



## Dairy Cares Newsletter

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# Dairy farmers innovating irrigation practices to reduce water use

Through improved production efficiency, the water footprint of a glass of milk has been continuously reduced over the years. Dairy farmers in the Golden State are now making further strides in water conservation with more efficient crop irrigation technologies and milk cooling water recycling practices. Water-use efficiency will become even more important as ongoing and more frequent drought conditions continue to tighten the water supply for agriculture.



The potential to both save water and increase the efficiency in the application of soil nutrients holds considerable promise for dairy producers, as shown in a recent drip-irrigation project partnership that included Western United Dairymen and Sustainable Conservation. Using a subsurface drip system that mixed fresh water with dairy effluent in a corn silage field at DeJager Farms in Chowchilla, project partners found that the system increases water and nutrient use efficiency while also increasing yields.

The project was funded by a Conservation Innovation Grant from the USDA's Natural Resources Conservation Service (NRCS), which promotes and supports sustainable agricultural practices. John Cardoza, the project manager for Sustainable Conservation, noted that the DeJager drip system helped "fine tune" the freshwater and effluent mix, particularly in regard to nitrogen efficiency, as the "Impact Improvements" graphic shows.

"We're hoping to scale this type of farming practice across the Central Valley to save water, reduce nitrate leaching to groundwater, improve the health of local communities, and boost crop yields," Cardoza said. The next phase of the project will include DeJager and two other dairies with different soil profiles

### IMPACT IMPROVEMENTS

- WATER USE EFFICIENCY  38%
- NITROGEN USE EFFICIENCY  52%
- SALT LOAD  56%
- YIELD  15%

and operations. When the project is completed, NRCS could offer grants to dairies covering up to 50 percent of the cost for the drip-line systems and installation, he said.

Nate Ray, farm manager at DeJager, noted that subsurface drip irrigation provides a more uniform application of water to the entire silage field than standard watering practices, and results in healthier crops by using just the right balance of manure nutrients.

“This is something we really need to look at for the future,” he observed. “We’re certainly not going to have more water.”

California dairy families have long understood the need to increase milk and crop yields with less water. In addition to using drip irrigation in his fields, John Azevedo, a dairy farm owner from Patterson, reuses the water that chills his milk tanks by pumping it through misters used to cool his cows on warm days.

“Dairy farmers are quite proactive,” he notes, and will “go after that technology to save water.” He’s also designing a system that can deliver the fresh water from the milk-cooling process to the cows drinking station.

Bruce Scott, owner of Scott Brothers Dairy near San Jacinto, uses a center-pivot line irrigation system on his alfalfa that uses reclaimed water from the local water district. According to researchers at the University of California Cooperative Extension, the pivot system uses up to 30 percent less water than traditional systems and is gaining the attention of California farmers because of continued improvements to nozzle technology and a better understanding of soil types and water infiltration rates.

Innovation has long been a key element of dairy farming in California, and that’s particularly true when it comes to water. Dairy farmers in the Golden State are committed to conserving water while maintaining milk production efficiency, proactively meeting the challenges posed by the drought with ingenuity, sound stewardship, and hard work.

*Dairy Cares is a statewide coalition supporting economic and environmental sustainability and responsible animal care. Our members include Bar 20 Dairy Farms, California Cattlemen’s Association, California Dairies Inc., California Dairy Campaign, California Farm Bureau Federation, Dairy Farmers of America-Western Area Council, Dairy Institute of California, GHD Services, Inc., Harris Construction, Hilmar Cheese Co., HP Hood, Joseph Gallo Farms, Land O’Lakes, Merck Animal Health, Milk Producers Council, Ruan Transport Corp., Western United Dairymen, Yosemite Farm Credit and others. For information, visit our web site or call 916-441-3318.*