

Valley farmers now see drought as rule, not exception: ‘There is a real fear out there’

By Robert Rodriguez
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Farmers are no strangers to struggle or drought. But this four-year drought is different than others, they say. It's more widespread, touching nearly everyone who turns on the tap or starts an irrigation pump.

SPECIAL REPORT: FROM DROUGHT TO EL NIÑO

This past summer, wells dried up and farmland sat idle. The drought also came to mean that life on the farm has likely changed forever.

“In the early years when we went through a drought, we tended to say that this too shall pass,” said Richard Waycott, president of the Almond Board of California in Modesto. “But there is a different consciousness now. People are looking at the future very differently.”

Farmers talk of a new reality – one in which droughts are more of the rule than the exception, and water availability, both above and below ground, becomes less certain.

We are in a different paradigm now. There is a real fear out there about how much water we may have to farm. And that's why we are doing everything we can think of to keep going.

George Goshgarian, Fresno County almond farmer

Third-generation Fresno County farmer George Goshgarian smiles when he thinks about what his grandfather would say about all the gadgets now on the farm: soil moisture sensors, miles of drip irrigation hose, a weather station and a device that measures the uptake of water in an almond tree.

Goshgarian isn't entirely sure if any of this technology will ultimately help keep him in business. But he needs to try.

“This won't be the last drought we will have,” he said.

Goshgarian is also taking part in a groundwater recharge project involving the Almond Board of California, UC scientists and a San Francisco-based group called Sustainable Conservation. Goshgarian is one of several farmers in the Valley whose lands are being used as test sites. Other trials will be done in pistachio orchards and alfalfa fields. Researchers say recharge could reduce overdrafting – when more water gets pumped from an underground basin than gets replenished – by 12 percent to 20 percent.

This winter, if El Niño delivers as expected, water from the Kings River will be applied on Goshgarian's 62-acre block of almonds to see how well it recharges the aquifer below. Scientists have identified specific areas in the state that could lend themselves to groundwater recharge.

UC Davis soil scientist Toby O'Geen said researchers looked at the type of soil in the area – the more porous the better – and what crop is being grown. What scientists want to find out is if standing water in an orchard or field will damage a plant or tree's root system.

Goshgarian realizes there is a risk to his orchard, but that's what farming is about, he says.

“We are in a different paradigm now,” Goshgarian said. “There is a real fear out there about how much water we may

have to farm. And that's why we are doing everything we can think of to keep going."

Don Cameron, a westside grower who has been working on groundwater recharge for nearly two decades, said one of his vineyards was in standing water for nearly two months in 2011, with no ill effects.

"We have proven we can do it," he said. "We just need to convince other growers to apply water during wintertime and flood periods. The fact is, we can't continue to pump and not replace the groundwater."

Gut check

The 2015 drought also delivered a gut check for farmers, who long assumed that California consumers were on their side in the fight for water.

Farmers thought that because people ate what they grow, that they understood and supported them. But that wasn't the case at all.

Aubrey Bettencourt, executive director of the California Water Alliance in Hanford

During the 2009 drought, when farmers shouldered the brunt of that drought, the public wasn't asked to reduce water usage. The situation is more dire now. Gov. Jerry Brown declared a drought emergency that included a requirement for urban residents to reduce their consumption by 25 percent.

People ripped out lawns, trees died and most homeowners conserved as much water as they could. For the most part, people complied. Then came media reports taking farmers to task for how much water it takes to grow certain crops. The public fumed and almond growers, in particular, were roasted for farming one of the most water-intensive crops.

"Farmers thought that because people ate what they grow, that they understood and supported them," said Aubrey Bettencourt, executive director of the California Water Alliance in Hanford. "But that wasn't the case at all."

Farmers admit feeling blindsided by the reaction. Grassroots organizations defending farmers began to sprout, including [My Job Depends on Ag](#), [FarmFacts.org](#) and the [California Water for Food and People Movement](#).

Kristi Diener of Clovis, wife of a westside farmer, helped launch the food and people group out of frustration over the public's perception of farmers as water hogs. Her goals are to educate the public about why water is vital to agriculture and to push for changes in water policy. Her group supports the effort to build more dams and reservoirs, including the proposed Temperance Flat Dam, near Auberry in the foothills of eastern Fresno County.

"It seems like a lot of people have been in this water battle for a long time, but you go and march, or hold a rally, and then the rains come and everyone goes about their business," Diener said. "I felt it was time to stand up and do something because things are not going back to the way they used to be."

Land goes unplanted

No one understands that more than Cannon Michael, president of Bowles Farming Co., a diversified, 10,500-acre family farm in Los Banos.

Michael fallowed about 2,300 acres, or roughly one-quarter of Bowles' total acreage, because of a lack of water. The land could have produced alfalfa, tomatoes or melons. On its existing acreage of processing tomatoes, melons, corn and cotton, the farm spent nearly \$2 million on a solar installation to reduce the rising cost of operating its electricity-powered irrigation system.

"Any capital expense is going to cut into your profitability, but if we don't do it, we are risking not being here in the future," Michael said.

No farm has been immune from the drought's reach. Small farmers have suffered too. The Masumotos in Del Rey, growers of organic tree fruit including the famed Sun Crest peach, fallowed about 20 percent of their farm. It was the first time in nearly 70 years that the farm was unable to get water to all of its tree fruit and grape acres.

"My dad would have had a hard time seeing that land fallowed," said David Mas Masumoto. "We always planted every acre. But this time, we had no choice."

This year, the Masumotos became students again, learning new things about their water table, how deep it was and where it was under their trees and vines.

Masumoto's daughter Nikiko also began experimenting with drought-tolerant crops. She planted several olive trees, a fig tree and lentil plants, and is looking into several plants native to South Africa.

"I want to develop as vast a tool chest as I can, assuming that drought will be part of my life," she said. "I have to accept that and respond."

The Masumotos have even talked about more dire possibilities, such as how much water it will take just to keep things alive. Nikiko says that in a strange way she feels gratified that this is happening early in her farming career. She is developing the skills and knowledge to farm in this new reality.

She worries that there may still be some who haven't accepted that California agriculture is changing.

"The global population will be 9 billion in 2050, and California is an essential part of the food system," she said. "So if we haven't learned any lessons from this drought, we are going to be in big trouble."

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Groundwater recharge map

Farmers, researchers and policymakers can pinpoint California's most promising parcels of farmland to help replenish dwindling groundwater supplies. The interactive map was developed by the California Soil Resource Lab at the University of California, Davis.

[The Soil Agricultural Groundwater Banking Index](#) provides site-specific information on millions of acres of California farmland based on research led by Toby O'Geen, a UC Cooperative Extension specialist with the UC Davis Department of Land, Air and Water Resources.