

PureSense® Irrigation Manager™

Case Study: Almond Orchards

"If you are going to survive as a grower today, it's all about knowledge. Everything else doesn't matter if you don't first focus on the information needed to water effectively." - Tom Rogers

"Water is still the best fertilizer for a crop." - Denis Prosperi



Meet The Growers

Tom Rogers, Madera, CA
- A Successful Family Farm

For over 26 years the Rogers family has grown almonds. Today the family farms 140 acres of almond trees, using microjet sprinklers, that produce yields up to 2500 lbs per acre - 35% above the state average. The family attributes their success to a tenacious focus on making sure their trees always receive the right amount of water and nutrients throughout the growing cycle. For 20 years the Rogers family has been at the forefront in using soil moisture technologies to support irrigation decisions. They also



employ an aggressive nutrition program with fertigation every three weeks during the growing season.

Denis Prosperi, Madera, CA
- A leader in the Almond industry

Denis Prosperi has grown almonds and grapes for over 30 years. He owns and farms over 900 acres and uses a combination of flood and microjet irrigation systems. Denis has always worked hard to be "the best at my game", paying close attention to historical growing trends and irrigation requirements in order to optimize crop yield and quality. Denis is also a partner in Madera Almond Processing, which handles and packs 50 million pounds per year for Panoche Creek Packing. He serves as a director on several boards including chairman of Madera County Water Oversight Committee, San Joaquin River Task Force, Madera Farm Bureau, Central California Almond Growers Association, and the Aliso Water District.

CASE STUDY SUMMARY

CROP Almonds

GEOGRAPHY Madera, California

INFORMATION NEEDS

- Fast, effective reporting and analysis of conditions influencing crop health
- Dynamic, accurate profiles of soil moisture in root zones to maintain deep moisture banks
- Intuitive user interface to support rapid response to changing growing conditions.

SOLUTION EMPLOYED

- PureSense Irrigation Manager

BENEFITS

- A 10% net improvement in crop yield
- A 10% reduction in operating costs
- 80% reduction in time to analyze irrigation requirements
- More predictable and consistent crop yield and quality.

Challenges Faced

"A crop's greatest limitation is the amount of water delivered to it" - Denis Prosperi

"We need continuous access to information that allows us to optimize irrigation management and avoid many of the risks of farming." - Tom Rogers

- Crop health and performance is limited by a lack of understanding of the moisture profile surrounding the root zone
- Even with periodic monitoring of soil moisture, changes in soil water content can occur very quickly, resulting in crop damage
- It is also difficult to maintain effective deep water in the moisture bank without dynamic, accurate profiles of soil moisture
- Significant yield and quality reductions result from ineffective irrigation management.

PureSense® Irrigation Manager™

Case Study: Almond Orchards, Continued...

Strategy Followed

“How would you know what you are doing if you are not measuring?” - Tom Rogers

“We need to maintain a constant balance of moisture in our soil profile” - Denis Proserpi

The Rogers family farm first used the **PureSense Irrigation Manager** in 2005. Early in the 2006 growing season Denis Proserpi also installed the PureSense solution. Both growers are focused on driving results in their farm through improved irrigation management. Specifically they were concerned with finding a solution that provides a dynamic and complete picture of how trees respond to changing irrigation and growing conditions in order to meet the following key requirements:

- **Increase predictability, quality and quantity of crop yield:** through more informed irrigation management
- **Provide faster response:** to adverse growing conditions with real-time analysis of conditions in the moisture bank
- **Adopt easy to understand practices:** for making informed irrigation management decisions
- **Reduce operating costs:** by optimizing the use of vital inputs used to promote and protect crop growth
- **Eliminate wasted use of valuable time:** on manually intensive irrigation tasks.

The **PureSense Irrigation Manager** meets and exceeds these requirements using field monitoring stations combined with analytical, web-hosted software applications to provide an integrated solution. PureSense helps growers to leverage plant vitality and irrigation intelligence into broader programs that optimize crop yield and reduce crop risks.

Benefits Realized

“PureSense helps me be the **best at my game**. At the end of the day we are seeing net-net improvements of 10% on yield and cost savings.” - Denis Proserpi

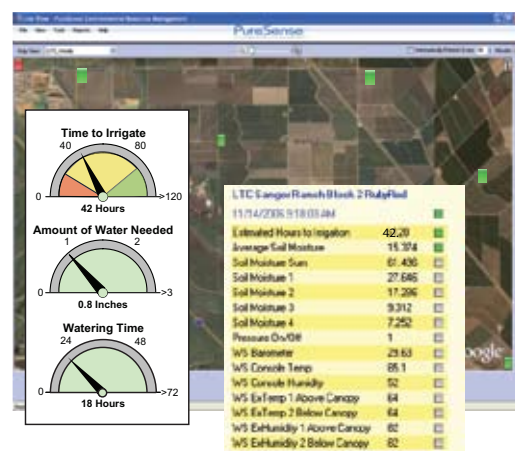
“In years with tough growing conditions we are seeing 300 lb. to 400 lb. per acre **better yields** than our neighbors.”
-Tom Rogers

Both the Rogers & Proserpi farms enjoy significant benefits from introducing the **PureSense Irrigation Manager**:

- **Optimize crop irrigation:** with real-time indicators that track growing conditions to support faster, better informed irrigation decisions for all growing conditions
- **Improve farm results dramatically:** with at least **10% net improvement** in crop yield leading to even greater improvements in future seasons
- **Lower operating costs:** through better irrigation and disease management resulting in **at least 10% savings in costs** – water, energy, fertilizer, pesticides, etc.
- **Reduce time to analyze requirements:** by **as much as 80%**, freeing up time to focus on optimizing irrigation practices
- **Improve predictability & consistency:** for example, maintenance of deep moisture banks during harvest has a direct impact on the size and vitality of next year's crop.



Readings Chart: User defined graphs that establish irrigation strategy.



Aerial View: Instant snapshot of site status alerts user to action.