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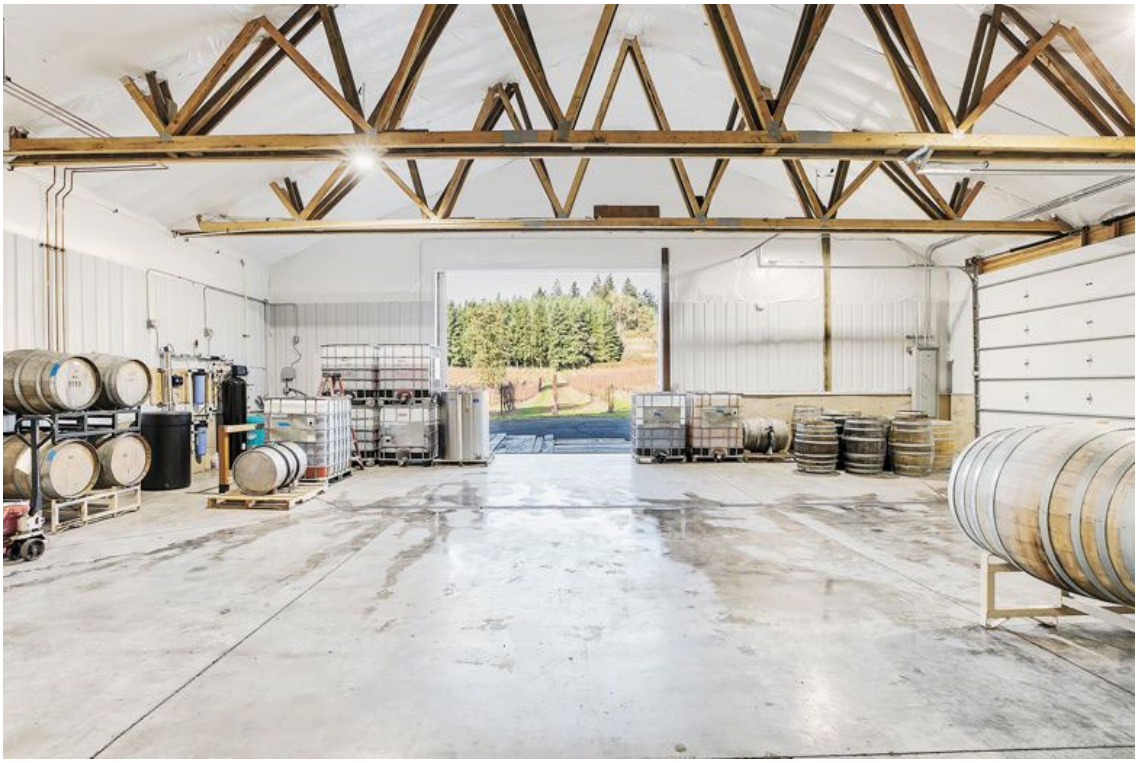
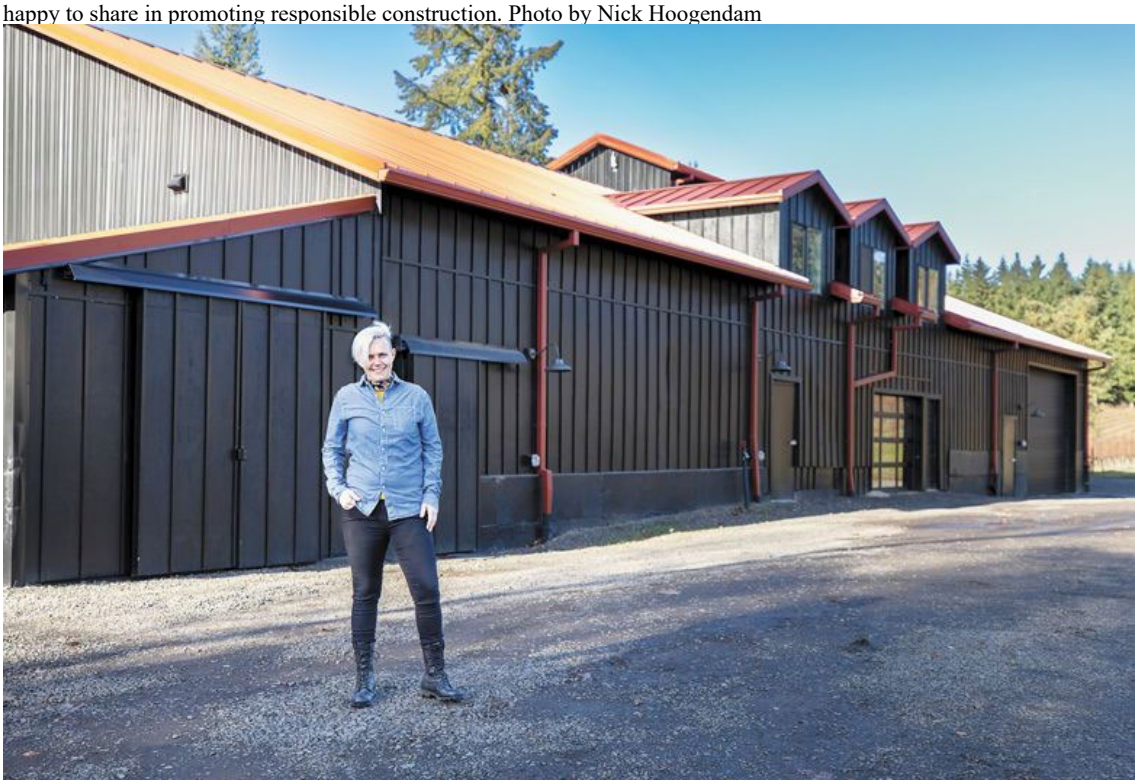
Pushing the Eco Envelope

