



EXOSKIN

Sap Flow sensor

What can the EXOSKIN detect?

Detection of **drought stress** before wilting symptoms are visible. Irrigation scheduling is also possible, combined with stem water potential and soil water potential measurements.

How do you use the EXOSKIN?

Place **sensor around the stem** and connect with a **datalogger**. Follow-up the sap flow during the day. Place at least **3 sensors scattered around the field** to reach a conclusion.

Scientific background & interpretation of the results

The sap flow or energy balance sensors measure the amount of heat carried by the sap which is converted to sap flow in grams or kilograms per hour. This is the water consumption of the plant.

If plant experiences drought stress:

- ➔ Less uptake of water from soil and/or less transpiration = less heat carried by the plant sap
- ➔ Sap flow rate will decrease ↓

Pros & Cons

- + fast, accurate and continuous measurement, non-destructive, result can be interpreted by grower, can tell directly if plant is consuming more or less water
- relatively expensive, one system is not enough to monitor in practice, time-consuming installation, installation knowledge required, data logger required

Price range: € 5000 – 10000

Company: Dynamax

More information?

<http://dynamax.com/products/transpiration-sap-flow/dynagage-sap-flow-sensor>