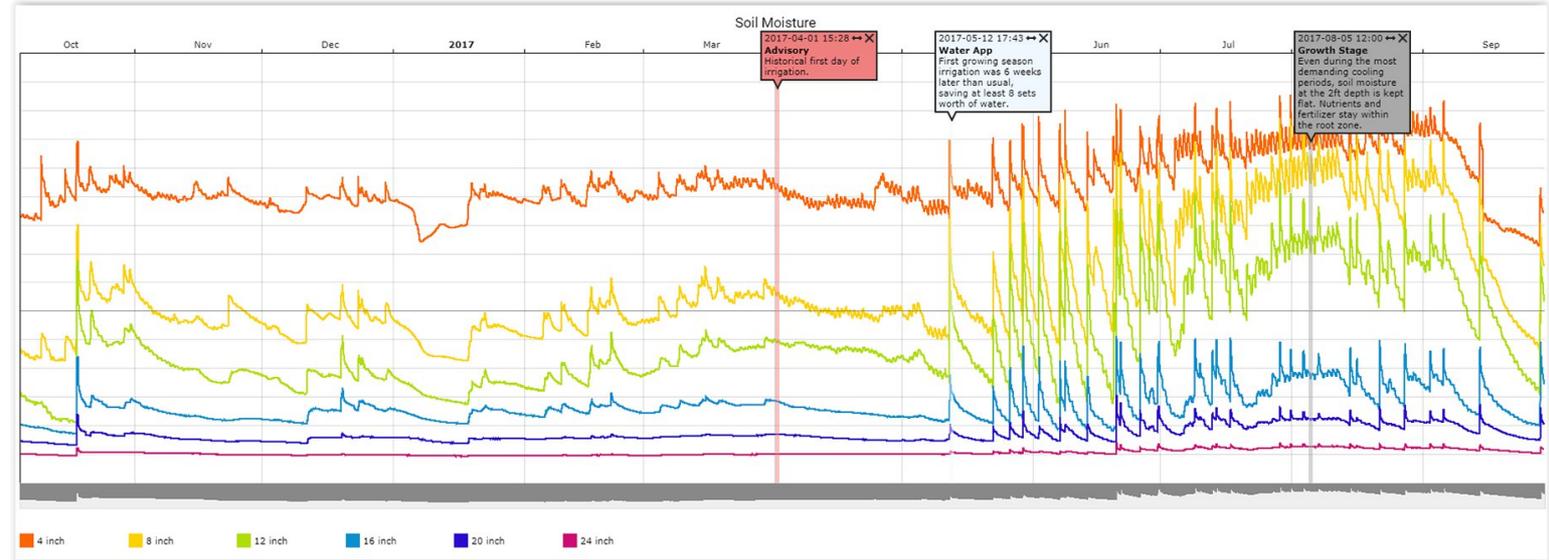


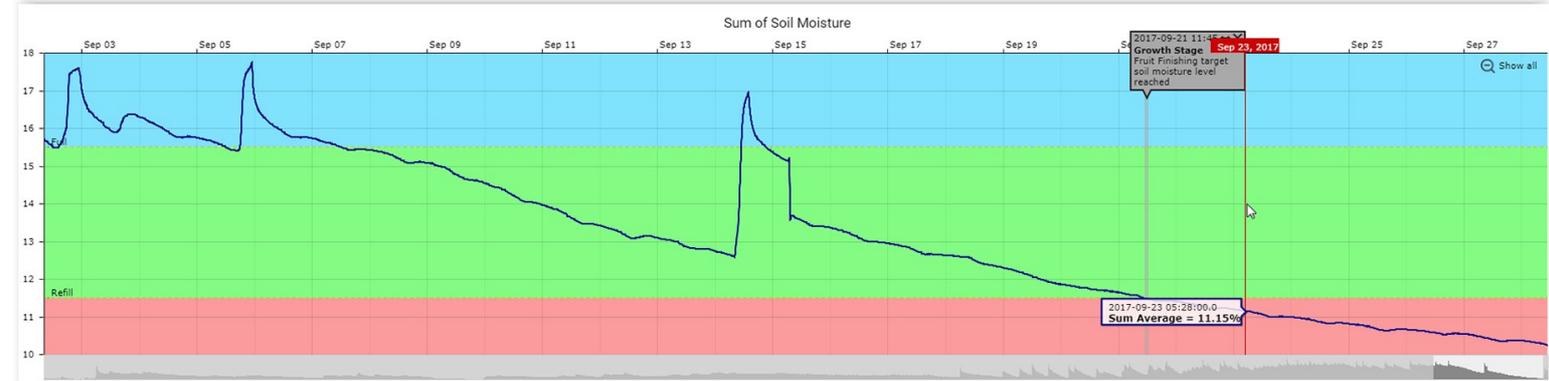
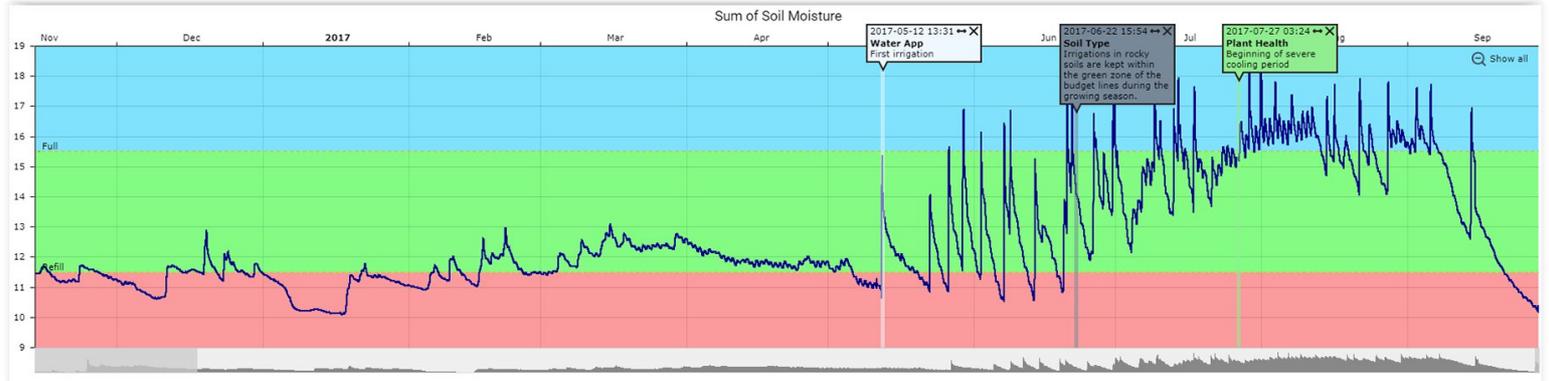
Davis Orchards Case Study – Fuji Apple

AgriNET products used: Soil Moisture Probes, Temperature/Relative Humidity Sensors, Weather Station
AgriNET services used: Evapotranspiration Crop, Disease Models, Soil Moisture Budget Lines, AgriNET App

The **soil moisture probe** data is used to continuously maintain effective and efficient soil moisture levels that allows for adequate plant available water and maximum oxygen content in soil. Maintaining budgeted levels keep valuable nutrients and fertilizer within the active root zone.

