

Benchmarking:

How To Maintain Quality Control After Wine Leaves the Winery

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You can control the optimum conditions for your wine before it leaves your facility or even a third-party warehouse. But once those bottles are on the way to the consumer or trade account, there is no standard for optimum shipping and handling. That's where benchmarking and adopting new technologies can change how wines are safely transported.

BENCHMARKING INVOLVES COMPARING YOUR business practices against how other companies in the same industry—or even in other industries—perform the same processes to arrive at overall best practices. Dimensions typically measured are quality, time and cost.

“With no established winery industry standards for ensuring the quality of DTC storage and shipments of wine, benchmarking the process is all the more important,” said **Thomas Atkin, Sonoma State University** associate professor of operations and supply chain management, who teaches in the University's Wine Business Program.

To discover how large and small wineries have benchmarked their storage and shipping practices, Atkin conducted an informal survey of wineries in Northern California. The results were hardly surprising.

“Larger wineries are more likely to control shipping and storage conditions. Larger wineries have more information available on the storage and shipping conditions. Higher priced wine is better protected than lower priced wine. More wineries anticipate implementation of storage and shipping measurements,” explained Atkin.

Why Should a Winery Benchmark Shipping Practices?

So why should wineries, and their third-party logistics service providers, benchmark storage and transportation practices? There is the obvious reason: Wine changes with time and is certainly affected by storage conditions and temperature fluctuations. The aroma, flavor, structure and color of wine can change for the worse with any temperature above 75° F, and varietal character can be affected at sustained 60° F readings. Extreme cold can also lead to ruined wine. And there most likely will be no indication of deterioration until the consumer drinks the wine.

“Benchmarking your wines' storage and transportation practices to monitor environmental impacts along a shipment's route not only reduces loss but reassures consumers that the wine they receive is as good as the winemaker intended it to be,” said Atkin. While there is at least some level of accountability with domestic DTC shipments, there are fewer safeguards when exporting wine, so benchmarking international wine shipping can influence profitability.

Use International Benchmarks As a Foundation For Your Own

Wineries can start benchmarking their storage and shipping methods by surveying how other organizations handle their own. Sweden and Canada, as examples of government-mandated benchmarks, have established certain criteria for shipping wine into and within their countries. The Canadian government has set benchmarks for temperature controls during shipping within its borders—heated trucks in winter and refrigerated trucks in summer months, for example.

A good model, according to Atkin, is the **Hong Kong Quality Assurance Agency (HKQAA)** and its wine storage management systems certification, the first of its kind for the world's largest wine auction market.

Established in 1989 as a non-profit distributing organization by the Hong Kong Government, the HKQAA created the Wine Storage Management Systems Certification for fine and commercial wine storage facilities including wine cellars and warehouses. The agency researched how European wineries handled wine storage and then developed its criteria. For more information on the scheme, visit www.hkqaa.org/en_certservice.php?catid=9.

The certification established minimum and maximum temperatures of 52° F and 63° F, with a daily fluctuation of 4.4° F for proper wine storage and shipping. In that range, humidity has an allowable variance of 55 to 80 percent. The benchmark standards call for required temperature and humidity sensors, electronic records to monitor data (an essential component in benchmarking) and regular maintenance of equipment. Other criteria considered in a retailer, warehouse or shipping firm for certification by the HKQAA include lighting, vibrations, security and insurance.

Atkin noted that wine exports to Hong Kong broke sales records in 2013, topping out at \$1.55 billion, of which 90 percent was from California. “Hong Kong, the gateway to China, has become a huge auction market, and sales there could grow if proper handling can be assured,” Atkin said.

Follow Your Shipments With Wireless Sensors and Tracking Devices

Although wineries can opt for temperature-controlled, premium shipping from UPS and FedEx, the extra expense of these can be deal breakers for most consumers and many retail accounts. In addition, temperature control may be imperfect before it gets to the warehouse and when it reaches the “last mile” before arriving at a customer’s door. But there are other options to give wineries more information about the condition of their wines after they leave the winery.

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With the latest feather-weight wireless temperature sensors and tracking transponders embedded on pallets and inserted in individual shipping boxes, wineries can monitor the environmental conditions and locations of their wine as it travels. Wineries can accordingly follow their shipments to know that their benchmarks are being met, and the accumulation of recorded sensor data can be used to further refine shipping and storage benchmarks.

Boston-based eProvenance (www.eprovenance.com) offers a range of credit card-sized temperature sensors and location trackers for both DTC shipments and larger caseloads for the distribution channel. “Our first-generation sensors are placed in a postage-paid, pre-addressed reply envelope within a pouch that’s inserted in the shipping carton. After we receive the sensor, we upload its data, and the winery can see all the results via their secure dashboard access to our online monitoring system,” explained Louise Domenitz, eProvenance’s marketing manager.

“If a winery sees the wine has been exposed to problem temperatures over an extended time period and believes damage has occurred, they alert the customer and replace the wine,” Domenitz said. “For wineries using two-day DTC shipments, this first-generation technology is perfect. For those involved in the distribution channel, our second-generation sensor tracks the path of the shipments as well.

“For high-value shipments for auction or personal collections where real-time data allows for action to be taken as necessary, our



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