Room at the top

Winemaker Richie Allen explains how even a super league winery can benefit from a handy new wine analyser taking up no more bench space than a shoebox.

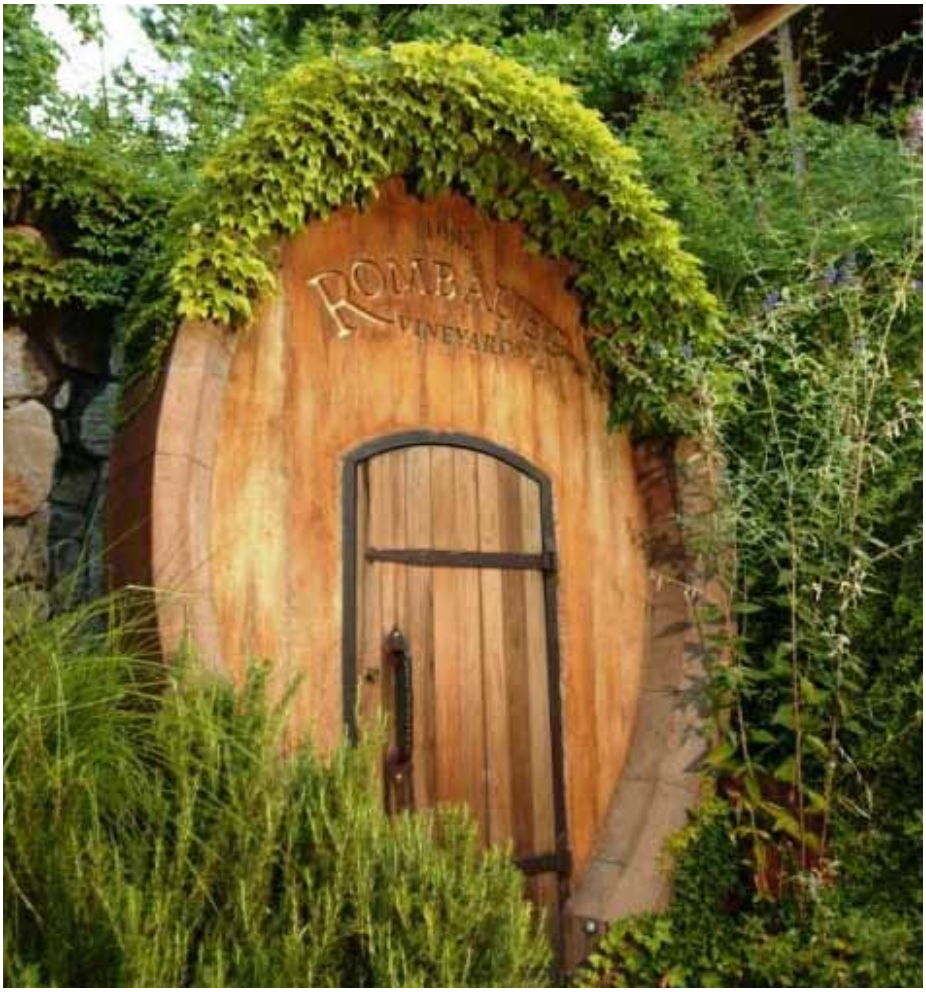
With an on-site laboratory at his disposal and a job at a renowned, quality-driven Napa Valley winery, you might think that any winemaker would be satisfied. But not when you are Richie Allen and you have discovered the advantages of rapid wine analysis with a new, easy-to-use instrument called the OenoFoss™.

Holding a degree in both science and winemaking and with a keen interest in new technology, Allen was quick to pick up on the potential of the new analyser launched by FOSS in June 2008. "When the FOSS machine came along I knew exactly what it was and I wanted to get one straight away," he says.

His forward-looking approach fits well with his work at Rombauer Wines based in the heart of the Napa Valley. Allen says: "There is a lot of competition around here in that everyone is out to make the best wine they can – the best Cabernet, the best Chardonnay." The Rombauer winery epitomises this ideology. "If there is anything that will compromise quality they won't do it. If there is anything that will improve quality they will invest," says Allen.

The little blue box

Richie Allen first heard about FOSS wine analysis instruments at an earlier job in the U.S. The winery where he was working often employed the services of a wine laboratory using a FOSS WineScan™ FTIR analyser. FTIR stands for Fourier Transform Infrared – a mathematical calcula-



Rombauer Wines typify the uncompromising Napa Valley approach to winemaking in which nothing is spared in the pursuit of consistent quality

tion that can be used to interpret the effect of infrared light passed through a sample of wine or must. He then came across FTIR again while on another assignment in New Zealand, but this time the technology came in the form of the new OenoFoss analyser.

While the WineScan is designed for use by laboratories or larger wineries, the OenoFoss extends the power of rapid, routine analysis to smaller and mid-size wineries. "As soon as I saw the OenoFoss blue box and that it used FTIR, I thought, hey, its one of those wiz-bang wine machines, but smaller," says Allen. "And FOSS leads the world in FTIR."

Compared to the traditional analysis methods being used at the winery, the OenoFoss offered advantages in the level of information, the speed and the accuracy. "All the traditional techniques are fine," explains Allen. "But it had come to the point where so much had been invested in the winery that it was also necessary to update the laboratory to match the wines we were making."

The OenoFoss provided an outstanding solution in terms of speed, accuracy and repeatability providing considerable time and cost savings. Much of the traditional analysis work was replaced and enzymatic tests were reduced from several per fermentation to just one to confirm malolactic dryness. In enzymatic testing alone, the costs savings were considerable. "A single test is around NZ $3.00 against the cost of a pipette for the OenoFoss and you can buy a box of 500 of those for about $50.00," says Allen.

