Aranet Sensor System

Importance of Monitoring in crops Growing in different types of growing media

Webinar 2026

Sean Whitworth
Senior Growing Media and Fertiliser Specialist

Sean.Whitworth@Fargro.co.uk
07788 929 796

Aranet in Holistic Growing

- Data-driven approach.
- Maximise value & efficiency from inputs:

  Fertilisers, biological controls, irrigation, heating

- Aids a preventative approach – early action.

The Aranet System:

Sensor
Place in the growing environment for continuous data collection

Base station
Collects and stores data wirelessly from sensors

Aranet Cloud
View trends, set alerts and compare data on the dashboard

Base Station

- **Base Station PRO PLUS LTE:**
  - Needs either Wi-Fi or a SIM card
  - Needs mains power.
  - Place as high as possible to maximise range!

- With any base station, the following also need to be ordered:
  - IEEE 802.3af PoE injector
  - Protective case IP44 for PoE injector

Use Cases

- Nematode applications
- Biological introductions
- Tailoring autumn/spring feeds using EC
- Disease pressures & dew point
- Understanding effects of heating and venting
- Biopesticide applications
- Irrigation management
- Monitoring plant activity & VPD

CO2 & Temperature Sensor

IR Plant Temp

PAR Sensor

Drainage kit

Tray weight sensor

Temp/Relative Humidity

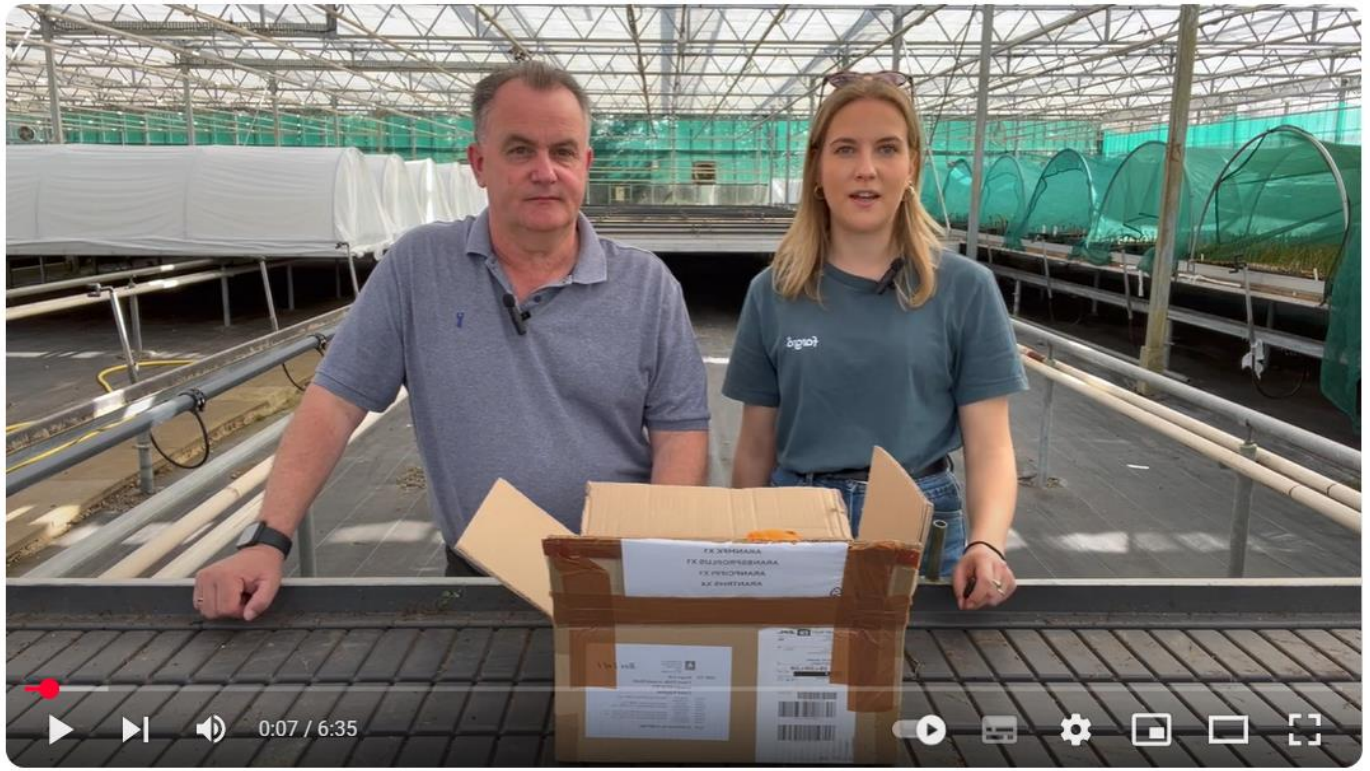
WET150 (Soil moisture, temp, EC)

Soil Moisture Sensor

IR Plant Temp

Temp/Relative Humidity

Aranet Sensors: A step-by-step installation guide



Aranet Sensors: A step-by-step installation guide

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https://youtu.be/sZ22O14sZ0o?si=mjA1mFdW5P5gnEIO