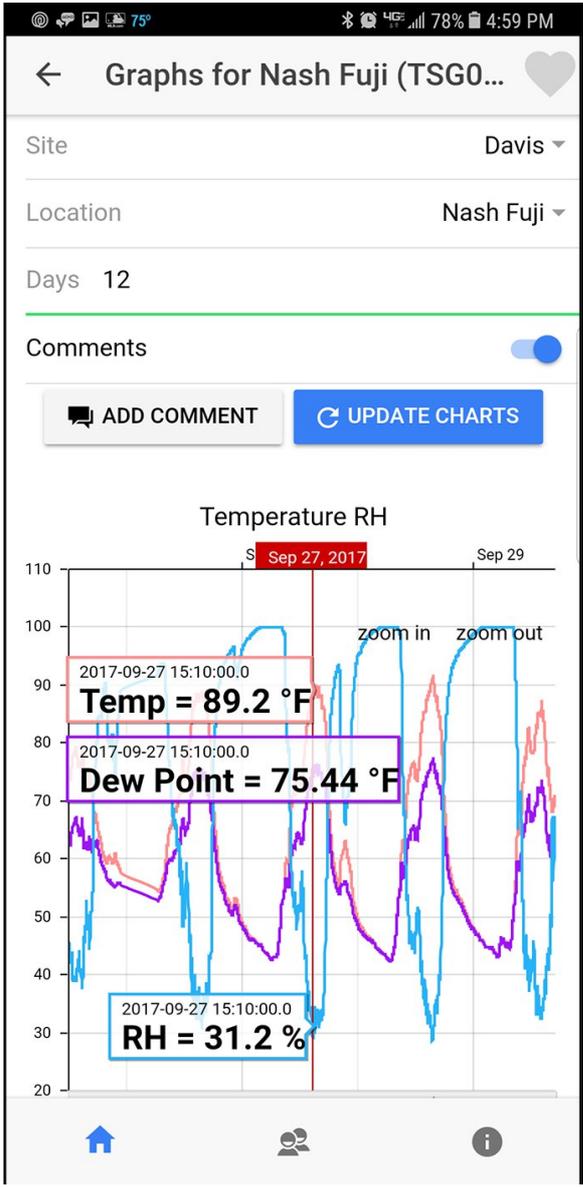
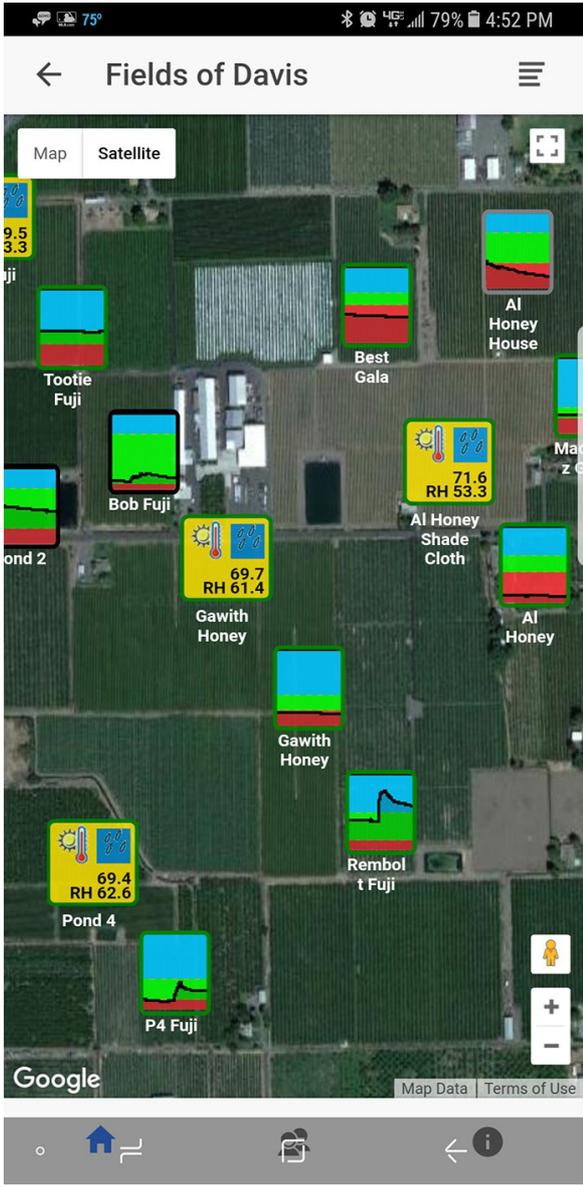


Because soil moisture was monitored during the winter, Davis Orchards was able to delay initial irrigation by six weeks. This delay saved 5-6 sets, which run for 4-6 hours each at 25 gallons per minute per minute, saving between 33,000 and 54,000 gallons of water per acre and the electricity required to pump it.



