labs that provide detailed wine analysis, such as at Cornell's. Tests can run from \$25 for something I can run up to several hundred dollars for something fancy which gets pricey for a 100 gallon batch of wine. Also in looking at some of the typical sophisticated results such as a

precise figure for yeast assimilable nitrogen, the literature then has all different opinions of what the aim should be depending on conditions. They all agreed you had to be careful and not add too much or too little, or run trials – thanks a lot.

**Process equipment.** Our crusher-destemmer is probably similar to what a lot of you have. Our press is a hydraulic metal press Herm built in high school, set up to a cider press format with racks.

The filtration equipment is a step up from most home equipment. We've got a 20 plate filter press we set up for two grades of filtration in series. Then we have a 10" and a new 20" cartridge membrane filter, the latter we use with an absolute 0.45u filter for final sterile filtering. The

cartridge filters have higher flow capacities but much lower retention than the flat filters. If you rush the flats, you plug a \$250 absolute membrane, so we're learning how to prefilter batches before bottling. Last year we only had the 10" so we did 0.45u nominal and used Sorbate but we'll be able to drop the Sorbate as we develop confidence in our new filter.



Bottling is with a 5 spout gravity filler that was originally from a dairy. Herm's good at reworking

equipment – comes natural for a farmer. A head tank feeds a level controlled feed tank from which the fillers siphon. Bottle fills are amazingly accurate – ½%. We pre-purge the bottles with nitrogen. We've talked to some cork suppliers but for now, we're still using Nomacork which is probably the best synthetic cork out there. Herm did the first year's 6000 bottles with a floor corker like most of you have but he complained a lot



about shoulder pain. We looked at pneumatic corkers but ended up going with an industrial version of the floor corker that does a nicer job with much less pull force and can easily keep up with the filler. Foil capsules are applied to the neck, then shrunk in a heated coil. Our original labels were flat like Avery labels. Herm's wife had all her sisters sat and labeled bottles from cases, front and back, after the fact. It took as long as the original bottling. Now we have a neat little device with rollers and a crank. You load a roll of alternating front and back labels, place the bottle and turn the crank. The bottling line works well. With three or four people, we've done 1000 bottles in a day.

