



# WATER USE EFFICIENCY

HIGHLIGHT SERIES

## SUSTAINABILITY AT DUNCAN FAMILY FARMS

Over the years, Duncan Family Farms has developed a company culture around curiosity and teamwork and a drive for continuous improvement. We place a strong emphasis on our company motto *"Taking Care of the Land. Taking Care of People."* In the center of it all is water; a vital resource that supports both. It is the most important input in western crop production, and it is in short supply.

Using water resources wisely requires diligent data tracking and continuous improvement. Duncan Family Farms is committed to improving our water use efficiency, which means we strive to apply just the right amount of water to meet our crops' needs. The more efficiently we operate, the more crops we can grow with the same amount of water.

Duncan Family Farms strives to find the balance between the art and science of efficient irrigation by leveraging technology, automation, codified best practices, and teamwork. This is how we will meet the challenges of our seasoned irrigators aging out of the workforce, the shrinking labor force, and the dwindling supply of water.



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*We want to get to the point where we can predict how much moisture the crops will need.*

**CEO, ARNOTT DUNCAN'S  
LONG-TERM VISION OF  
USING DATA FOR OPTIMIZING  
WATER USE EFFICIENCY.**

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**BUILDING  
HEALTHY SOILS**



**INVESTING IN  
R&D**



**LEVERAGING  
DATA**



**TRAINING &  
COLLABORATING**



## **BUILDING HEALTHY SOILS**

**IT TAKES PASSION.** At Duncan Family Farms, passion for our land is what drives us to build and maintain healthy soils. We carefully nurture and build our soils by applying compost and planting cover crops on every acre of ground we farm. This level of care builds Soil Organic Matter, which increases the soil's water holding capacity and ensures crops can use every drop.



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**Our composting operation is one practice that sets us apart. By controlling our feedstocks and blending in nutrients, we create a viable soil amendment that fits our exact micronutrient needs and increases the moisture retaining capacity of the soil. Our high-quality compost supports our efforts to utilize water more efficiently.**

Director of Technical Services,  
Jeremy Vanderzyl

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## INVESTING IN R&D

**IT TAKES COMMITMENT.** At Duncan Family Farms, we're fully committed to investing in research and development. Doing R&D well may take us more time and resources, but when we find just the right technology in the field or right software for decision making, the results are higher-quality produce and improved water use efficiency.



When it comes to R&D, it is easy to do poorly and difficult to do well. The R&D process requires teamwork and buy-in to accurately collect data along the way so that the information can be statistically validated. Doing R&D well means that we can duplicate what we learned and apply it to other areas of our operations that make sense.

CEO, Arnott Duncan



## LEVERAGING DATA

**IT TAKES GOOD DATA.** At Duncan Family Farms, we strive to harness the power of consistent, reliable data. To stay on top of data trends, we are improving how we track our water use so we can apply just enough water to meet the crop's needs. With this data, we are able to continually refine our approach to use less water to produce quality products.



Being a triple bottom line company, we go beyond making decisions based solely on finances. Accurate, relevant data needs to be available wherever decisions are being made. Having access to our sustainability data helps us understand how our initiatives affect the environment and our team members so we can make better decisions.

CFO, Ryan Borer



## TRAINING & COLLABORATING

**IT TAKES TEAMWORK.** At Duncan Family Farms, we understand the value of teamwork. By pairing our seasoned irrigators with the next generation of irrigators and arming them with data and technology, we're driving better irrigation decisions.



We're always encouraging our team members to learn from their experiences and challenging them to bring new ideas to the table. Communication and teamwork are key to finding new solutions and driving the company forward.

Director of Operations, Lalo Orozco





## THE RIGHT IRRIGATION SYSTEM

The short growing span of baby leafy greens, one of Duncan Family Farms' primary crops, presents unique irrigation challenges where drip and furrow irrigation do not measure up. On one of the first locations we transitioned from furrow to sprinkler irrigation, it took 10 years of R&D and multiple trials to find the best solid set irrigation system and sprinkler heads for our application. Although it took considerable time and capital, the water use efficiency gained was worth the investment.

**TO BETTER GUIDE DAILY IRRIGATION DECISIONS AT GOODYEAR RANCH**, we invested in a state-of-the-art private weather station that provides data relevant to our specific microclimate, ensuring wind, rainfall, temperature, and humidity are considered when scheduling irrigation events.

Another investment that paid off was the switch from aluminum to Yelomine PVC pipes which virtually eliminated water wasted at the end of each irrigation event, **saving 500 gallons per line per event**.

More recently, in Imperial Valley, CA, we **reduced water consumption by 50% on one of our ranches**. Water savings were achieved by converting to sprinkler irrigation from furrow, investing in new specialized sprinkler heads, and an ongoing commitment to cover cropping and composting, which improves water holding capacity and builds healthy soils.

The Imperial Irrigation District (IID) has recognized Duncan Family Farms for its water conservation efforts. As part of the On-Farm Efficiency Conservation Program, **we saved more than 2,450 acre-feet of water in three years** or enough water for 1,140 Americans for a year.

