

In the Finger Lakes, a greener approach to reds and whites

By Don Cazentre / The Post-Standard

January 18, 2010, 10:05PM



STEPHEN D. CANNERELLI / THE POST-STANDARD

Nancy Irelan stands outside the wine processing building on a recent winter day. The building was completed during the fall harvest. Red Tail Ridge is seeking LEED Silver certification from the U.S. Green Building Council.

Syracuse, NY -- Tour the Finger Lakes, and many of its wineries seem to be housed in old barns or in newer buildings designed to project a rustic, old-barn image.

Drive up to **Red Tail Ridge Winery**, overlooking Seneca Lake in Penn Yan, and there's something different: The main building is modern, with a Frank Lloyd Wright-inspired design that, frankly, doesn't look much like a winery. Most of the front wall is a huge, double-paned window.

Inside, you'll probably find winemaker and co-owner Nancy Irelan working with the lights off.

"I can work all day without turning them on," Irelan said. "That lowers energy use."

The natural light from the front window is just one of the environmentally friendly aspects at Red Tail Ridge, the first Finger Lakes winery to seek Leadership in Energy and Environmental Design certification from the U.S. Green Building Council. It seeking a "silver" certification, the third-most stringent of the four

Red Tail Ridge's 'green' features

- New wine processing building aims for LEED Silver certification.
- Walls contain recycled

levels in the council's green building program.

Red Tail Ridge is the only winery in New York on the council's list of projects that have been certified or are working toward certification, said council communications manager Ashley Katz.

Irelan, and her husband and co-owner, Michael Schnelle, opened Red Tail Ridge in 2005, mostly using grapes such as Riesling, Chardonnay and Pinot Noir grown on their 34-acre vineyard — but initially making the wines at neighboring wineries.



DAVID LASSMAN / THE POST-STANDARD

The view of Seneca Lake from Red Tail Ridge's vineyard, which covers 34 acres, in Penn Yan.

materials.

- Fieldstone on facade came from vineyard grounds.
- Geothermal heating/cooling system.
- 'Daylighting' to cut energy use.
- Use of suppliers within a 500-mile radius.
- Drainage ditches, drain tile and irrigation pond minimize storm runoff.
- Laser-straight rows planted 6 feet apart aid in cultivation and weed control.
- Fencing and nets deter wildlife humanely.

Their green winery, or more precisely, the wine-processing building, opened last fall, about the same time they were harvesting the 2009 grapes.

"That was hectic, crushing the grapes and bringing (the harvest) in here just as the building was coming together," Irelan said. "But we made it."

The builders used recycled material for the walls and, in the same spirit, made use of rocks from the vineyard itself to create a fieldstone facade.

The key to the building's green status lies in its energy-efficient geothermal heating and cooling system. It uses the earth's constant temperature to heat or cool pipes containing liquid ethylene glycol, which moves through two sets of heat pumps. The glycol system was built into the floors and walls of the winery building for heating and cooling.

Traditionally, wineries have used glycol chillers to cool their stainless steel wine fermentation tanks, so the presence of glycol in the winery is not in and of itself unusual.

“Glycol is glycol,” Irelan said. “Every winery does the process the same, the difference is how we achieve the energy needed for the process, how we generate the energy that goes into it.”

Irelan said the geothermal system will likely pay for itself within three years. Wind or solar, which she and Schnelle also looked into, would have cost more up front and taken longer to pay off.

Running a winery presents special challenges to the goal of energy efficiency: The process of making wine requires several different temperature levels, often at the same time, in adjacent spaces.

On a recent midwinter day, when the outside temperature was around 20 degrees, the temperature was 58 degrees in the main fermenting room, 40 to 45 degrees in a case storage room, and a balmy 70 degrees in a barrel fermenting room, where some wines undergo a second fermentation. Irelan uses a laptop computer to direct the heat pumps that control the temperature in each space.

Irelan learned winemaking while working as a vice president for research and development at E&J Gallo in California. Schnelle, whose background is in corporate accounting, handles most of the vineyard work and supervised construction.



View full size STEPHEN D. CANNERELLI / THE POST-STANDARD

Four heat pumps — two for cooling and two for heating — are connected to Red Tail Ridge’s geothermal system. It uses the earth’s constant temperature to heat or cool pipes containing liquid ethylene glycol. The system chills the area where wine is stored and warms the area where it ferments.



STEPHEN D. CANNERELLI / THE POST-STANDARD

Daylight floods the production area in Red Tail Ridge’s wine processing building above Seneca Lake in Penn Yan. Winemaker and co-owner Nancy Irelan says she can work all day without turning on the lights. Windows are double-paned and sealed for energy efficiency. The steel fermentation tanks were made in Geneva.

The building design was by Edge Architects, of Rochester. Irelan credits the New York State Energy Research

and Development Authority with providing assistance in their efforts to make the winery green.

Other environmentally friendly aspects of Red Tail Ridge's operations include:

- Schnelle used lasers to help him plant the vines in the straightest rows possible. That allows him to use mechanized weed cutters, reducing the amount of weed-killing chemicals necessary to keep the vines growing. (Red Tail Ridge wants to wait until the vines mature before considering going organic or chemical-free).
- A sand-filled basin behind the main building filters stormwater naturally before returning it to the ground.
- Red Tail Ridge tries to purchase all its goods and services from within 500 miles, to leave a smaller carbon footprint. The steel fermentation tanks, for example, are made by Vance Metal Fabricators in Geneva.

Irelan and Schnelle knew they wanted to start a winery from the ground up to ensure their ability to make it green, but they also knew that would take some money. They looked in California and Oregon before deciding that the Finger Lakes area was the only affordable option. Irelan had visited the region while working for Gallo.

It cost less to buy 34 acres on Seneca Lake, with enough leftover to start building, than it would have to buy just three acres in California's wine regions, Irelan said.

"We knew when we started that (green) was the direction we wanted to go in," Irelan said. "The biggest challenge is doing this as a small business and seeing a return on our investment. This is the best place we could find to do that."

Food & Drink Editor Don Cazentre can be reached at 470-2297 or by e-mail at dcazentre@syracuse.com. His Drinks blog is at blog.syracuse.com/drinks

© 2010 syracuse.com. All rights reserved.