From New Zealand to California

Allen had told Rombauer Wines all about the OenoFoss before he moved to California and, on his recommendation, a unit was quickly installed despite the fact that the winery already had a well equipped on-site laboratory employing two staff.

"The lab was getting busier and busier to the stage where we may have needed an extra person and we would have to expand the existing facilities," says Allen. The OenoFoss saved both expenses. Added to these specific cost-savings, the OenoFoss is speeding up decision making throughout the winemaking process.

The instrument is well liked by the lab staff and is used on an everyday basis from testing must to fermentation monitoring to checking finished wine. For example, it is used to monitor alcohol and sugar levels in fermentation to supplement the decision making process. Speed is crucial in this respect. "Everything is so fast compared to manual methods that you can see problems arising and take action," says Allen. All finished wine analysis is also run on the OenoFoss with traditional analysis used only if something looks out of place. "Except for enzymatic analysis used for dryness all our laboratory analysis is now supplementing the FOSS," he says.

OenoFoss™ a handy new wine analyser taking up no more bench space than a shoebox

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Implementing the technology

The instrument has proven easy for everyone in the lab to use. "You put your ten drops of sample into the sample holder and within two minutes you have a result," says Allen. "If you are used to using a laptop computer, it is pretty quick to learn. The touch screen interface is also very easy to use. But if you want to get into adjusting the machine you need to get into the Foss Integrator software." At this point, Allen is keen to highlight the time he has used to get his measurements where he wants them based on the supplied calibrations.

OenoFoss is supplied with highly stable global calibrations developed from a comprehensive database of samples from around the world including U.S. data. Required adjustments are made as part of the installations process for new instruments, but in Allen's experience, these may need some adjustment to local conditions.

"It does work perfectly and is extremely reliable," he says. "But every lab has their own numbers and in this case, you have to get used to adjusting the numbers. When you have done that, the repeatability is amazing," he adds. "If I were to give four different people a titration job to do, I would get four slightly different answers. But if I let those four people do a test with the OenoFoss I know I am going to get four results that are extremely close. That is the key to the instrument – the repeatability."

Ahead of the game

Allen describes the OenoFoss as approaching real time analysis – a new power tool for winemakers that is particularly important when possible problems occur. "Instead of asking the lab to do a test for alcohol, pH, TA and Volatile Acid, you can have all of that within two minutes," he says.

Once tried, the ability to get analysis results quickly is addictive. Doing a comparative tasting of different wines for instance can be supported by a ready set of analysis results that would previously have taken hours or even days to provide. "Everything is done on taste, but you want to confirm that taste and you want to do that quickly," says Allen.

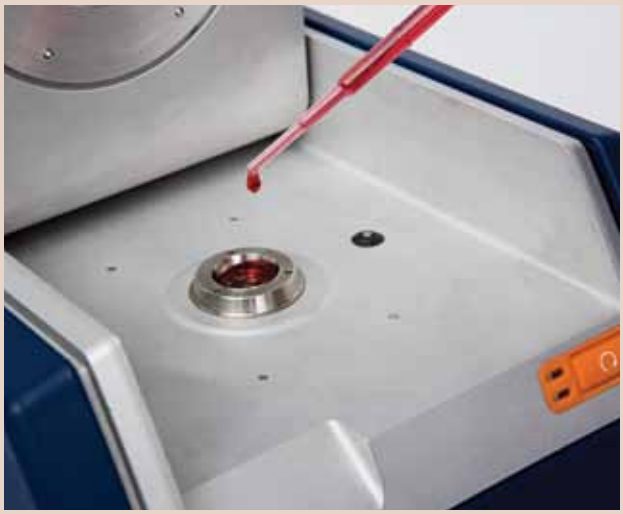
Looking ahead, OenoFoss will be used as a guardian of the consistency of the wines, maintaining house style and improving the quality. And it might not be long before others in the Napa Valley decide to give themselves a new edge in the age old quest for consistent top quality wine as Allen concludes: "All the big laboratories and wineries have it and now, with the OenoFoss, I think it is only a matter of time before everyone has one." ■

by Richard Mills, FOSS (rim@foss.dk)

Rombauer Vineyards was founded in 1982 by Koerner and Joan Rombauer and sits on a hill overlooking the Napa Valley. The winery features caves that extend for over a mile into the hillside providing a constant temperature and humidity for optimum aging conditions.

Rombauer wines are consistently ranked high in the wine trade journals. Many of the finest restaurants throughout the U.S. include Rombauer wines on their list.

Several wines are produced based on Carneros, Chardonnay, Cabernet Sauvignon, Merlot, and estate grown Zinfandel grapes from the vineyard below the winery. A blended reserve wine is also made called Le Meilleur Du Chai – the Best of the Cellar.



Instant quality control with OenoFoss™

The simple-to-use analyser provides wine producers with key information within two minutes, helping them with decisions such as when to pick grapes, how to control fermentation or when to bottle.

Traditional analysis involves various items of analysis equipment and can take around 20 minutes to measure a single quality parameter. In contrast, OenoFoss™ measures main quality parameters of grape must, must under fermentation and wine within two minutes from a single drop of a single sample. Up to seven parameters are measured: sugar, pH, total acid, glucose/fructose, malic acid, ethanol, volatile acid and colour.

More about OenoFoss, including comments on the concept from professionals in the wine industry, can be found at: www.foss.dk/oenofoss

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