In Napa, a new path to using less water
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On close inspection, one thing stands out amid the vines at Dominus: You'd be hard-pressed to find thin black water hoses running down the rows.

Irrigation tubing is so ubiquitous in California that the lack is disconcerting. Yet that was always the plan laid out by proprietor Christian Moueix in 1981, when he agreed to make wine from the Yountville site.

"My first sentence was, I will need 20 years to make a good wine," Moueix recalls. "My second sentence was, I will make a wine without irrigation or acidification, or I won't make my wine. For us it's just common sense."

Yountville isn't the most arduous place to farm, but one of its historic vineyards, the Napanook site now owned by Dominus, provides a contrarian blip amid California's pervasive water use. As water worries mount, the lessons from this slice of Napa are worth acknowledging.

Moueix is a salient voice in this discussion; as the owner of Bordeaux's legendary Chateau Petrus, he is a noteworthy critic of the more-is-more school of farming.

Avoiding irrigation (although newly planted vines are hand-watered) is a bold step, but Dominus' efforts go further: It upends most of the modern beliefs about how California vineyards should be farmed.

Traditionally, vineyard practices have hinged on the supposition that vines would struggle to adequately ripen their grapes. But in many spots, certainly in Napa, grapes fully ripen most years, to the point that an entire style of wine exists around grapes picked superripe and dialed back in the winery.

You may or may not like this style, but our coming water woes highlight a resonant concern: This school of agriculture is not only extreme, but it also requires more resources to make the same amount of wine.
Rather than pushing the ripeness envelope, the goal at Dominus is to keep vines from irrational exuberance. Rather than reduce the number of grapes per vine, each vine in Yountville produces about three times as many clusters as in Pomerol; cover crops are aggressively planted in heavier soils to keep vines in check.

Moueix and his technical director, Tod Mostero, recently installed an elaborate system to measure the water table and drain away excess winter moisture. All this slows down the vines, allowing them to hit peak ripeness right at harvest - and helps explain why Dominus still hovers just above 14 percent alcohol even as its counterparts soar past 15.

"We're in Napa, so the climate is generous," Moueix says. "If you crop too severely, you end up with wines that are too tannic."

An even bigger game-changer may come from one of the vineyard's young consultants, Thibaut Scholasch, who with his business partner, Sebastien Payen, runs Emeryville-based Fruition Sciences.

Scholasch believes not only that too much water is used in vineyards, but that poor water management adds costs and waste all through the winemaking process - leading to weaker flavors, less productive vineyards (the ripe style can require severe cropping) and extra effort in the winery (as water is added and the wine's chemistry corrected).

More specifically, he believes most traditional ways of measuring whether vines need water - from eyeballing the leaves to using neutron probes that check soil moisture - provide an incomplete picture.

Scholasch measures the flow of sap in the vine using a heated sleeve, not unlike taking pulse and blood pressure readings. This still-debated method has been floating around for a decade or so, but the researchers combined it with other soil and weather data to create an instant alert system for when a vine truly needs watering.

They discovered that even many water-stingy regimens still overfed the vines, and sometimes reduced overall water usage by 80 percent or more. At one 30-acre vineyard, they saved the annual equivalent of 150 swimming pools worth of water.

"In many cases we have given people confidence that they could dry farm," Scholasch says.

Their method indicates that most irrigation - especially early in the season - has "the vine behaving like a junkie," Thibaut says. The more water-dependent the vines, the more they can be stressed in a dry spell. And they often show more stress after irrigation than if they never received water.

"This is a vicious circle," he adds.
Scholasch posits that many California vineyards could endure with far less water - as little as 8 to 16 inches annually - even with a typical dry summer. "As long as you have rain in that amount, you should be fine," he says.

What's the trick? Vineyards must be farmed in radically differently ways. Cover crops must be used to control vine growth; irrigation should come only in the final weeks before harvest; roots need extra time to drive farther down, which means young vineyards will take longer to be established.

These theories may be controversial, but they're not fringe; Fruition has several prestigious Napa names on its roster, including Spottswoode and the new Ovid project. Last week, the firm took first place in a competition for water-saving business models sponsored by the nonprofit Imagine H2O.

As test beds go, Dominus is easy. It receives about 30 inches of annual rain and additional ground water from the mountain watershed to the west. Moueix is so confident about moisture that when he acquired a neighboring 40-acre parcel, the Schmidt ranch, from Swanson Vineyards in 2008, he stopped watering almost overnight. Eventually it too will be dry-farmed.

His team is diving into new territory - experimenting with trellises that allow for shorter, more efficient vine shoots and provide more sun cover for grapes.

"Even with a lot of experience we are still asking these key questions," he says. "A lot of people would think we're crazy, but we think this is important."

**From the notebook**

The 2007 releases of Dominus and its second wine, Napanook, are due soon. They're both poised to be prime examples of Napa Valley in a glorious vintage. If there's an asterisk, it's that the gap in quality between the two is narrower than usual - which is great news if you view Napanook as a perennial deal.

**2007 Dominus Napa Valley Red Wine ($135)** Dark and distinctly loamy, with amazing transparency to its densely layered flavors. Highlights of blue fruits, kirsch olive, dried leaves and dusty stones are all packed into a wine that shows a tremendous energy, length and elegance even before its release, with higher acids and fine, slightly knotted tannins. It is likely to be among Dominus’ finest releases. Those pure, accessible flavors and power (at 14.2 percent alcohol) should keep it enjoyable for a good 20 years.

**2007 Napanook Napa Valley Red Wine ($48)** A ripe, silken profile that makes it immediately friendly - with a pure Cabernet nose accented by tobacco, bay leaf and red fruit high tones. It's already engaging, without a hint of austerity. A second label like this leaves plenty of mainliners in the dust.
~J.B.

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