

# When in Drought: The California Farmers Who Don't Water Their Crops

Source: [theguardian.com](http://theguardian.com)

Published: May 5, 2016



Dry-farmed quinoa growing at the New Family Farm in Sebastopol, California. Photograph: Michelle Davidoff/Handout

There's something different about Will Bucklin's grape vines. At first it's hard to notice, but a drive through northern California's Sonoma Valley, past waves of green, manicured vineyards, makes it clear. The black ribbon of PVC irrigation pipe that typically threads the vines is curiously absent here – because Will doesn't water his crops.

Bucklin's Old Hill Ranch, purchased by his stepfather Otto Teller in 1980, claims to be the oldest-rooted vineyard in the area. Teller fell in love with the vineyard because it was one of the few that still "dry-farmed". Dry farming is a method that bypasses artificial irrigation, relying instead on seasonal rainfall and working the soil in such a way that it holds on to water for the drier months.

Is it possible to grow healthy grapes without watering them? Actually, if conditions are right, he says, it's possible to grow even better ones. Less water means smaller, more intensely flavoured grapes with a higher skin-to-fruit ratio. Other crops – tomatoes, potatoes, squash, corn, apples, even marijuana – can be dry-farmed too, with similarly intensified results.

The Mediterranean climate of California's coastal regions, particularly those to the north, is ideally suited to dry farming. Mornings are cool, afternoons warm, and the rains come every winter. Until the second half of the last century, dry farming was actually the norm here – and still is throughout much of Europe.

"The hardest part about dry farming is actually convincing people it works," Bucklin says. "But in places like Spain, France and Italy, pretty much everybody dry-farms because it makes better wine." Irrigation has even been banned in parts of Europe to preserve the quality of certain grape

varieties. But in California, where irrigation is now the norm, dry farming has become a forgotten art.

Dry farming certainly requires a special set of steps. The cultivation of a “dust mulch”, a layer of tilled topsoil that seals in moisture to prevent it evaporating from around the plant’s roots, is one example. Dry-farmed vines take longer to establish, and while they may live longer they also yield less, a proposition unlikely to appeal to everyone. But the argument of quality is one that dry farmers return to in their defense.

“I wouldn’t dry-farm unless it was worth it, if I didn’t think it made better wine,” Bucklin says.

One reason for improved flavor is that dry-farmed vines put down deeper roots; they quite literally go mining for water. “Irrigated vines have roots that live in the top 20 or 30 inches of soil. Dry-farm vines can have root systems as deep as 20 to 30 feet,” Bucklin says.

Deep-root systems produce grapes that are more characteristic of the land they’re grown on. Winemakers call this *terroir*, and it’s the thing that sets fruit juice apart from the stuff that blows your mind.

“Irrigation will give you good grapes, but they tend not to be unique,” Bucklin says. “They don’t have any soul.”

Gliessman is one of California’s foremost dry-farming experts and a former professor of agroecology at UC Santa Cruz. Gliessman maintains many crops now dependent on irrigation don’t really need it.

He mentions almonds, the state’s second most valuable crop. Fairly or unfairly, almonds have become shorthand for water inefficiency (the dinner party line goes that it takes a gallon of water to produce one almond in California).

“Almonds are traditionally a dry-farmed crop that does not need irrigation,” Gliessman says. “There are dry-farmed almond orchards in southern Spain that are a couple hundred years old. But when you’ve got 500, a thousand acres, you don’t have much opportunity to be a good steward of your land. You have to make big decisions in a hurry.”

“What we learn from a system like dry farming is that you can farm from limited water,” he continues. “But of course modern farming looks for maximum yield no matter what you have to put in. And in the case of California, that input is water.”

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