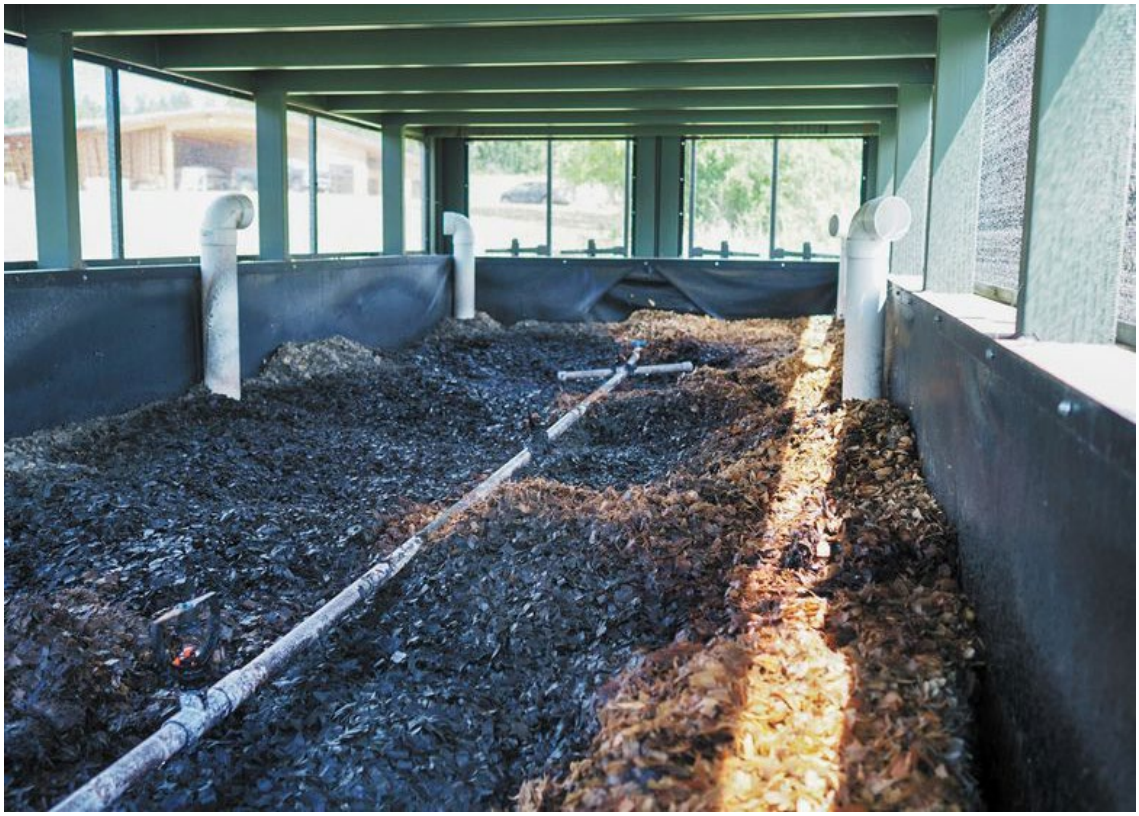
Three wineries utilize unique sustainability solutions



