

## CASE STUDY PRECISION AGRICULTURE

# Hops grower increases yield with precision irrigation

## How a Canadian hop grower used smart data to increased yield, and ensure crop quality in extended drought conditions

Craft brewing is a fast growing market in Canada, and the demand for locally sourced ingredients a key driver in maintaining beer quality.

JGL Shepherd Farms - a pioneering hops grower in Western Canada, introduced Sensoterra soil moisture data after installing a subsurface drip irrigation system, in order to guide the irrigation schedule.

With an enduring summer drought, they saw an increase in crop yield of 300% than was expected. With plans to scale up production, Justin Shepherd intends to bring smart data to all his fields.

*"Sensoterra probes helps growers identify soil moisture behavior at the root zone. You learn plant behavior to seasonal changes, daily moisture, and growth sequence"*



*"The sensors pay for themselves within one season - and return the value to your crop."*  
Justin Shepherd - JGL Shepherd Farm

### HIGHLIGHTS

Seasonal yield increased  
**3-4 times expectations**  
under enduring drought  
conditions

### PARTNER

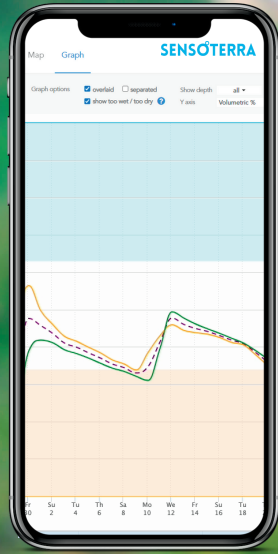
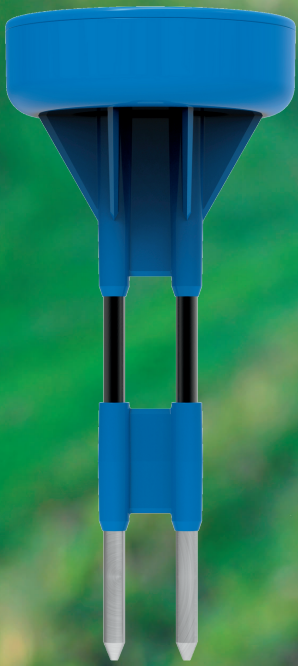
JGL Shepherd Farms

### CROP TYPE

hops, arable row crops

### CONNECTIVITY

The Things Network



Corn, soy, canola, and wheat are the most common crops grown in Western Canada. So when Justin Shepherd decided to introduce hops to his farm as a response to local demand by craft breweries, he was taking a leap into the unknown.

*"To be a pioneer demands fast learning about the functionality of new things, with no previous references to guide you."*

He allocated 1.5 acres for a pilot field, growing five varieties of hops, and installed subsurface drip irrigation to prevent evaporation and run-off as well as maintain the longevity of the system.

**Growth in the face of drought**

Droughts are becoming more frequent and severe in the Canadian prairie. In order to set irrigation schedules, Sensoterra probes helped Shepherd know exactly when and how much to irrigate.

**ABOUT SENSOTERRA**

Sensoterra, established in 2015, with its headquarters in Houten, The Netherlands, develops water management solutions for agriculture & horticulture, smart city management, and water governance. Sensoterra has more than 12,000 sensors in the ground globally, and generates hundreds of thousands of data points for smart water management, daily.

The post drought harvest, resulted in yield that was 3-4 times more than expected, and Shepherd attributes it to the data from Sensoterra sensors.

**Smart choice for IoT**

With the rapid increase of IoT as a precision agriculture technique, Shepherd believes the expansion of LoRaWAN connectivity is essential for the future of Ag Tech.

*"I'm excited to see the future of IoT, LoRa and soil moisture probes. Their potential to work with high-tech efficiency will add great values for farmers who make use of it."*

With this season's plans for expansion, JGL Shepherd Farm's hops are sure to be found across Saskatchewan craft breweries.

*"Growers who adopt IoT technology like Sensoterra will be successful with their ability to learn and innovate."*

*"The sensors pay for themselves within one season - and return the value to your crop."*  
Garry Beckett JGL Shepherd Farm



**ABOUT JGL SHEPHERD FARMS**  
JGL Shepherd Farms are the largest hop growers in Western Canada, and the go-to source for high quality hops. With 100% locally grown hops, JGL Shepherd Farms enables the best hops for a sustainable approach - farm to tap.  
[www.jglshepherdfarms.ca](http://www.jglshepherdfarms.ca)

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Netherlands Water Partnership