

JUST TO THE EAST of the devilishly dry and oftentimes forbidding Diablo Mountains, Fresno County farmer John Diener steers his pickup along the edge of the California Aqueduct. Many people see this 700-plus mile canal as a river of gold—or, maybe slightly less dramatically, at least as one of this country's most contested bodies of water.

These days, with the state in a 3-year drought that shows no end, virtually everybody in California's Central Valley from Sacramento to Los Angeles wants what the aqueduct carries. Diener, president of his family-owned Red Rock Ranch, is among them.

Yet, as a farmer along the aqueduct's eastern bank in one of the world's most productive agricultural regions, even he figures he may never again get all that he needs. In 2010, he received only 45% of his water allocation from the state water system, of which the aqueduct is one part. In 2009, he only received 10%, making up the deficit in such years with costly and, if used too often, unsustainable wells.

It's just another challenge, says Diener, that he and other Central Valley producers must meet if they're to stay in business. Add increased competition and a sluggish economy to the water shortage, and it all adds up to be a tough time for agriculture here and elsewhere.

Diener, though, has not only kept his business afloat during the drought, he's also improved yields by 20 to 30% over the past several years and, more importantly, reduced his water use by 30-40%. All that and he's helped others do the same, while continuing to learn even more himself. As a regular participant in county Extension, he works with other producers to exchange information about new practices, some of which we detail on pages 12 and 13. But before we get to those, a little more about the Valley and why it's become a laboratory of sorts for agriculture.

As evidenced by its productivity—four of the country's top five counties in agricultural sales are located here—the Central Valley is in some ways an ideal place for farming and ranching. Its relatively warm winters and near-cloudless summers are good for growing crops and raising livestock. Cattle and dairy operations abound, and about 250 different crops are grown in the 450-mile-long basin. Diener



Not only is Diener involved in various farm community projects, so is his wife, Georgene. "She's a local community leader for 4-H as well as a FFA," says Diener. "That's what we do as a family."

grows upwards of 10 different crops in a year, including various grape varieties, almonds, iceberg lettuce, processing tomatoes, hay, peas, corn and wheat.

Yet soil quality and drainage are inhibited on about a third of his acreage by high salinity levels, while the entire region is hampered by a lack of precipitation. The area averages just 9 inches per year. Such harsh conditions require Diener and other producers to continue improving their practices. Those measures are often a mix, says Diener, of old-school knowledge, research-driven breakthroughs and a desire to succeed. "We talk a lot about stewardship," says Diener, "and good stewardship can be achieved by learning how the previous generations worked the land. A lot of today's green technology is really nothing more than the application of those lessons. But there is still much to learn, and that's what we're always trying to do.

"We just need to farm smarter. That's not only how we're going to stay in business," he says. "That's how we're going to stay more competitive against those guys overseas who can do everything cheaper."