

David Zoldoske: Irrigating farm isn't like watering your lawn

By David Zoldoske

Saving water is a concern to homeowners through the Valley and state as we grapple with the fourth consecutive summer of drought. Many Valley residents are taking steps to reduce water usage. At Fresno State, we're working on measures to save water on campus, and we've made great strides. We are targeting a 25% reduction in our landscape and buildings.

On the 1,000-acre agricultural laboratory — or simply, “the farm” — water conservation is also top of mind. Nearly 800 acres of the farm are planted with crops in a normal water year. Our current plans call for reducing farm water consumption by a similar 25%, using 2013 as the baseline.

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Sometimes, though, passersby on Cedar, Chestnut, Willow, Barstow and Bullard avenues may wonder about our practices. It may be helpful to explain why irrigating a farm is not like watering your lawn.

Let's look at how water is applied. Many homeowners utilize pop-up spray heads to irrigate their lawns. These systems may apply water at rates approaching 3 inches per hour, but the lawn really only needs one-tenth of that amount per day during the peak summer months. With twice-a-week watering schedules in place, some homeowners may only need to run their sprinkler systems 20 minutes each watering day or 40 minutes a week to satisfy water demand in July. Typically the homeowner's irrigation system has a capacity far greater than needed for landscaping.

It's entirely different irrigating a farm, like the approximately 670 acres in production this year at Fresno State. To start, the farm irrigation system is not designed to put 3 inches per hour over the entire acreage at any given time. Instead, the farm currently must rely on groundwater supplies to move water across significant acres of irrigated crops.

So with a limited water supply, the farm must irrigate one or more fields, 24 hours per day, seven days per week. This will be especially noticed in the peak water demand months of June, July and August.

While homeowners can cut back on watering and hope their lawn and landscape survive, farmers can't take that approach. Agricultural crops cannot be stressed without significant impacts to yield and quality.

What you will see is water irrigating crops day and night. This is *not* because we are not being good stewards of our water supply, but because a limited supply requires constantly moving water around to keep the crops healthy during Fresno's long hot summer months.

In addition, due to the drought, the Fresno State farm does not have enough water to irrigate all of its crops. Historically the majority of the farm's supply has been surface water, which isn't available. So driving by the campus farm you will see land — approximately 130 acres — fallowed and not planted. Further, some of pastures used for the animal units will be going dry or under-irrigated. Applied water will also be reduced across other parts of the farm as we improve our water-use efficiency.



Finally, using the water we do have wisely and efficiently on the farm is something we always strive for. The farm has converted orchards, vineyards and vegetable crops to drip and micro irrigation systems. We now have a data base on each field, crop type and weekly water requirements. We also are installing soil moisture sensors, water meters and wireless control systems.

At Fresno State, we are moving toward becoming a model farm with respect to water management. This provides a teaching laboratory for our students and provides a field demonstration area for outreach to San Joaquin Valley growers on the latest technologies to better manage our finite water supplies.

We recognize that water is precious every year — and this year particularly — and we are committed to proper planning, leadership and collaboration to preserve this vital resource and help provide the base for our region's future economic prosperity.

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