Aranet Cloud

- Visualise and present sensor data
- View and download live and historic dat

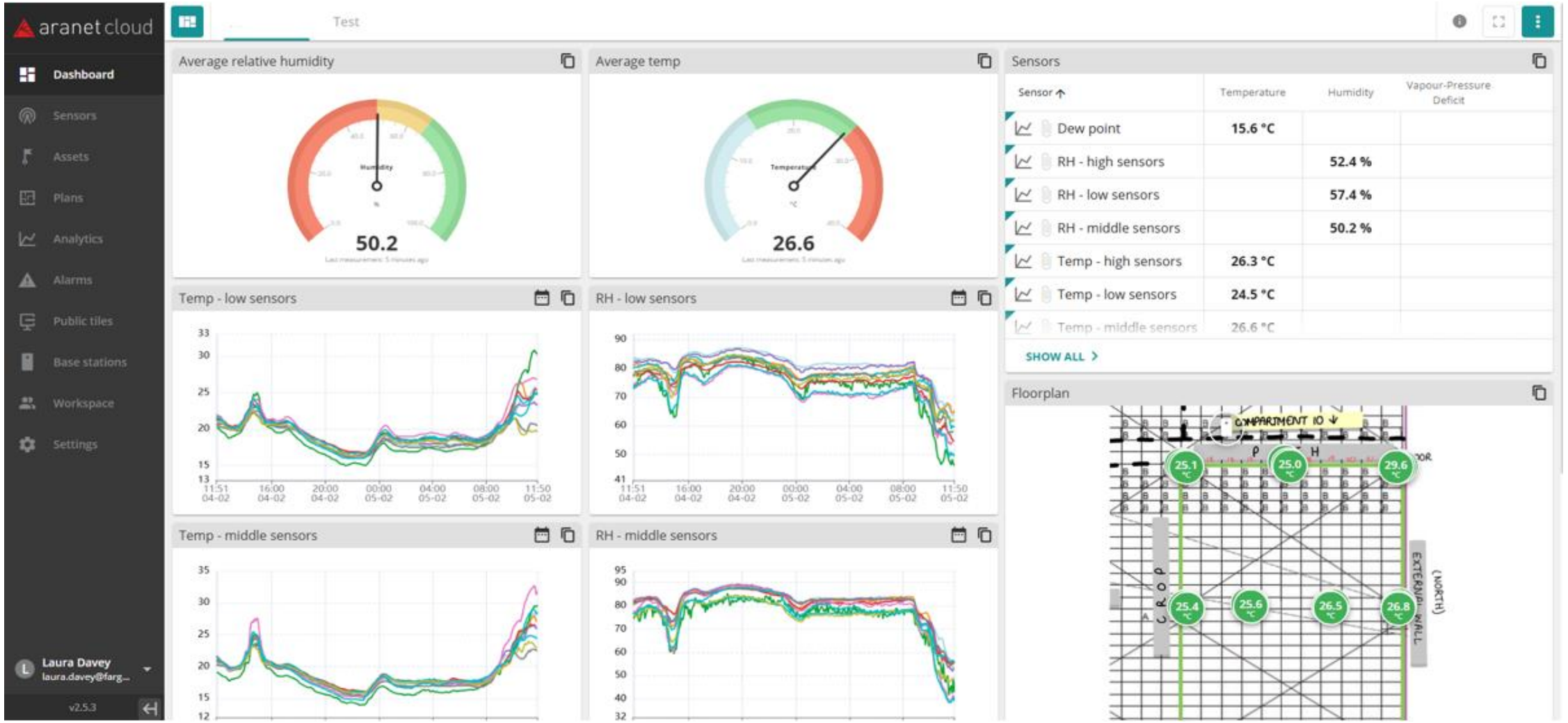
Pricing:

Annual subscription fee: Dependent on the number of base stations and sensors that you have connected.

Product/upgrades
Cloud PRO service for Base Station x1
Cloud PRO service 12 sensor pack
Cloud PRO service 50 sensor pack
Cloud PRO service 100 sensor pack
Cloud PRO service 1000 sensor pack

Aranet dashboard

aranet



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Alarms

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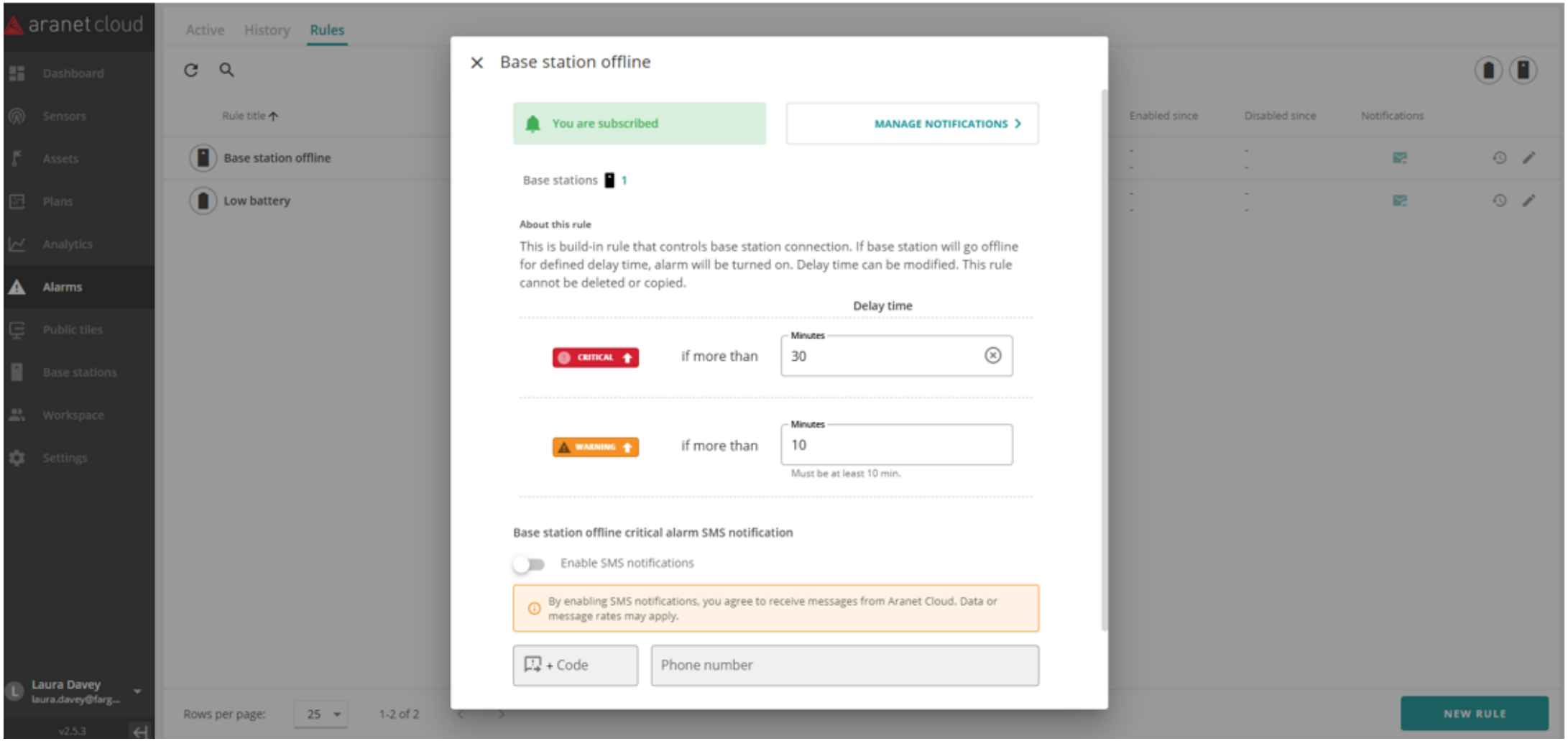

