

HOW ONE WASHINGTON STATE VINEYARD INCREASED BRIX COUNT AND ELEVATED VARIETAL VALUE BY 30%



OVERVIEW

In the driest region of Washington State, in the Pacific Northwest, growers of fruit and vegetables utilize various forms of irrigation, many to conserve water. For grapevine growers, drip irrigation is used to have better control over how much water the vines are receiving throughout the season. A technique called Regulated Deficit Irrigation is utilized, in the form of drip irrigation, to regulate water application as the plant needs it and to increase sugar content in the grapes prior to harvest.

Our IntelliRoot™ soil moisture sensors have been installed at a vineyard in Washington to gain knowledge and increase precision. The information helps determine the extent of dry-down that the soil undergoes before irrigation is needed. By monitoring soil moisture at various depths, close to the drip irrigation emitter, farm managers can use this data to manipulate moisture levels and make better-timed irrigation decisions depending on the needs of the plant and their goals for harvest. This results in an increase in quality, more diverse wines, higher brix counts, and reductions in water use.

The greatest benefit to wine grape production comes from giving the viticulturalist the information they need to customize the grape characteristics to the optimal value. For example, increasing the brix (sugar) content to produce a more expensive white wine. Or increasing the tannins and skin surface area to make a more complex red wine. They can also use the information to copy prize winning wines from previous years despite differences in environmental conditions.

Other drip-irrigation crops utilizing the IntelliRoot™ system include apples, blueberries, melons and peppers.



The Agrisource Data

IntelliRoot system and expert analysis helped us increase our brix count by 30% in one season.



PRIMARY BUSINESS CHALLENGES

- Water rationing requires minimal early-season use, so allotment lasts the full growing season
- Strong desire to increase value of product by applying water stress to increase brix

AGRISOURCE DATA SOLUTION

- Multi-unit IntelliRoot™ system on a 100 hectare vineyard irrigated by surface drip lines for one season.
- During the season, Agrisource Data worked with the viticulturist to determine optimal water requirements based on the growth stage of the vines.

RESULTS

- Safe irrigation reduction that stayed within rationed limits
- Successfully induced water stress at the appropriate time for the desired duration which increased sugar without negatively impacting yield
- Increased brix count and elevated varietal value as much as 30%

INTELLIROOT™ FEATURES & BENEFITS



MULTI-DEPTH

Sensors allow you to monitor moisture at multiple depths as well as predict future conditions. Soil temperature at 2", moisture at 8" & 16" (24" available if required).



EXTENDED RANGE

While most systems have limited range, our sensors can talk to each other from up to 4 miles away, meaning more fields covered by a single data.



DATA GATEWAY

Our data gateway can support up to 250 sensor locations within a 4 mile radius. More sensors per gateway means more savings to you.