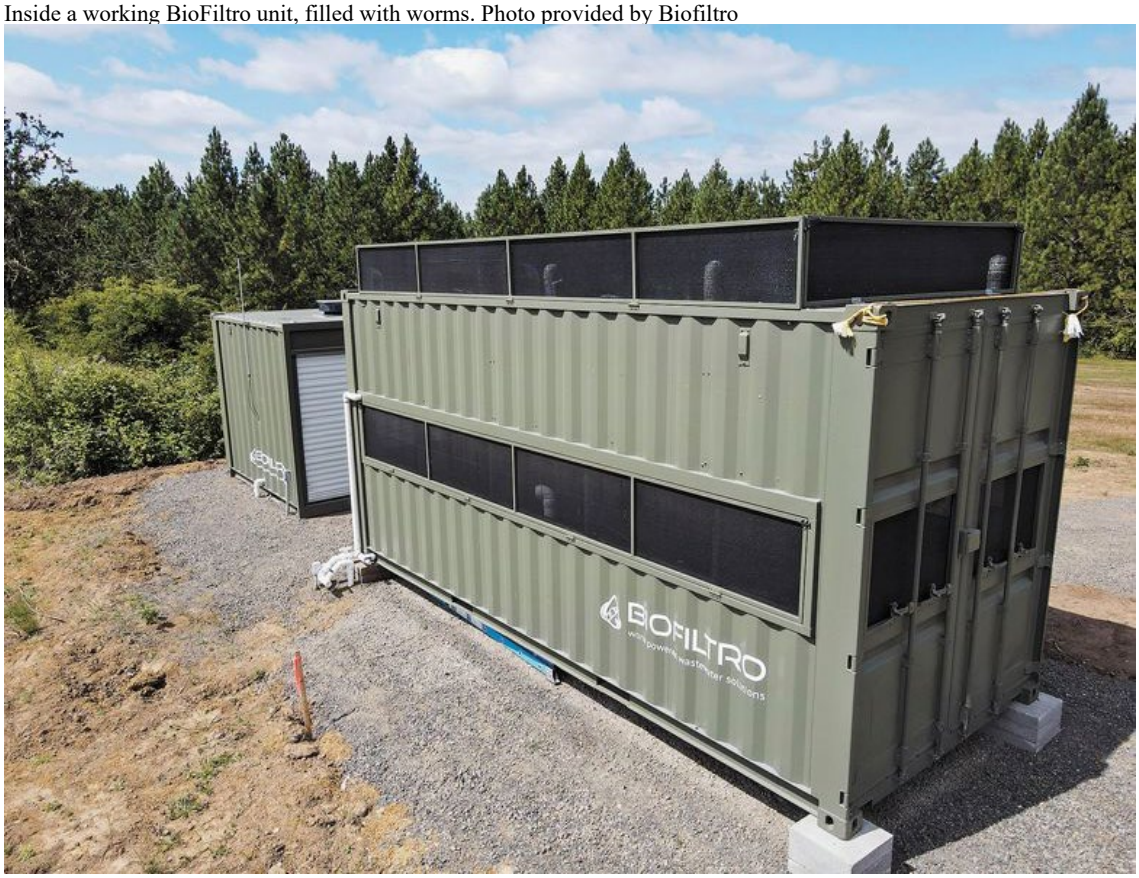
Winemaker Remy Drabkin used her new carbon-negative concrete, appropriately dubbed Drabkin Mead Formulation, in her winery. It’s a technology Drabkin is happy to share in promoting responsible construction. Photo by Nick Hoogendam



