

Sustainable wine industry a work in progress

By Kathryn Reed

INCLINE VILLAGE – Economically, wine is huge for California – it’s a \$58 billion industry, attracts 24 million tourists a year and employs 30,000 people.

But it’s not the most environmentally friendly crop. UC Davis wants to change that reality.

Jill Brigham, executive director of the Sustainable Wine and Food Processing Center at UCD, gave a talk last week at Sierra Nevada College about the science of wine and how to optimize the sustainability of winemaking.

“Just with winemaking it takes six volumes of water for every volume of wine that is produced. We want to reduce that to 1:1,” Brigham said. “Irrigation and growing of grapes takes a lot more, but it varies greatly.

“We want to teach our students to respect the earth and make wine in the most sustainable way.”

While there is a vineyard and full winery on campus, none of the wine produced is for consumption or sale. Yes, students get to taste it, but it’s all part of the learning process. Lots of spit buckets are on site with the goal of not much being swallowed. (The Legislature last year approved a bill allowing students younger than 21 to be in a class with wine tasting as long as spitting was the protocol.)

It was state lawmakers who in 1880 mandated UC regents create a viticulture program at UC Berkeley. A vineyard was planted at Davis in what became the university. The program went away during Prohibition, but was resurrected in 1935 at what was then UC

Davis.

While the winery building on campus is green – LEED platinum – the art of winemaking has a ways to go to be as efficient.

The university is in the process of creating wine that is sustainable. This will include multiple uses for water – recycling what comes off the roof and reusing what is used in the winemaking process. How the soil and end product reacts to the grey water is being studied.

Various root stocks are being studied to find ones that use less water. Davis has 300 varietals in its vineyards.

The university is partnering with General Electric on a reverse osmosis system to create potable water.

Water is huge in the wine industry, right down to needing to sanitize the bottles.

“A big part of the carbon footprint is the bottle,” Brigham said. “Hopefully, we will see better wines put in wine boxes. Glass bottles are also heavy and it impacts transportation.”

The college is also looking at capturing the carbon dioxide that is released during the fermentation process.

Solar panels are in place to generate energy, with the excess being stored in lithium batteries. The winery is creating more energy than it uses. Solar is powering the ice machine.

One area that uses a ton of energy is refrigeration. Studies are under way to see how that consumption can be reduced.

Even though the Sacramento Valley has weeks where the mercury hits triple digits, the winery has no air conditioning. The building is that well insulated. At night windows or ventilation ducts draw in the cool air to reduce the temp inside and it stays that way the entire next day.

The goal is any innovations the university creates would then eventually be used throughout the industry.