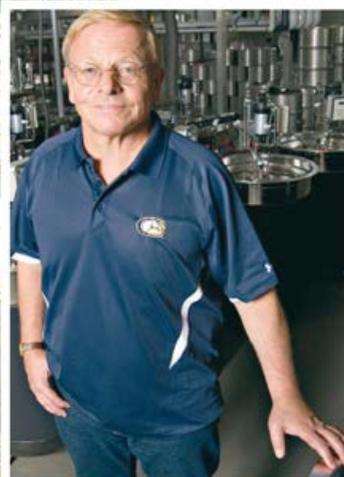


TEACHING WINERY



Unlocking longstanding mysteries about the wine industry in California and around the globe is one goal of the new, most technologically advanced and environmentally sophisticated winery in the world at University of California, Davis.

A skylight along the spine of the roof provides maximum natural light to the 6,000 sq. ft. main fermentation hall. RIGHT: 152, 200-L fermentors were designed, fabricated, and donated by Cypress Semiconductor (San Jose, CA) T.J. Rodgers (founder and president).

Construction of the \$15 million teaching and research winery was completed in July 2010. It is designed to become self-sustainable in energy and water use after all of its features are on-line. The winery is adjacent to a new 12-acre teaching and research vineyard within the campus's Robert Mondavi Institute for Wine and Food Science (opened in 2008). The winery includes the main fermentation hall (6,000 sq. ft.), four adjacent controlled-temperature rooms (400 sq. ft.), a 600 sq. ft. receiving pad, a classroom, and a 580 sq. ft. laboratory. One adjacent room can hold grapes at 35°F before sorting/crushing by students. The winery is part of a new 34,000 square foot complex that also encompasses a brewery and food processing pilot plant, built to LEED Platinum standards. The complex was designed, constructed, and

entirely with funds from private donors; no federal or state funds were used. Environmentally responsible features include maximum use of natural light, rooftop photovoltaic cells to provide all of the facility's power at peak load, use of recycled glass in the flooring, interior paneling recycled from a 1928 wooden aqueduct, and use of lumber harvested from sustainably certified forest operations. "The new teaching and research winery and vineyard are game changers for our winemaking and grape growing program to help California wine-making advance dramatically in both quality and sustainability," says wine chemist Andrew Waterhouse (Marvin Sands Endowed Chair in the Department of Viticulture & Enology).



Cooperages 1912 barrel room contains 10 T.W. Boswell and 10 World Cooperage barrels plus five-year-old barrels on 40 Western Square 7-inch high two-barrel racks.

High-tech fermentation system

A \$1 million assembly of 152 wireless 200-L variable capacity, electro-polished, stainless steel fermentors features automated control of temperature and the "pump-over" process, two of the most important factors affecting wine characteristics and quality. "Our working volume is 140 liters of red must that presses out to between 1/3 and 1/2 of a 225-L oak barrel," explains Chik Brenneman, winery manager. "We can ferment 40 gallons of white grape juice."

The newly designed fermentation sensors extract and transmit sugar concentration data from white and red fermentations across a secure wireless network. The data can be generated every 15 minutes with a precision of 0.25° Brix. "The creation of these sensors involved applying complex mathematical procedures and the latest radio frequency technology," explains Roger Boulton (winery

equipped

engineering expert and Stephen Sinclair
Scott Endowed Chair in Enology).

[Top](#) · [Next](#)