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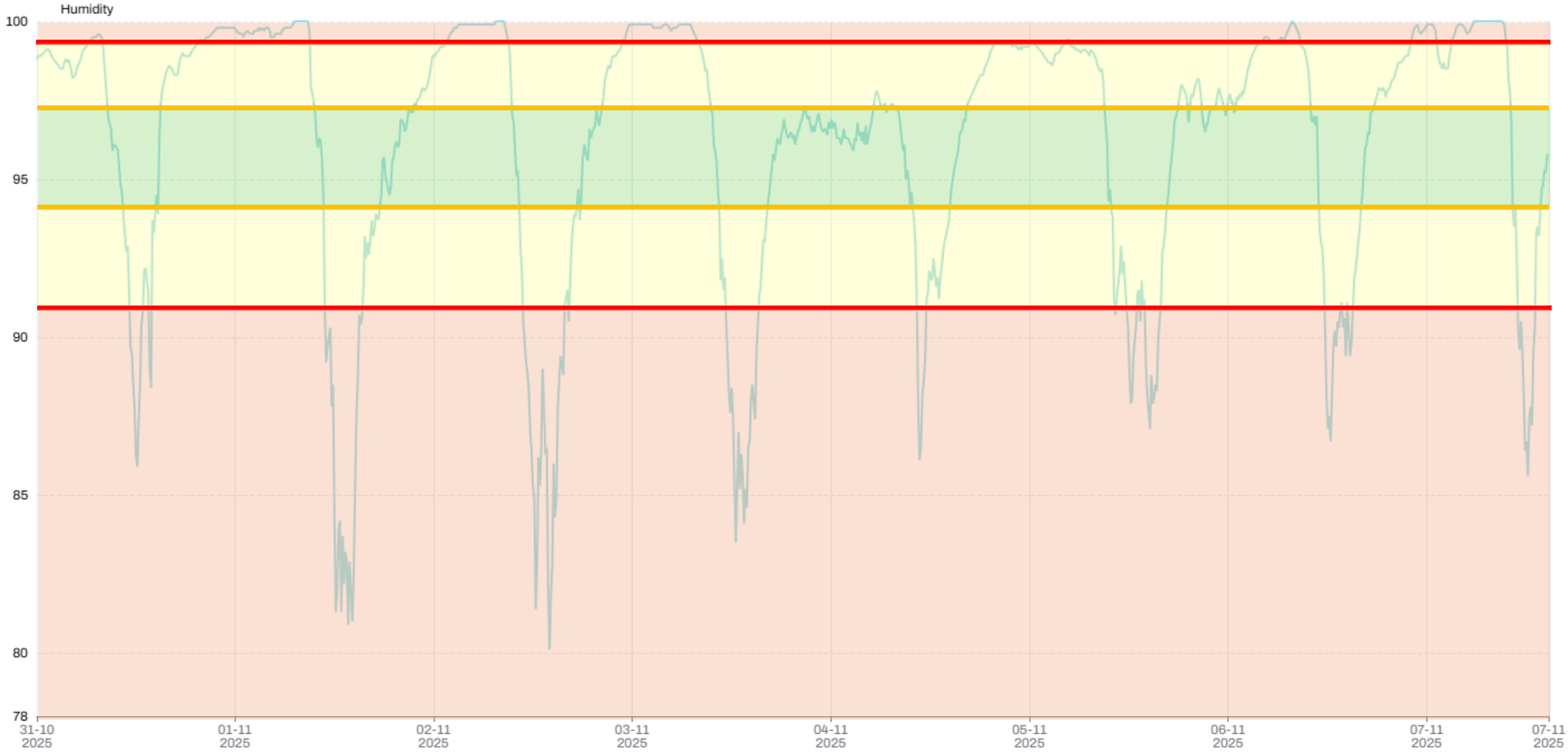

Humidity
100
95
90
85
80
78
31-10 2025
01-11 2025
02-11 2025
03-11 2025
04-11 2025
05-11 2025
06-11 2025
07-11 2025
07-11 2025

Kerley & Co

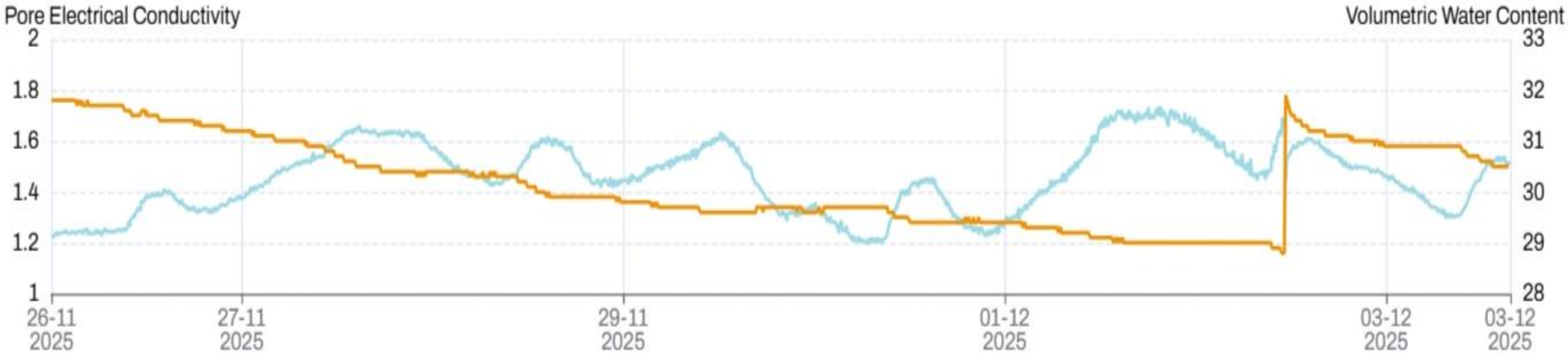
Plant breeder based in Cambridgeshire

Sensors:

- Temperature/Relative Humidity Sensor
- Soil Moisture Sensor
- WET150 Soil Sensor
- IR Plant Temperature