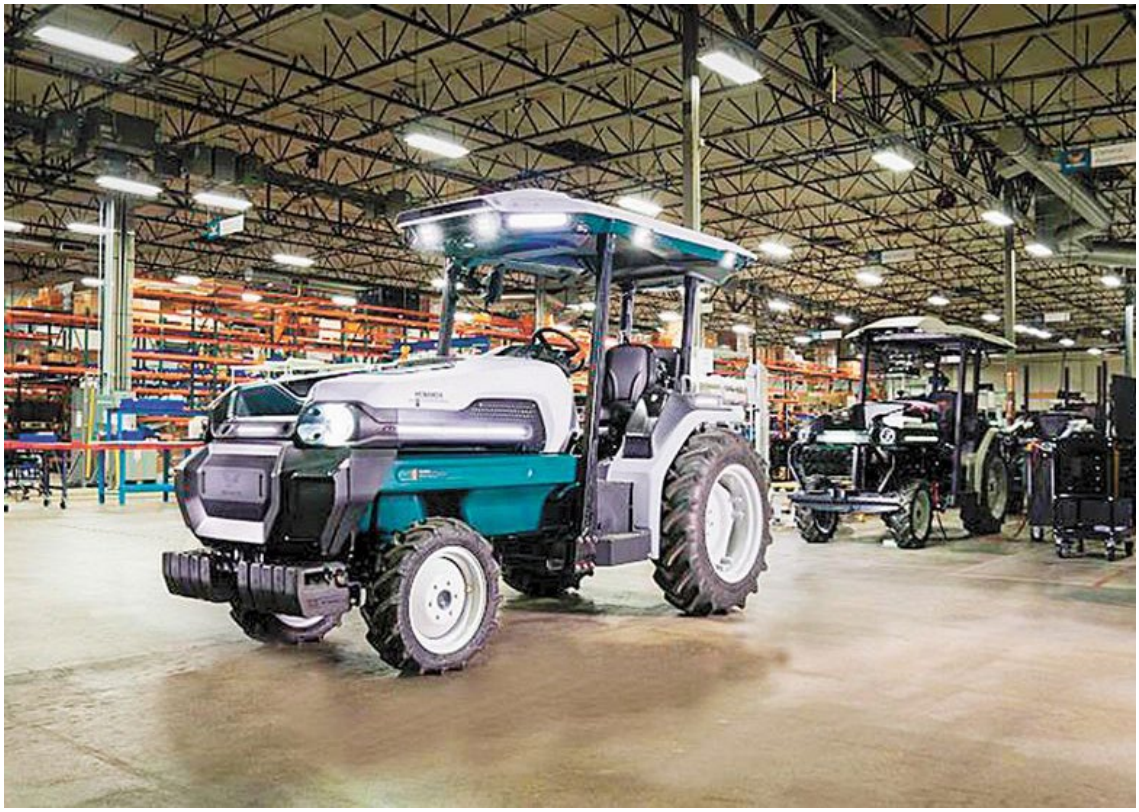
Remy Drabkin posing in front of her Dundee Hills winery. Photo by Nick Hoogendam



Inside a working BioFiltro unit, filled with worms. Photo provided by Biofiltro



Each BioFiltro unit is created using a recycled shipping container, further contributing to their customers' sustability efforts. Photo provided by Biofiltro



The new emission-free Monarch Tractor.Photo provided by Monarch Tractor

By Greg Norton

LIVE Certified. Salmon-Safe. Organic. Biodynamic.

Wine drinkers often see these words on Oregon wine labels. And increasingly, consumers are searching for them. According to the 2022 Business of Sustainability Index by GreenPrint, a PDI company, three-quarters of Americans are concerned about the environmental impact of the products they buy. Over two-thirds (69 percent) say a product's environmental friendliness factors into their purchasing decision. For wine consumers, sustainability may, at first, appear to be limited to vineyard farming practices, such as avoiding the use of chemicals. But some Oregon wineries are creatively expanding their sustainable methods in ways many may not have imagined.

Concrete that Sequesters Carbon

Last summer, Remy Wines in Dayton converted a tractor barn into a wine production facility. "What was really important to me was to be able to do it as sustainably as possible," said owner Remy Drabkin. Her plan included re-purposing onsite materials and designing the roof to collect rainwater. However, fabricating a strong concrete floor for the 5000-square-foot facility presented a unique challenge.

Concrete is considered one of the most destructive materials on earth. In fact, it's responsible for between seven and nine percent of the earth's carbon dioxide emissions. Drabkin partnered with contractor John Mead, of Vesuvian Forge Concrete Surfaces in McMinnville, who uses sustainable concrete to craft countertops and firepits. Drabkin recounted, "When I contacted him about doing this project, he said, 'Do you want to try to make carbon-neutral structural concrete with me?' And I mean, why would you say no? And so, we set out to create it."

The partnership resulted in a formulation now known as Drabkin-Mead, using biochar in place of some of the aggregates commonly used to make concrete. Biochar is a carbon-negative material, made from pyrolyzing organic waste from almost any source, used in a number of industrial applications. Carbon neutrality is achieved by reclaiming waste material, thus sequestering its carbon, and by the reduced use of conventional concrete inputs.

Other collaborators on the project were Wilsonville Concrete, LaFarge Labs and BioForceTech from the Bay Area.

Drabkin, also the mayor of McMinnville, imagines the new concrete formulation playing a role in larger systems of sustainable architecture. "Demanding carbon neutrality into the built environment is widely recognized among environmental leaders as important in helping us avoid further climate change," she said.

