

Grape Growers Treat, Reuse Wastewater On Vineyards



Terra d' Oro vineyard in Amador County.

Woranuch Joyce / Capital Public Radio

Vineyards don't just use water to grow the grapes. They also need water to wash bottles, clean floors and wash barrels.

And some California grape growers are using that wastewater to irrigate vineyards. A [new study](#) says other agricultural producers could do the same.

UC Davis researchers assessed winery wastewater samples monthly over two years at 18 wineries in the Napa and Lodi regions.

They found most wineries in the study "did a good job of treating their wastewater using retention ponds and other systems."

The grape growers reuse that water to irrigate their vines.

UC Davis researcher and lead author [Maya Buelow](#) says the same methods can be used for other agricultural products.

"It's absolutely 100 percent possible for wastewater to be used given the right conditions and this is very encouraging," says Buelow.



A small pond serves as a collection basin at the Terra d'Oro vineyard in Amador County. The recycled water helps irrigate vines in late spring and early summer. Ed Joyce / Capital Public Radio

Buelow says other agricultural producers create significant amounts of wastewater, which could be reused.

"I think this will be something that will become routine even, with the way that the drought conditions in California have been going, there have been a lot of limitations put on water use by agriculture," says Buelow.

Buelow says the treatment systems don't remove salt. Salts are usually introduced into the wastewater by cleaning agents. She says salt concentrations affect how water moves through the soil.

But she says the study found levels of salts at the wineries were usually below thresholds that would make them a hazard to crops.

Buelow says there's also a trend within the wine industry to switch from sodium-based to potassium-based cleaners. The study also looked at the risks and benefits of such a shift for specific soil types.

The scientists say more research is needed to develop best management guidelines, but their [results](#) indicate that:

- Soils dominated by montmorillonite, a clay mineral, could benefit from shifting to potassium-based cleaners.

- Both types of cleaners may negatively affect soils dominated by vermiculite.
- Neither type of cleaner reduced infiltration rates in soils with kaolinite, also a clay mineral.

"This is a good baseline data set to look at and say, 'Now we know what's in our wastewater and what we can do to deal with it before we put it on the grapes'" says Buelow. "Vines are a high cash crop, and growers need to proceed with caution and gather site-specific soil and wastewater data, but there are wineries successfully doing this."



Wine grapes use less water than most crops grown in California. Drip irrigation is used at Terra d' Oro to conserve water and manage vine growth. Ed Joyce / Capital Public Radio