

Northern California Winemakers Shift Practices Amid Drought Emergency

BY [STACY BRISCOE](#)



Nuns Canyon Vineyard / Photo courtesy of Hamel Family Wines

On April 21, Governor Gavin Newsom declared a regional drought emergency for Sonoma and Mendocino counties. Following a winter with extremely low levels of rain, the area's main sources of irrigation water, Lake Mendocino and Lake Sonoma, are in short supply.

Drought conditions are not new for local growers, unfortunately. Many continue to adjust their viticultural practices to adapt to the ever-changing climate.

Following the 2020 Glass Fire, Elizabeth Tangney, viticulturist and winemaker at Cornell Vineyards, spent the last eight months revitalizing the mountain-top property in the Fountaingrove AVA in Sonoma Valley. Due to various levels of heat damage, 11 of the estate's 20 blocks are scheduled for a replant.

Now, Tangney must find ways to make the vineyard more drought tolerant. New plantings will have more spacing between rows to facilitate wider cross-arms (up to 20 inches at the peak), which will help promote shading. She's carefully selecting drought-tolerant rootstocks (1103 Paulsen and 140R) that are more capable of establishing deeper root systems quicker, and decided to plant a new variety, Carmenère. Late-ripening with thick skins, the grape benefits from warm, sunny sites.

"The considerations for all these decisions were exposure, soil type and soil depth," says Tangney.

The site faces southwest, increasing sunlight and heat interception. Soils are entirely sandstone with minimal water-holding capacity; the depth, at only 12 inches, limits root growth. "These factors, compounded with our changing climate, led me to make certain choices to farm this site differently," she says.



Lake Sonoma following a winter with extremely low levels of rain / Photo by Jak Wonderly

John Hamel, managing director of winegrowing at his family's Hamel Family Wines, has dramatically changed his farming style in tandem with the climate. In 2017, he began to slowly transition his four estate vineyards, all located in the Sonoma Valley and Moon Mountain District AVAs, to dry farming, which he defines as "zero irrigation during the growing season."

"I began questioning our irrigation practices after returning from a visit to France, where a prominent winegrower suggested that irrigation disconnects the plant from its terroir," Hamel says. "Our winery began trialing farming without irrigation and

discovered a wonderful expression with the wines.”

To Hamel, dry-farmed grapes feel “stronger,” and their tannins more complex. “We could see it both in the fruit and the resulting wine,” he says.

In order to dry farm successfully, Hamel explains, a vine’s root needs to dig deep in order to sustain drought-like conditions.

“There is a general assumption that old vines make better wine ... the predominant reason is that the roots are deeper and have fully colonized the soil profile,” he says. “Pushing a vine without irrigation, it must send its roots deep and be efficient with water use.”

As a result of deeper root establishment, Hamel suggests, dry-farmed vines are more capable of weathering climatic variation and more resilient to natural drought conditions.

Transitioning to dry farming is not without its challenges. “First, it was figuring out the limits of how far we could push the vine without water in a manner that elevated the fruit quality,” Hamel says. “We want this practice to enhance quality, not detract from it.”



Unfortunately, drought conditions are not new for Sonoma and Mendocino growers. / Photo by Jak Wonderly

The second challenge, he says, is one that plagues many modern farmers today: a majority of the vineyards had been previously overirrigated, promoting “superficial rooting” and a “physiological infrastructure” that heavily relies on regular watering in order to stimulate the growth cycle.

In addition to dry farming, Hamel is also shifting other viticultural methods in order to promote an earlier vine-growth cycle. By pruning earlier, he says, plants will begin budbreak as soon as environmental conditions allow, although this does increase the threat of spring frost bud damage, he warns.

With even just a few days head start on the growing season, Hamel believes he’ll be able to harvest earlier. This is important because dry-farming quality fruit is most difficult when heat spikes, usually in August and September. “These events are becoming more frequent and extreme,” he says.

While dry farming is not the answer for every grape grower, Hamel believes “there is a culture of overirrigation. Meaning, people are giving the plant water it doesn’t necessarily need based on schedule.”

Data-based decisions are best, he says. “[Grape growers] should rely on soil moisture as well as plant-based water status measurements to make irrigation decisions. Too many irrigation decisions are made absent of any real data.”



Comments