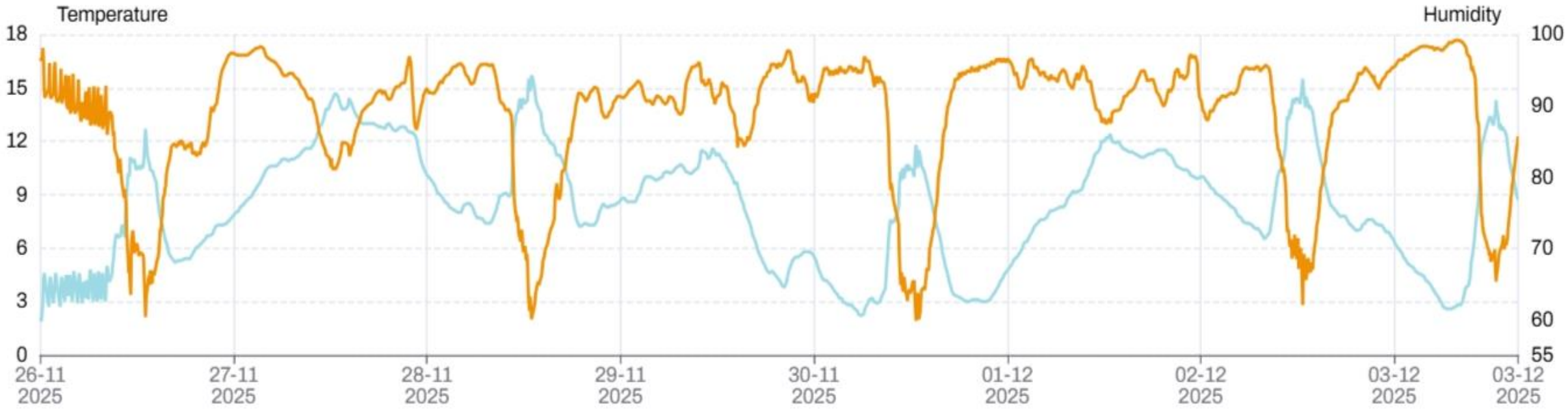
Kerley & Co
Breeders of Novel Patio Plants

Pore EC and Volumetric Water Content



Pore EC + IR Leaf Temp + Soil Temp

Temperature and Relative Humidity

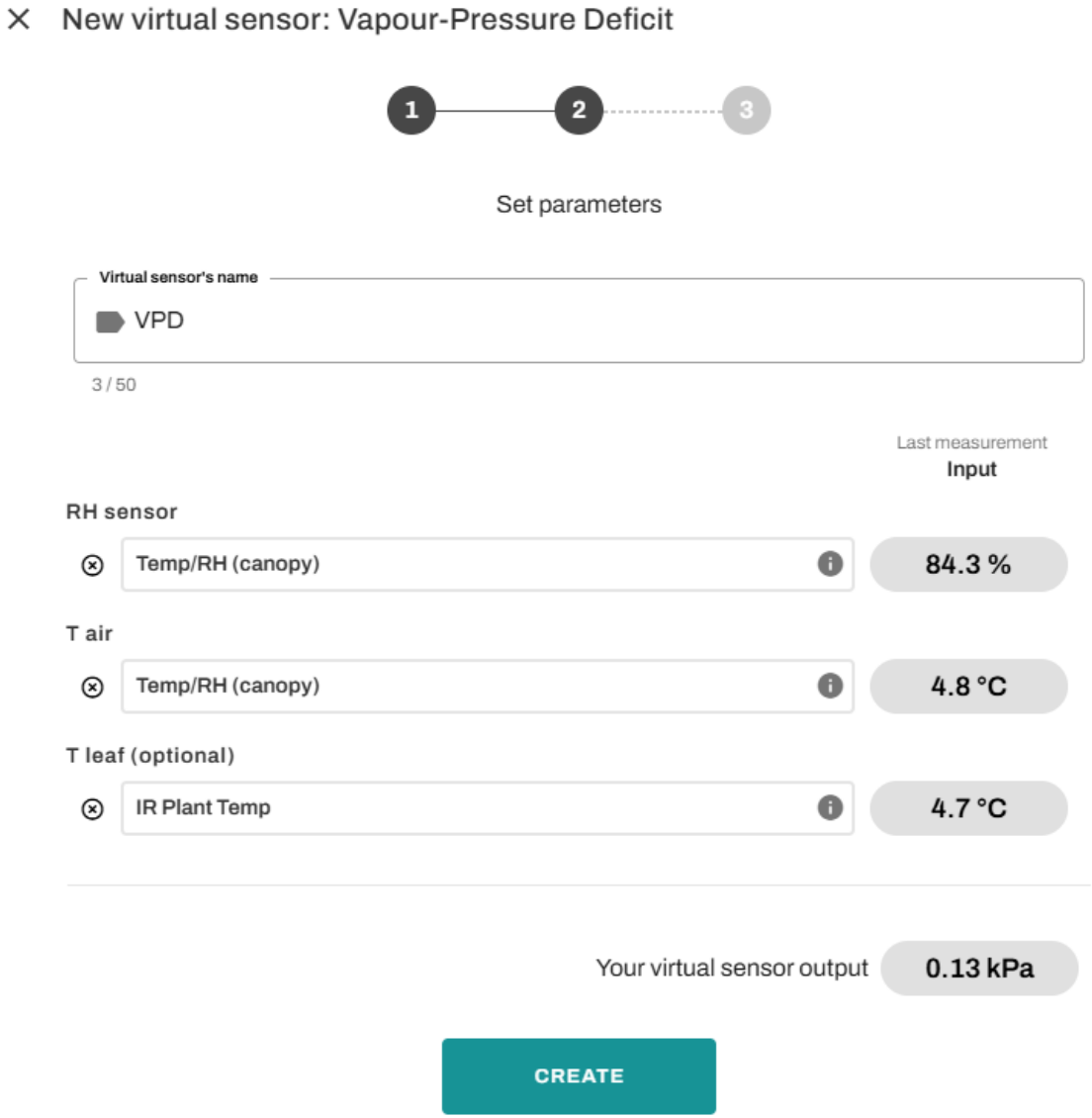


Calculating VPD with Aranet

+

Air temperature & Relative humidity

IR Plant Temperature



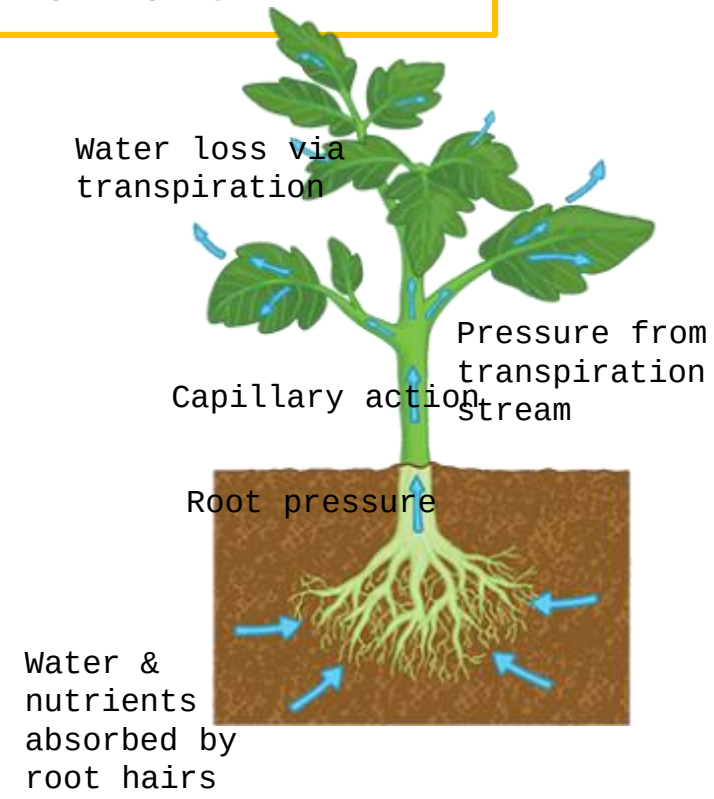
Vapour Pressure Deficit (VPD)

