

# Homogenizing Oak Barrels

A variety of cooperages have recently introduced barrels that allegedly guarantee the homogeneity of the tannins and even the chemical components in the barrel from one vintage to the next.

*John Intardonato*

**John Intardonato** lives in the Napa Valley and has been a wine writer for the *St. Helena Star*, the *Napa Register*, *Napa Valley Life* and *WineNews* magazine. His articles have reappeared in national and international magazines and websites, and referenced in Wikipedia. He has traveled extensively to the wine regions of Europe, from the Crimea to Oporto.

**TO MOST WINEMAKERS, THE** Holy Grail to producing their distinct wine style is reproducing it. Maintaining consistency from vintage to vintage is the conundrum. While coopers can't correct this uncertainty with regard to the annual grape crop, they can help ameliorate this seasonal apprehension by providing consistency in their own, important product.

Several cooperages, in fact, have introduced barrels that they claim will stabilize the oak factor—itsself, a crucial component in premium wines. They are guaranteeing the homogeneity of the tannins and even the chemical components in the barrel from one vintage to the next.

## Vicard Generation 7

According to **Christy Thomas**, Napa-based business development manager for **Vicard Generation 7**, “No one likes to talk about the great variation found in the traditional oak barrel. We now know that the grain and tannins can differ not only from one tree to another, they can differ within the same tree.” To remedy this dilemma, she said, Vicard, which has been making barrels for six generations, is offering a new series from its research division called Generation 7 (Gen 7). “We called it our ‘homogenized’ barrel,” Thomas said. Unlike traditional barrels, where oak staves are assembled without regard for tannin potential or consistency, the Gen 7 is designed to produce the same tannin profile (TP) from year to year.

“It gives you a wine style you can rely on,” said Thomas. “It’s a new approach to oak. We have a fast and reliable methodology to measure ellagitannin

content in the untoasted oak, and combined with our computer-driven toasting system, we can reproduce a truly homogeneous barrel that will remain identical in each new shipment from year to year.”

Each stave is scanned for its ellagitannin content using near infrared spectroscopy (NIRS), a scanning technique using the electro-magnetic spectrum, which gives non-destructive measurements quickly and accurately.

The staves are then sorted into three categories according to their tannin concentration, and barrels are then coopered based on these tannin levels.

Staves with levels below 4,000 micrograms (ugs) are tiered for low tannin potential barrels, staves having between 4,000 and 6,000 ugs are used in medium TP barrels, and wood with 6,000 ugs and above goes into high TP units. Vicard also makes a mixed blend barrel.

The toasting process involves a \$3.5 million computer-monitored system capable of toasting 60 barrels at a time. According to Thomas, Vicard believes direct fire-toasting by the cooper is inconsistent due to human error and ambient fluctuations. “Because 50 percent or more of tannin content is thermo-degraded during toasting and furanic compounds only begin to convert at 180° C, it is imperative to manage the toasting temperature.”

The Gen 7 toasting is gradual and controlled by a thermometer in each barrel. An auger moves measured amounts of oak pellets into the furnace. A patented process keeps heat constant. The toasting time depends on TP. Low toast begins at 160° C to a gradual 185° C. A heavy toast is from 185° C to 210° C, and there are two other gradations in between.

“With this process we can target areas winemakers may need help with, such as high tannins, aromatics, mouthfeel and so on,” Thomas said. “They



VICARD GENERATION 7

can select their own tannin and toast profile, and we can maintain it indefinitely because each barrel is computer programmed.”

**Geneviève Janssens**, director of winemaking for **Robert Mondavi Winery** in Oakville, said she started using the Vicard Gen 7 when it came to market in 2013. “We purchased some of the Vicard this year, too, for the 2015 vintage. It gives a very nice profile and gives greater complexity and polish to the wine. We like the results we get from this oak arrangement,” she said. “However, we will also continue to use the different coopers we have worked with because we want to keep our diversity to maintain our style.”

**Joe Harden**, winemaker at Robert Mondavi Winery, is handling these barrels for the red wines. “So far, we are very pleased. It gives a nice balance. These barrels are being very respectful to our terroir by enhancing the fruit and not taking it over. Mondavi is known for its big tannins, and they do a great job of smoothing those tannins. The barrels are adding polished tannins and are bringing more length to the wine. We’re using them for the Cabernet in the Oakville, Napa Valley and Mondavi Reserve,” he said.

**Jeffery Stambor**, winemaker at **Beaulieu Vineyards** in Rutherford, used the Vicard Generation 7 in 2013. “We didn’t buy any in 2014 but are buying more barrels for this year’s vintage. We are only using them with Cabernet Sauvignon and only for aging the wine. We have no thoughts of using them as fermenters. At this point, we have seen some positive, consistent differences over repeated tastings from the 2013 vintage, and we’re now looking at it in finer detail. The two parameters we’re studying are the tannin profile and the temperature of the toasting.”

