

CASE STUDY COPY

Topic:	Pyrazine remediation using amaea RMx
Organisation:	Sonoma Bespoke
Contact:	Joe Uhr – Winemaker
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CASE STUDY:

Selective Pyrazine Remediation Advances Napa Valley Cabernet Sauvignon Up a Tier

When Sonoma Bespoke purchased a premium Napa Valley Cabernet Sauvignon, winemaker, Joe Uhr was tasked with improving the pyrazine-impacted wine to make it more approachable and attractive for sale.

Where many would have turned to traditional masking techniques, Uhr chose to trial **amaea RMx** – a new, highly selective pyrazine remediation technology delivered by the region's leading wine filtration service provider, VA Filtration, located in Napa, California. The innovation successfully reduced the unwanted green characters, allowing the hallmark, fruit-forward descriptors Napa Valley Cabernets are renowned for to shine. The resulting quality improvement advanced the wine into a higher price tier, positioning it as a profitable addition to Sonoma Bespoke's portfolio.

Challenge

“The Oakville Cab came from a relatively cool site in the valley. It was a good wine, but for our wines, our style of winemaking and our market, we were looking for something that was a little more open, fruit forward, a little less obviously in that green spectrum of what Cabernet Sauvignons can be,” explains Uhr.

Pyrazines are a class of compounds that give wine green, vegetal aromas. In small amounts, they can serve as a distinctive regional or varietal hallmark. However, when present in higher concentrations, they can overshadow fruit expression and create sensory challenges.

Winemakers traditionally manage pyrazines through fining agents or additions that mask the green notes. For Uhr, the challenge was compounded by logistics as the wine was stored at a third-party facility.

Seeking a more selective and flexible solution, Uhr turned to VA Filtrations' mobile molecular filtration system – which uses **amaea's** advanced molecularly imprinted polymer (MIP)



technology – with the aim to target the root cause of the green character and help realise his stylistic vision for the wine.

Solution

amaea RMx is a breakthrough molecular filtration technology designed for precision wine remediation. Using **amaea's** custom-engineered molecularly imprinted polymers (MIPs), it selectively captures compounds, such as pyrazines, through a single-pass, low-pressure filtration system.

VA Filtration began with a bench trial, working closely with Uhr to fine-tune the dose, flow and recirculation rate, and target duration. For the full-scale treatment, the mobile system was deployed on-site, allowing Uhr to taste the wine in real time and stop the process exactly when the desired sensory outcome was reached.

“The process was super smooth and the team were really great to work with. The trial provided an approximation and when it came to the treatment, we could taste as we go. The technicians gave me a heads up as we were getting closer and then it worked,” describes Uhr. “With control, I was really able to dial in the quality.”

Results

Margin Uplift for Greater ROI

With **amaea RMx**, Uhr exceeded his expectations, transforming the wine into a higher-value product.

“**[amaea RMx]** definitely premiumized the wine, advancing it up a tier,” shares Uhr. “All in all, it made a much better wine that I think will over deliver on the price point that we are going to end up selling it for.”

Winemaker-Controlled Sensory Enhancement

Rather than masking the issue, **amaea RMx** targeted removing the offending pyrazines helping reveal the wine's inherent fruit character.

“The fruit really came through. All those wonderful, riper Napa Valley Cab descriptors that you can think of were brought to the forefront,” says Uhr.

The ability to taste and adjust in real-time ensured the wine met Uhr's sensory goals. “I would absolutely recommend **[amaea RMx]**, especially if the wine isn't where it's desired or part of the stylistic goals,” he adds. “It can replace any masking additions or additives and that's where it is really valuable.”

Ease of Operation



Despite the wine being stored at a third-party facility, VA Filtration mobilised their **amaea RMx** MIP system and completed treatment on-site in less than two days. The combination of rapid processing and skilled technicians made the experience seamless. “They’re the best, I’ve worked with VA Filtration a lot over the years, and the team are awesome – that’s why I keep coming back,” says Uhr.

Summary

The selectivity and winemaker control offered by **amaea RMx** enabled Uhr to remove pyrazines to elevate Sonoma Bespoke’s 2023 Oakville Cabernet Sauvignon into a higher price-tier, unlocking healthier profit margins.

Beyond the sensory gains, the treatment also overcame logistical constraints. With the wine stored at a third-party facility, VA Filtration mobilised their **amaea RMx** system on-site and completed the job in under two days, delivering a fast and seamless process.

“I’m really excited to have a seat, because that wine, up until we purchased it, just sat in-tank with no real winemaking, it was looking for a home behind it. So now that I’ve got it down to the base of what we want it to be, it’s going to be really fun to watch that move through the process,” shares Uhr.

He also points to broader benefits: “PVPP substitutes and fining addition substitutes have always been very judicious and with [amaea’s technology], it provides different ways to explore non-allergen and non-animal protein finings. The options are quite a bit more. When you have USDA organic labeling rules to follow, technology like this can be extremely powerful, and that’s what really matters to begin with.”

About Joe Uhr – Winemaker, Sonoma Bespoke

A fourth-generation Sonoma County native with over 14 years of experience in the wine industry, Joe Uhr has worked across a diverse range of winery settings — from a leading sparkling wine house to a super-premium Napa Valley institution, to a historic family-owned estate with one of California’s most storied legacies. Now a winemaker for Sonoma Bespoke, Uhr brings a breadth and depth of expertise that fuels his deep appreciation for the complexity of vineyards, sense of place, and art of winemaking.

About Sonoma Bespoke

Sonoma Bespoke provides state-of-the-art, all-in-one wine négociant services, supported by an award-winning winemaking team. Combining experience, tradition, and innovation, Sonoma Bespoke crafts wines of the highest quality, placing them among the leading wine producers in the U.S.

About VA Filtration USA

VA Filtration USA, is dedicated to revolutionizing the wine filtration experience for wineries that demand excellence, consistency, and exceptional value. Their diverse array of filtration services is meticulously designed to tackle common wine challenges and elevate products to its highest potential. VA & EA, 4EP/4EG (Brett) & Smoke Taint Reduction; Cross-flow; Pyrazine, TCA & Alcohol Removal; Lees Filtration, Hwy Press Recovery; Precision Gas Control & Adjustment; Rapid Cold Stabilization, Fining Using Phenolic & pH Adjustment.

Treatment Summary

- **Wine varietal:** 2023 Oakville Cabernet Sauvignon
- **Volume of wine processed:** 28,000 gallons
- **Treatment duration:** 1 – 2 days
- **Date of treatment:** July 2025
- **Applied dose rate:** 4 g/L
- **Applied flow rate:** 75 CV/hr
- **Tank recirculation:** 80%
- **Who conducted the treatment:** VA Filtration USA
- **amaea solution:** **amaea RMx**

Images:

Joe, are you able to provide your company logo (hi-res / vector). Also, please feel free to supply any images that you and Sonoma Bespoke would like included in the case study. This can include generic wine production, industry or office imagery.



Joe Uhr, Winemaker at Sonoma Bespoke alongside VA Filtration's mobile **amaea RMx**, molecular filtration system



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