= difference in pressure between the inside of the plant, and its surrounding environment

- Plants take up water and dissolved nutrients via root system
- This uptake is driven by water pressure differences throughout the plant (soil/root, root/stem, leaf/air)

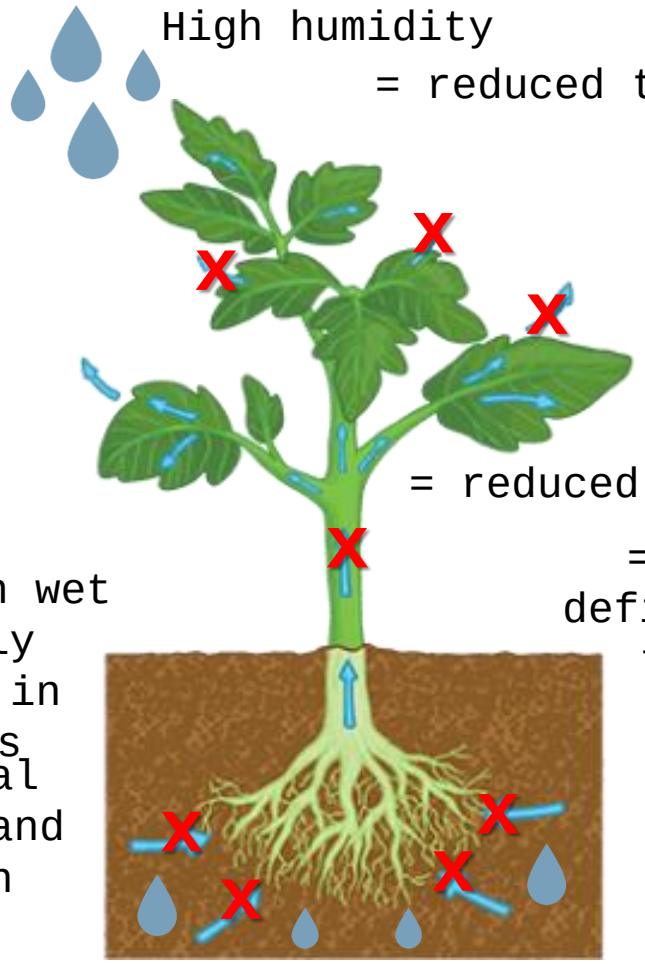
= TRANSPIRATION

- To maintain transpiration stream, the plant must release water vapour through stomata
- Water vapour needs ‘removing’ (by ventilation) to maintain the transpiration stream



LOW VPD:

High humidity
= reduced transpiration



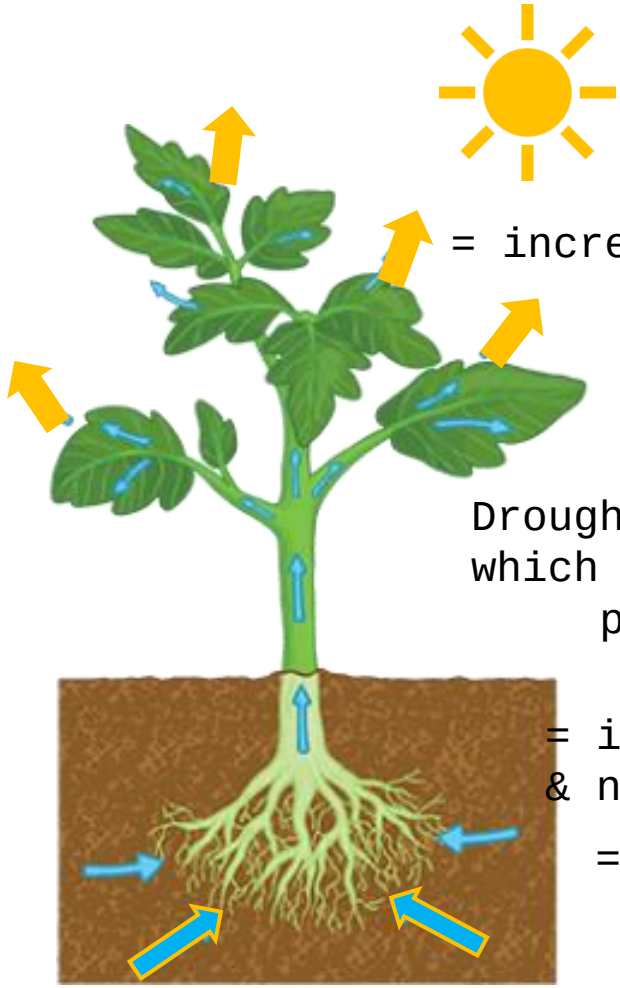
= reduced water uptake

= nutrient deficiencies in the plant

Soils remain wet and highly saturated in nutrients

= potential root rots and root burn

HIGH VPD:



= increased transpirati

Drought adaptations which lead to yield penalties

= increased water & nutrient uptake

= nutrient toxici

= dry soils

To correct extremes of VPD…

LOW VPD:

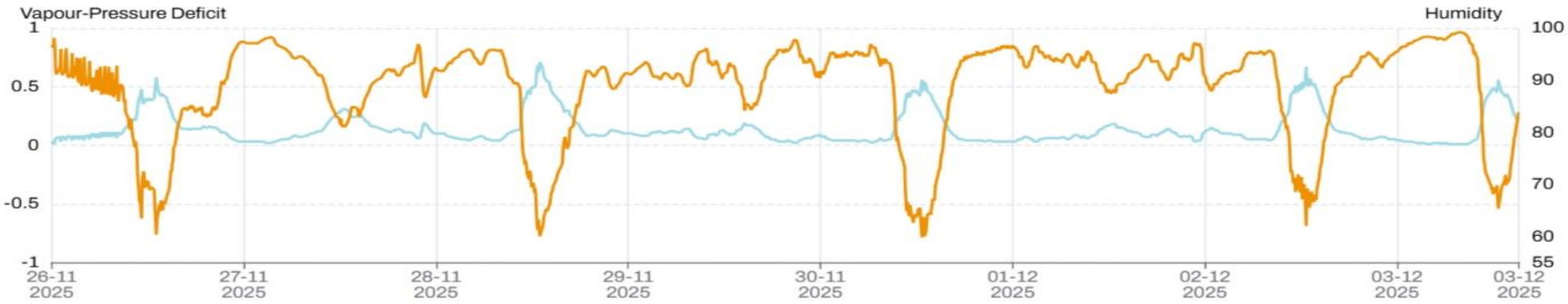
- Increase temperature
  - Heating
- Reduce humidity
  - Fans, ventilation
- Decrease irrigation
  - Don’t let plants sit wet
- Monitor nutrition
  - Reduce risk of deficiency