A (Water) Can of Worms

A glass of wine contains 80 to 90 percent water. But wine's water "footprint" is far greater due to the amount of water used in its production. Vineyard irrigation is necessary in some regions. Water is also used in sprays to control vine pests and diseases. In the winery, water is used to clean fermentation vessels, prepare barrels, sanitize equipment and in the bottling process. It all adds up. According to some estimates, one glass of wine can require as much as 172 liters, or 45.4 gallons, of water.

Abbott Claim Winery, located in Carlton, uses earthworms in its effort to clean and reclaim winery wastewater. The system, patented by the firm BioFiltro, sends the water through a layer of wood shavings, where the earthworms quickly digest the leftover sugars, skins and organic contaminants, all a result of the winemaking process. The worms leave behind water that is cleaner than required by Oregon law, according to Mai Ann Healy, Chief Impact and Sustainability officer for BioFiltro. This clean water is then available to be used in other ways.

The BioFiltro system is contained in a re-purposed shipping container. Over time, the worms also generate castings (their own waste), a nutrient-rich fertilizer that can

be used to build vineyard soil. “It’s a renewable resource,” said Heath Payne, Abbott Claim’s viticulturist. “We’re not degrading one renewable resource to get another renewable resource… it’s something very natural and simple to incorporate.” Payne also noted the system is easy to maintain and economically sustainable.

BioFiltro has installed systems at wineries, dairies and food processing plants in several states— the one at Abbott Claim is the first at an Oregon winery. That situation may change, however, as consumers continue to demand sustainable practices and the changing climate heightens drought concerns. “We’re doing this whole circular approach that embraces zero waste,” says Healy. “We’re getting a couple of wineries now that are purchasing our system for that reason, more so than specifically for wastewater treatment.”

Emission-Free Tractor

By now, electric cars on the road appear quite common. But electric tractors in the vineyard? The first in Oregon are expected to arrive later this year at Nicolas-Jay Estate in Newberg and Ponzi Vineyards in Sherwood.

The Monarch MK-V is an electric, driver-optional smart tractor built in Livermore, California, where Silicon Valley meets wine country. Founded in 2018, the tractor company is led by four founders who bring a wealth of engineering and farming experience to the goal of rethinking the tractor.

Monarch’s Chief Farming Officer Carlo Mondavi is a fourth-generation winegrower. He envisioned an emissions-free tractor to support regenerative farming and eliminate the use of herbicides and powerful chemicals in vineyards. Mondavi was introduced to the company’s other founders by a mutual friend. The four share a passion for changing the world for the better. “We all possess very different skill sets (with some overlap), along with an incredibly bright team,” he said.

“It’s the perfect amount of ‘chefs in the kitchen’ for success.”

After extensive testing at the Wente Vineyards in California, Monarch tractors are now used at Constellation Brands, one of the world’s leading beverage producers.

In addition to the obvious benefit of zero tailpipe emissions, a smart tractor reduces vineyard labor costs by performing pre-programmed tasks without a driver or in driver-optional mode. It can also monitor crop data and even provide the bonus of a powerful electric generator in the field. The acquisition cost is competitive with well-equipped diesel tractors. Monarch uses stock tractor parts alongside sensors and cameras that have become less expensive through adoption by the electric auto industry. Added return on investment results from reduced skilled labor costs, the elimination of the need for diesel and fossil-fuel-based chemicals and lower maintenance costs.

Jay Boberg, cofounder of Nicolas-Jay vineyard, said, “People don’t realize the number of tractor hours required to maintain a vineyard, nor any kind of farming situation. In terms of emissions, diesel is not our friend.” Boberg began farming after a career as a music industry entrepreneur, having founded I.R.S. Records and later serving as president of MCA Records. In all endeavors, he said it is important to be “conscious of not just what it is you’re creating, but the impact you can have on people and society.” That consciousness extends to his vineyard practices. He seeks to try new inventions like the Monarch tractor, “to push the envelope… on quality, as well as— you know— social and environmental responsibility.”

Upcoming Events

Pop-up Tastings at Han Oak

Han Oak, Portland | Jul 2, 2023 -Dec 31, 2023

Pop-up Tastings at Grochau Cellars

Grochau Cellars, Portland | Jul 6, 2023 -Dec 28, 2023

Erin Hanson: Art & Wine Tour 2023

The Erin Hanson Gallery, McMinnville | Sep 2, 2023 -Oct 1, 2023

WSET Level 2 in Wine Course

NW Cru, McMinnville | Sep 5, 2023 -Nov 7, 2023

CELEBRATING HISPANIC ROOTS DINNER SERIES - Oct 15

SubTerra Kitchen and Cellar, Newberg | Sep 17, 2023 -Oct 15, 2023

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