Stambor said he is trying them because the concept is intriguing. “We keep looking for consistency and performance, and we think it’s important to have a close relationship with your cooper, which we have had with Vicard. We also looked at and liked the process they are using. It made sense. We will still blend, but this barrel is another useful tool to help get a reproducible element in our winemaking process.”

**Matthew Crafton**, winemaker at **Chateau Montelena** in Calistoga, uses Vicard Gen 7. He appreciates that he can maintain the oak tone he wants. “Oak is not the showpiece here, as it is at other wineries. Still, we are interested in these barrels as a good way to highlight who we are. We like seeing that layer of precision, that layer of consistency that these barrels show, and they’re a

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## Homogenizing Oak Barrels

useful tool to maintain a consistent flavor profile. If there is any diversity, we want it in the fruit of that vintage, not in the wood. At Montelena we want the wine drinker to taste the difference in the vintage. We want our wine to be a wine of place.”

**Justin Seidenfeld**, winemaker at **Rodney Strong Vineyards**, is using the Vicard Gen 7 with their reserve wines as an added component “to give our Cabernet added complexity and refinement,” he said. “It softens the edges, which gives the fruit and wine a higher refinement, an important part of what we want. The generic barrels can be too aggressive, but with these you get consistency. Last year was our first trial. Now we are going to the next step. At first we weren’t sure how these would be, so we went to Cognac to see the process. We like what we saw. We feel we have more control over the wine and now have more than 200 barrels. We like the low input tannin barrel. It wraps the fruit with oak.”

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## Seguin Moreau ICÔNE

**Chris Hansen**, general manager at **Seguin Moreau** in Napa, said his company has spent 12 years in research on their product, and the barrels are being used at more than 200 wineries worldwide. He said they arrive at barrel consistency by looking at the chemical components in oak wood, which can vary in every stave. “We don’t just analyze tannin or grain. That’s a small piece of the puzzle. There are many other components in the wood, such as aromas, flavors, level of whisky lactones, sweetness and so on, so you need a full chemical profile of them,” he said.



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Hansen said their research has taken the study to a further level. “We have focused our research on the molecular level of oak and the chemical reactions that take place during aging, which determine a wine’s aroma and flavor quality.” ICÔNE is an exclusive process for oak wood selection by way of its chemical composition. “We identify wood’s capability of generating a particular oak profile for specific styles of wine, which we refer to as the oenological potential (OP) of the wood.”

According to Hansen, Seguin Moreau takes samples of wood in quantities proportional to the surface area that each stave will occupy in the barrel. The results of the analysis determine their OP and whether the staves are suitable for the ICÔNE process. Each is precisely targeted to achieve a specific and reproducible result. If the wood does not meet the required oenological potential, it is not used. The ICÔNE process, the chemicals it is measuring and the detection method used are company secrets.

Seguin Moreau offers four ICÔNE styles:

- Elegance, for full-bodied, red wines from varietals that contain the highest concentrations of polyphenols. It lends structure and balance, increases volume and texture, with round and well-integrated tannins.
- Blanc provides a fine oak profile, respectful of varietal aromas while providing more volume and length on the palate. It is primarily intended for high-end, white grape fermentation.
- Low Aroma is American oak with an oak profile respectful of the fruit while providing olfactory complexity.
- Elevation is American oak that provides an ample and expressive oak profile for a wine that is sweeter, rounder and more concentrated on the palate.

**Kale Anderson**, director of winemaking at **Pahlmeyer** in Saint Helena, said, “We’ve been using the ICÔNE since 2009 or 2010. We have more than 100 barrels and are using the Elegance profile. We like its consistency and quality. We also use traditional barrels and are using the ICÔNE as an added spice. It’s a tool on my tool belt but a tool I can use with reliability. And we’re getting killer results. I like it in our intense wines. It gives it more character, a character that shines through. It softens big mouth tannins. It intensifies the wine and softens the tannins, but I don’t think it is for lighter wines. We are trying their low aroma profile this year as well.”

**Christian Roguenant**, winemaker at **Niven Family Wine Estates** in Edna Valley, San Luis Obispo, also uses Seguin Moreau ICÔNE: “These barrels are a good way to showcase your fruit, and we have been using them for five years. We use the Low Aroma for our Cab, and we get a very soothing result. The ICÔNE Blanc for Chardonnay gives a creamy richness, and wonderful aromas burst out when you open the bung hole. I think ‘sexy’ is a good word. We make our Pinot Noir in the Burgundian style, and the Elegance produces a positive impact on the wine, giving more volume, more length.

“You never know from year to year what the fruit will be like in the fall, but I have to order my barrels in April. Some years the fruit can be more tannic, and the new barrels can also be too tannic. With the ICÔNE barrels, depending on the vintage, I can use them in different ratios. Sometimes it is 60 or 70 percent of the blend, sometimes only 30 percent. With traditional [barrels] you never know what you will get.”

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