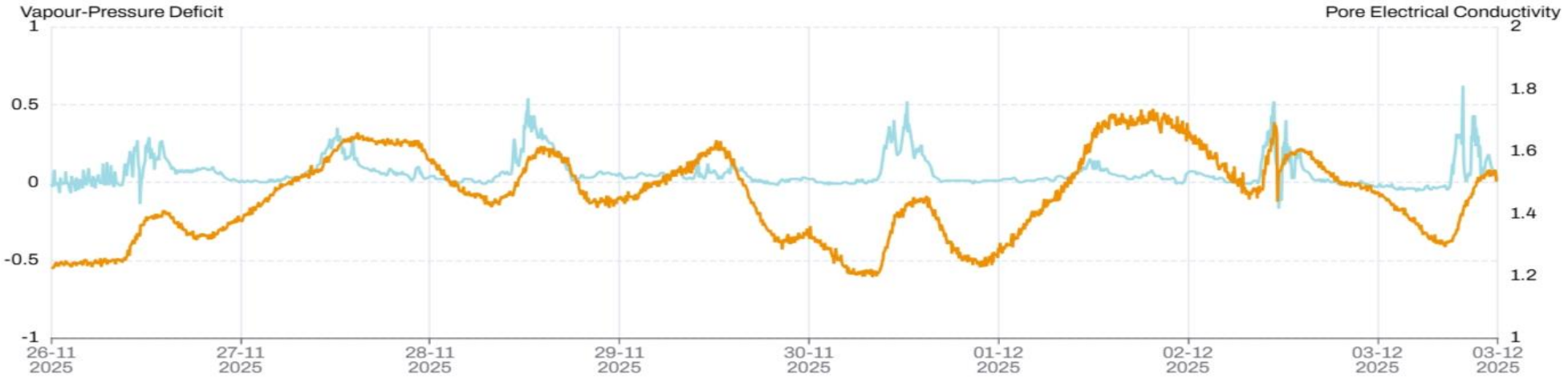
HIGH VPD:

- Decrease temperature
  - Open vents
- Increase humidity
  - E.g. overhead watering
- Monitor nutrition
  - Reduce risk of toxicity

Using VPD to our advantage:
E.g. high VPD can encourage rapid growth and increased fruit sugar content

