

HOW INTELLIROOT™ SOIL MOISTURE SENSORS HELP POTATO AND CORN FARMERS INCREASE YIELD UP TO 50%



OVERVIEW

Many fields across the USA and other countries use pivot irrigation to grow crops through both winter and summer on a rotational basis. Large areas of land can be farmed this way with maximum coverage of applied irrigation. There is also a great variety of soil types in fields with pivot irrigation due mainly to their large size. For many farmers, challenges arise when multiple soil types are found in the one field. The soil heterogeneity across one field, and irrigated by a single pivot, can reduce yields based solely on using a single irrigation rate.

By utilizing soil moisture sensors across a field, and with accompanying soil analysis, a farmer can better understand the water dynamics across the entire field and see soil heterogeneity displayed in the subsequent data. A land manager can then use this data to help adjust irrigation application rates, irrigation timing and even install a variable rate irrigation system to provide heterogeneous irrigation application.

A return on investment by using soil moisture sensors will depend on the type of crop grown. However, when increasing precision on knowing the water holding capacity of each field, how long soil moisture is retained in a field and with better estimates on when irrigation needs to be applied, benefits are seen in both increased yield and a reduction of resource inputs. Using soil moisture data to trigger irrigation applications can keep soil moisture in the range of moisture for optimum growth, especially while crops are maturing and during critical phases of flowering and fruiting.

Our IntelliRoot™ soil moisture sensors are installed in a variety of fields with pivot irrigation, including potatoes, corn, and beans.

"YIELDS CAN BE AS MUCH AS 30-50% HIGHER"

RESULTS

- In dry years, yields can be as much as 30-50% higher by keeping moisture above maximum deficit thresholds, depending on crop and soil type.
- During wetter years, water savings by less frequent irrigation events can reach 20-30%.

AGRISOURCE DATA INTELLIROOT™ SOIL MOISTURE SENSORS

Simple, rugged, and affordable, the IntelliRoot sensor installs in just minutes, with no need for complex wiring or power. Once installed, the sensor transmits soil temperature and moisture data from multiple depths, every two hours, and provides an affordable, easy-to-use way to remotely monitor the subsurface moisture levels that results in prescriptive analysis to inform irrigation decisions before they need to be made, saving water, time, and money.



MULTI-LAYER INPUTS FOR COMPREHENSIVE INSIGHT



MULTI-SOURCE DATA

Multi-source data from across major agricultural regions provides insight on Ag management practices that increase yield, revenue, and brand value, improve water efficiency and limit scarcity, and improve wages and profitability.



SENSOR & DATA COLLECTORS

Sensors and Data collectors monitor the full spectrum of agricultural and operational activity, providing real-time alerts, insight into farm-level and national-level trends, and ensure optimal crop production and market delivery.



AGCLARITY™ ANALYTICS PLATFORM

By combining multi-source field-level data, securely stored in the cloud, with advanced artificial intelligence and machine learning, we're able to produce a comprehensive assessment of best and worst Ag management practices across a geographic region.