

Science: A Platform for Progress
The American Society for Enology and Viticulture
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With attendance well down on previous years, the 61st ASEV National Conference (held in Seattle immediately following the International Cool Climate Symposium) reflected the tough economic climate currently hammering the American wine industry.

Welcoming participants to the opening session, ASEV President Christian Butzke noted that the 2010 conference featured industry participation in every session, including those devoted to academic/scientific interests. The challenge, he observed, is “how to make research relevant to industry members who believe they already know enough.”

Acknowledging an environment of escalating costs and lower returns at both the vineyard and the winery, the ASEV attempted to meet that challenge by providing a selection of industry sessions and colloquia where the focus moved from the realm of academe to applied research – frequently with an emphasis on “how to shave costs.”

Thus, industry participants had their choice of not one but two full sessions on alternatives to oak barrels, such as “oak-on-a-rope”, oak chips, “rice,” dust, and oak extract. Tannin additions were discussed in a separate seminar, as were closures, including cork, screwcaps and newer alternative stoppers such as glass.

The ASEV’s approach led to an interesting, if somewhat bifurcated, presentation of topics. For example, as scientific researchers delve into ever finer degrees of manipulation in the vineyard and winery, industry members

put their money down for sessions involving fewer inputs and more automation. While researchers are currently exploring customised canopy management at the varietal level, industry members are opting for multi-use tractors capable of automating all spraying, pruning, trimming and harvesting work in the vineyard. In an ideal world, today's research will feed into the automation of tomorrow.

For the time being, however, much of this research seems to have reached an impasse. Trials regarding vineyard inputs at the varietal level often reported no discernible differences in quantitative measures at the end of season in terms of yields, Brix levels, titratable acidity, and so on – indeed, greater differences were typically found due to seasonal variation from one year to the next.

Nonetheless, as Glen Creasey (Lincoln University) observed in a session at the ICCS, even where quantitative differences are not readily apparent, vines and/or wines may show clear qualitative differences. The problem, of course, is that such differences are far more difficult to capture. This paradox opens the door for more sensory evaluative research: according to Creasey, even where quantitative measures appear to show no significant differences, sensory panels are often able to detect differences in aromas and flavours.

In the “brave new world” category, genetic modification continues to attract researchers' interest. There now seems to be very little in the vineyard or winery that is not being modified: new yeast strains and wine additives, new varieties, new rootstocks bred for resistance to specific diseases such as Fan Leaf. While modifications continue in the laboratory, the ultimate goal is commercial release – patented “products” that can be licensed and sold. In terms of genetic identification, researchers continue to DNA fingerprint individual varieties and clones, with an eye to fixing their pedigrees in terms of evolution and/or plant breeding.

The brave new world also embraces technology in many forms in both the vineyard and the winery: new probes and sensors, computerised monitoring

systems, web-based tools that unite sensors, historical data and consultants' advice, roboticised heavy machinery, with its own data collection and reporting – the list goes on and on. While such features may be the province of only the largest commercial operations today, they will eventually be incorporated into every scale of vineyard management and winemaking.