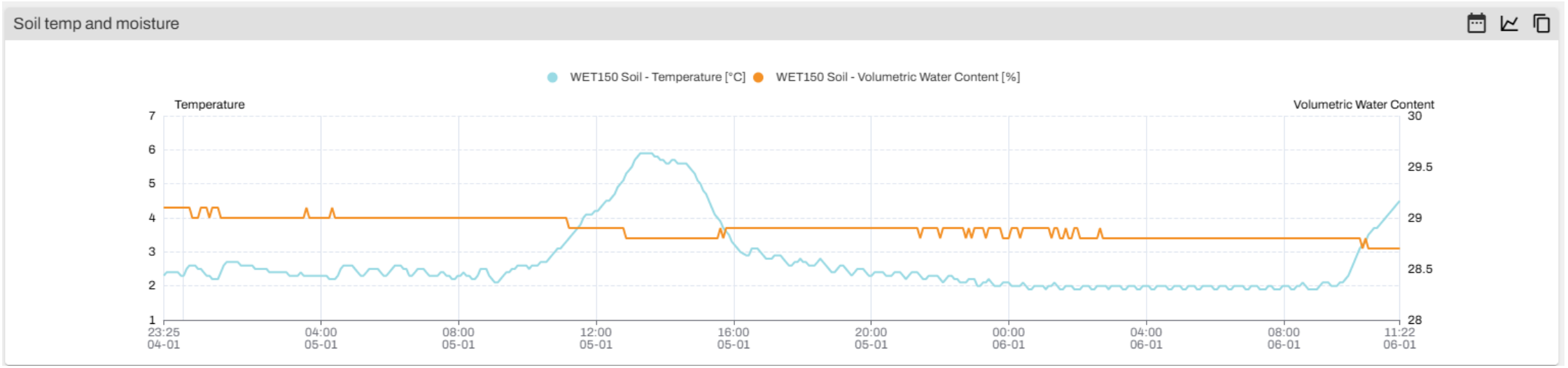
VPD + Relative Humidity + EC

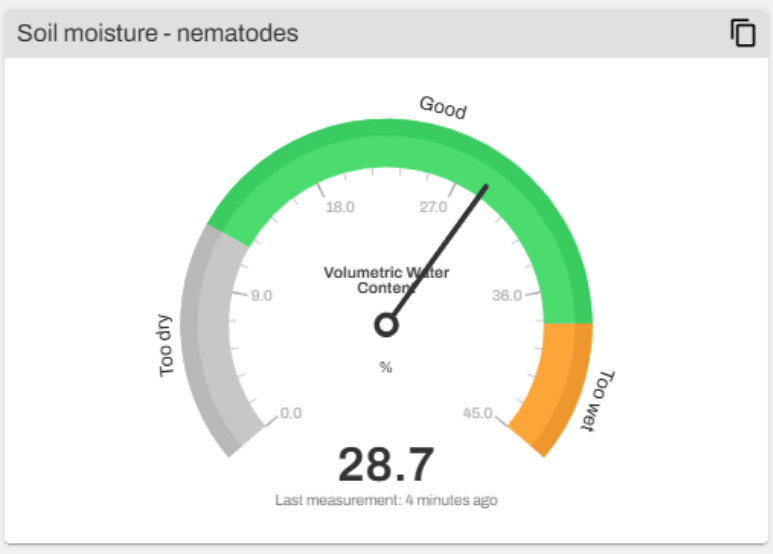


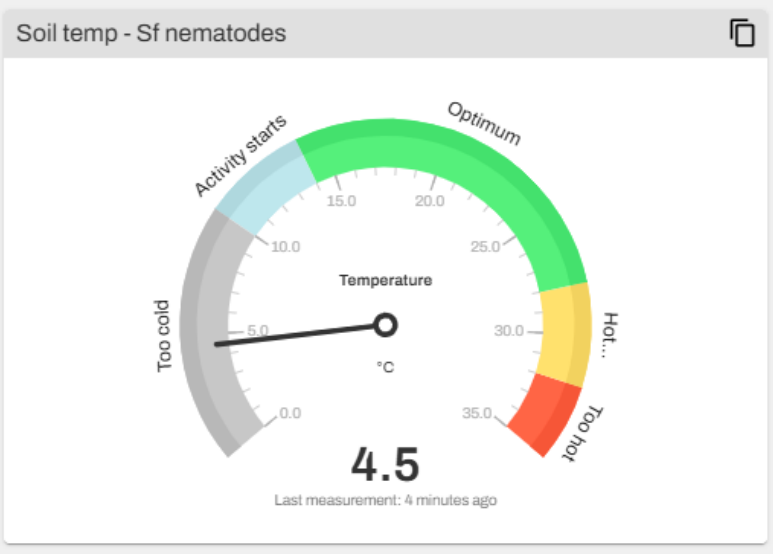


Biological applications

Nematodes

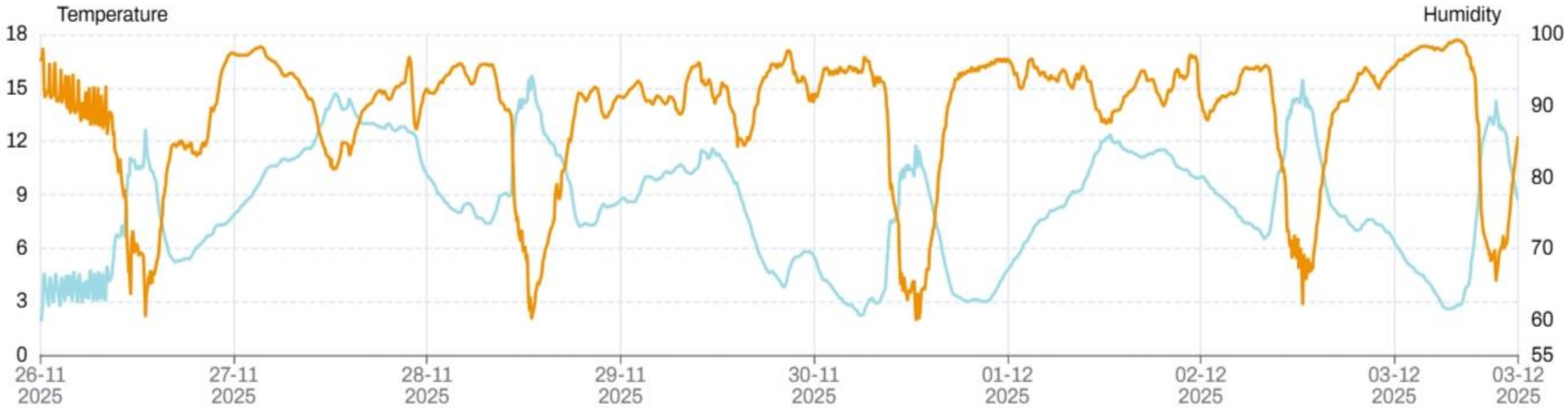

Soil temp and moisture
WET150 Soil - Temperature [°C]
WET150 Soil - Volumetric Water Content [%]
Temperature
Volumetric Water Content
7
6
5
4
3
2
1
30
29.5
29
28.5
28
23:25 04-01
04:00 05-01
08:00 05-01
12:00 05-01
16:00 05-01
20:00 05-01
00:00 06-01
04:00 06-01
08:00 06-01
11:22 06-01


Soil moisture - nematodes
Good
18.0
27.0
9.0
36.0
Too dry
Volumetric Water Content
%
0.0
45.0
Too wet
28.7
Last measurement: 4 minutes ago

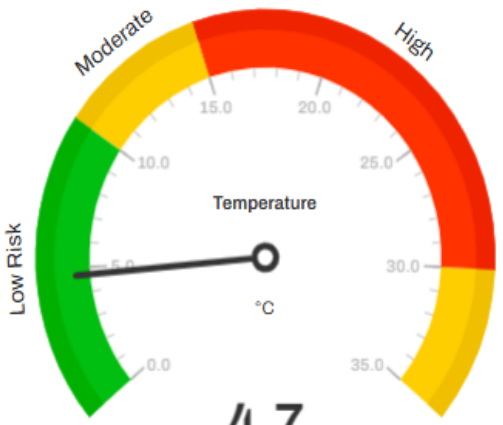

Soil temp - Sf nematodes
Activity starts
Optimum
15.0
20.0
10.0
25.0
Temperature
Too cold
5.0
30.0
Hot...
°C
0.0
35.0
Too hot
4.5
Last measurement: 4 minutes ago