Davis Orchards uses soil moisture probe data to lower moisture levels before harvest during fruit finishing which increases yield and quality. Todd Davis says: "We've been using the system for three years and the improvements in yield, quality and savings in water use and electricity easily paid for the equipment in the first year." He adds: "Farming without these tools, would be like farming half blind. These tools harness science in the field and allow our irrigation lengths and intervals to be fined tuned for maximum efficiency."

Davis Orchards uses **Temp/RH sensors** to inform crop cooling and frost protection management decisions. Text message alarms prompt action when temperatures cross Davis' defined thresholds.



"The **AgriNET App** is a real time saver, with a quick look at my phone – all the information is right there. And if I want to take a closer look at something, I just tap the marker and up comes the graph. It helps me schedule my day, know where to go first, saves time and fuel." says Davis.

Davis Orchards uses a **weather station** to generate **ETc** and **disease models**. Understanding how much the water the crop requires on any given day, based on it's particular maturity model helps schedule irrigations. They run disease models for Fireblight and Codling moth. The disease models are run from data generated at the actual site, not from a public station miles away. When the model indicates high risk, a management decision to spray can be made. Reducing the number of ineffective treatments.

	C	ETAcc	C	ETref	ETcrop
4:00 am	0.000	2.449	0		
3:10 am	0.000	2.449	0		
2:00 am	0.000	2.449	0		
1:00 am	0.000	2.449	0		
2:00 am	0.000	2.449	0	0.13 in	0.195
1:00 pm	0.000	2.449	0.134		
0:00 pm	0.000	2.449	0.134		
9:00 pm	0.000	2.449	0.134		
8:00 pm	0.000	2.449	0.134		

Fire Blight Hourly Risk Model:
Version 98F.2
Temperature Basis of 60F

Davis Fuji	3 Day	Predict	4 Day CDH	R1	R2	R3
2017-09-29 05:40 pm	397.07	137.73	534.8	🌸	🌸	🌸
2017-09-29 05:30 pm	397.07	137.73	534.8	🌸	🌸	🌸
2017-09-29 05:20 pm	397.07	137.73	534.8	🌸	🌸	🌸

Codling Moth GDD Report base 50 - 88

Temp	GDD	Light	Eggs	avg T		
06-09 07:50 am	48.6F	0.0	567.3	73%	25%	46.7
06-09 07:40 am	48.5F	0.0	567.3	73%	25%	46.6
06-09 07:30 am	49.5F	0.0	567.3	73%	25%	46.6
06-09 07:20 am	49.5F	0.0	567.3	73%	25%	46.5
06-09 07:10 am	49.1F	0.0	567.3	73%	25%	46.4
06-09 07:00 am	48.5F	0.0	567.3	73%	25%	46.4
06-09 06:50 am	47.5F	0.0	567.3	73%	25%	46.3
06-09 06:40 am	46.8F	0.0	567.3	73%	25%	46.3
06-09 06:30 am	45.7F	0.0	567.3	73%	25%	46.3
06-09 06:20 am	45.1F	0.0	567.3	73%	25%	46.3
06-09 06:10 am	44.9F	0.0	567.3	73%	25%	46.3
06-09 06:00 am	44.8F	0.0	567.3	73%	25%	46.3
06-09 05:50 am	44.4F	0.0	567.3	73%	25%	46.4
06-09 05:40 am	44.0F	0.0	567.3	73%	25%	46.5
06-09 05:30 am	43.9F	0.0	567.3	73%	25%	46.5
06-09 05:20 am	44.2F	0.0	567.3	73%	25%	46.6
06-09 05:10 am	44.6F	0.0	567.3	73%	25%	46.7
06-09 05:00 am	44.9F	0.0	567.3	73%	25%	46.8
06-09 04:50 am	45.3F	0.0	567.3	73%	25%	46.8
06-09 04:40 am	45.6F	0.0	567.3	73%	25%	46.9
06-09 04:30 am	45.6F	0.0	567.3	73%	25%	47.0

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