

# SENSOTERRA

we make sense of water

**CASE STUDY**  
**PRECISION AGRICULTURE**

## Greenhouse uses smart soil moisture data to save crop in drought

### **A greenhouse tomato and cucumber grower saves crop during extreme drought with Sensoterra sensors, and gains actionable insights into yield forecasting**

With extreme droughts occurring more frequently, Danny Monté, Forecast & Quality Control Manager at AC Hartman BV, relies on Sensoterra soil moisture sensors to support irrigation decisions for greenhouse crops. By irrigating at the absolute minimum requirement during an extended drought, he was able to maintain crop vitality and prevent permanent wilting, saving the crop.

Governmental restrictions were placed on irrigation during the drought, preventing farmers from drawing out excessive groundwater, for fear of unrecoverable freshwater losses. This resulted in many farms losing crops having massive implications on Dutch agriculture. However, in the case of AC Hartman, greenhouse crops were maintained, and yield was better than expected.

*"Sensoterra sensors are important for every type of crop. They become essential in drought scenarios."*

*Danny Monté, Forecast & Quality Control Manager  
AC Hartman B.V.*

#### **HIGHLIGHTS**

Consistently irrigated just above crop wilting point to save yield during extreme drought

#### **PARTNER**

AC Hartman

#### **GREENHOUSE**

Drip & overhead irrigation  
Tomatoes, cucumbers, peppers

#### **CONNECTIVITY**

KPN

**SENSOTERRA**

To learn more visit [www.sensoterra.com](http://www.sensoterra.com), or contact us at [info@sensoterra.com](mailto:info@sensoterra.com)

 **A.C. Hartman**

AC Hartman BV specializes in controlled environment growing of tomato, sweet peppers, chilli and cucumber crops. The greenhouses covers 40 ha. Growing organics is challenging due to crop sensitivity, yet satisfying when the perfect quality is achieved for buyers and consumers alike.

### Yield Forecasting

In order to provide buyers with the best indication on crop yield and quality, crop behavior must be monitored constantly.

*"Before having Sensoterra sensors, predicting yield was a very complex task."*

Water availability plays an important role in yield prediction, and production management must be extremely precise in order to match buyer expectations.

Proper forecasting insights also prevent harvest waste - allowing Monté to find buyers when yield is above expectation, as in the case of the 2019 summer season.

### Extended Drought

When drought threatened crop yield, soil moisture data levels, in combination with air humidity and transpiration, were constantly monitored to identify production potential.

*"There is no room for food waste. We must use precision data to accurately know the timing of the growing season."*

The greenhouse uses a drip system combined with overhead sprinklers. Based on his learnings, Monté determined that irrigating at the root-zone improved crop health, prevented oversaturation of top- soil and mitigated fungal outbreaks, and stimulated generative growth.

However more frequent an severe droughts threaten plant health and production.

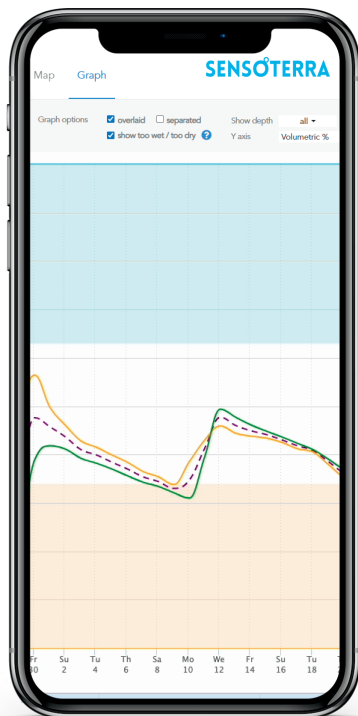
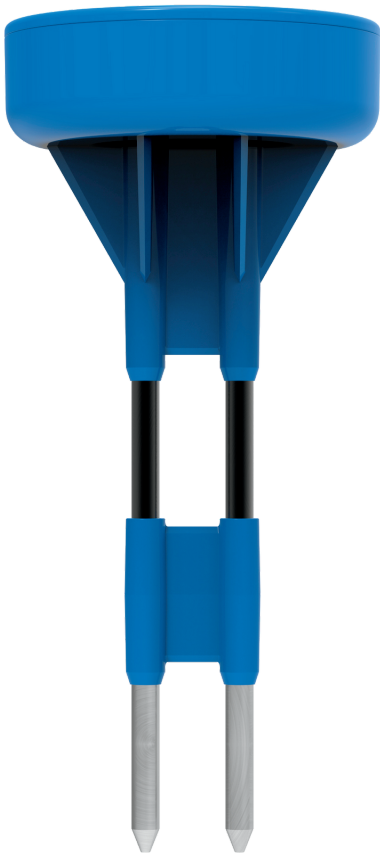
*"The waterboard prohibited pumping of canal water due to the drought."*

### Preventing crop wilt for yield

In order to irrigate an existing rainwater water tank was used. During the drought, the water tank levels steadily decreased, but with the use of Sensoterra, Monté was able to irrigate consistently just above wilting point, to ensure crop health.

When the drought finally broke, the tank was within 5% of total depletion - less than a few days left to irrigate. Had the tank emptied, the crop would have been lost.

*"Sensoterra is important for every type of crop. However, the sensors are essential in drought scenarios."*



*"Sensoterra is my daily tool to make the right irrigation decisions."*

Danny Monté, AC Hartman BV

### ABOUT AC HARTMAN BV

AC Hartman BV is a Dutch household leader in the greenhouse horticulture sector. AC Hartman products are 100% chemical-free providing the best quality produce for large multinational grocers in the Netherlands and abroad. AC Hartman is part of the Fruit Farm Group. [www.achartman.nl](http://www.achartman.nl)

### 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.

### IN PROUD PARTNERSHIP WITH



Netherlands Water Partnership