Biofungicide applications

Temperature and Relative Humidity



Botrytis Temperature Gauge



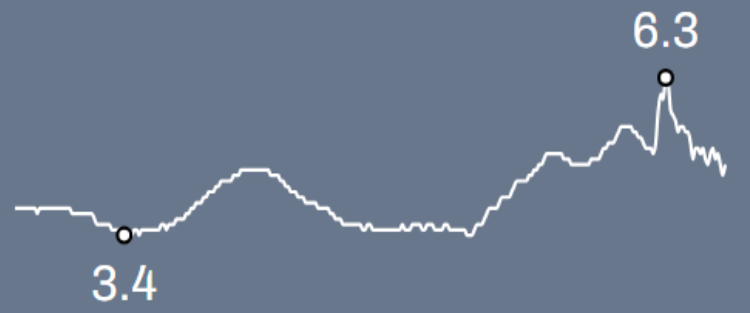
Last measurement: 2 minutes ago

Botrytis Humidity Gauge

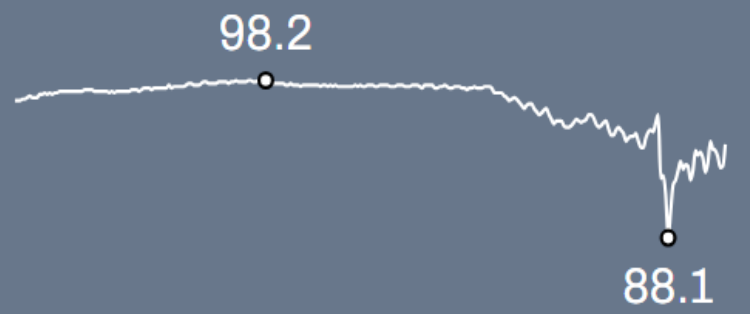
Last measurement: 2 minutes ago

Botrytis 24 Hour Monitor

4.7°C



94.1%



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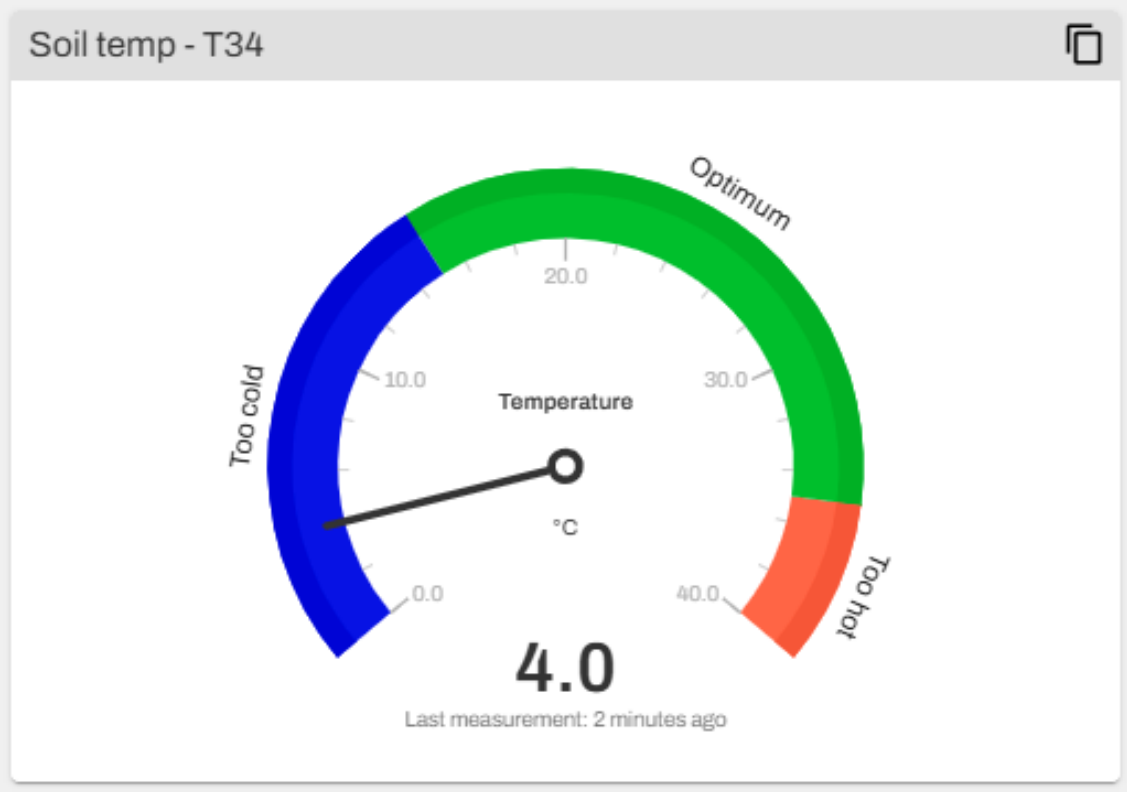
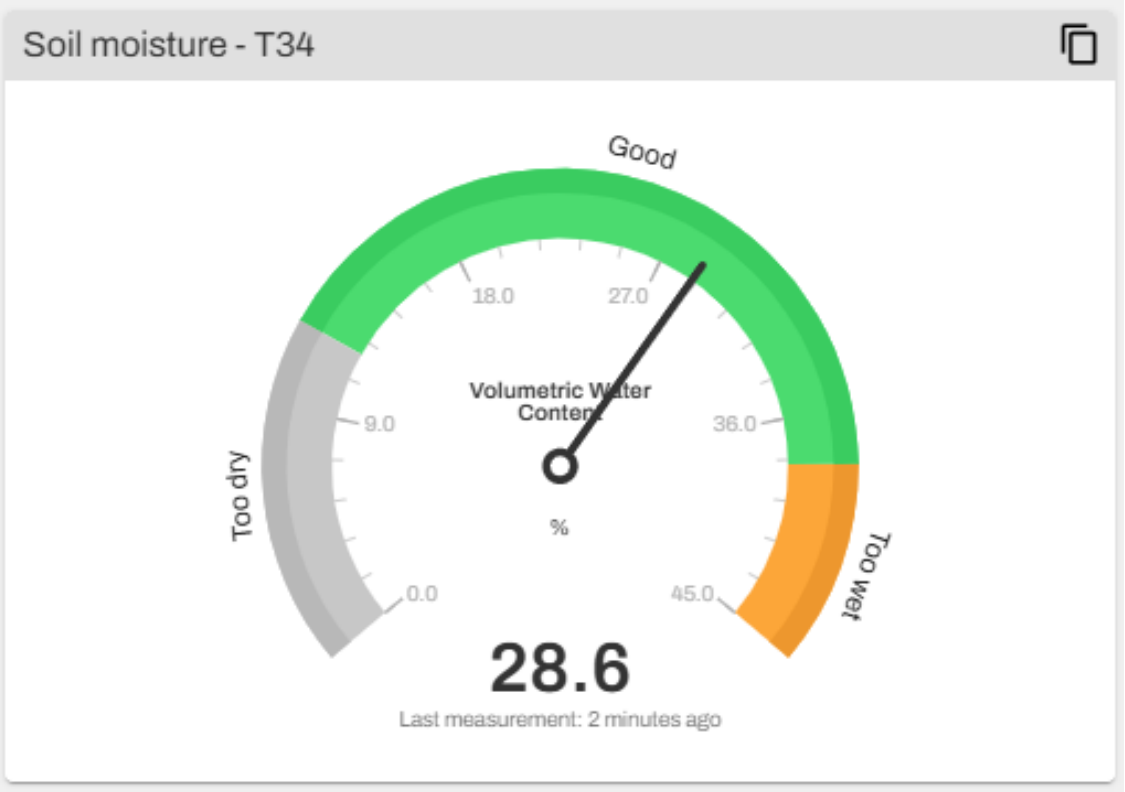
T34


Soil temp - T34
Too cold
Optimum
Too hot
0.0
10.0
20.0
30.0
40.0
Temperature
°C
4.0
Last measurement: 2 minutes ago


Soil moisture - T34
Too dry
Good
Too wet
0.0
9.0
18.0
27.0
36.0
45.0
Volumetric Water Content
%
28.6
Last measurement: 2 minutes ago

*"The Aranet sensors have been of **huge benefit** to me and to the business on a day-to-day level. I use them every day to check on the trends and **they give me confidence to make changes to the crop** accordingly. Furthermore, I believe they have resulted in **better quality fruit with no fruit splitting events to date.**"*

APS Salads, tomato grower.

aps group

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