FloraPulse Co
720 Olive Dr Ste E
Davis CA, 95616
(530) 220 – 7668

Updated: September 9, 2024

FloraPulse product fact sheet

Subscription service (USA growers only)

- The FloraPulse subscription service costs $X,XXX per year per installed system.
- Each system is installed in and measures the water status of a single tree to provide irrigation recommendations for the irrigation block. Two sensors are installed onto the same tree to increase the overall reliability.
- The hardware is owned by FloraPulse and is leased to the end customer. The dataloggers cost ~$1,200 and must be returned to FloraPulse upon end of the service. FloraPulse will provide a shipping account for this purpose.
- The systems are easy to install and take ~30 minutes each to set up. We provide written and video instructions, and the systems are generally installed by the customer. We provide all the tools, except a mallet and battery powered drill. Please contact us if you have concerns with self-installation and we can discuss other options.
- We recommend that sensors be replaced once a year at the beginning of the growing season. FloraPulse will provide replacement sensors, sent over postal mail, every year at no cost as part of the subscription.
- The FloraPulse systems require cellular service to upload data. Please verify that you can reliably access the internet from your smartphone at the installation location before placing an order. You may buy a high gain antenna from us to improve the cellular reception.

Analog and SDI12 sensors

- Sensors should be used within 12 months of receipt for best results. The nanoporous membrane is designed for installation within xylem and will degrade if stored unused for longer than a year.
- The current FloraPulse probes are semi-reusable. They can be removed and re-installed in a different tree, but will sometimes break during this process. We cannot guarantee good results with re-used probes. We recommend installing and leaving each sensor in the same tree for the life of the sensor.
- The probes are guaranteed to measure accurate SWP for one growing season. Our sensors are used in a large variety of crops and climates, and sometimes break during winter due to freezing temperatures, mechanical harvesting, rodents or other unforeseen circumstances. We thus recommend that FloraPulse sensors be replaced once a year at the beginning of the growing season for the highest accuracy.
- Analog sensors require the use of a datalogger for power and readout. We recommend an excitation voltage of 1-10V (preferably 1V), with short excitation pulses (10 ms) to prevent heating of the water reservoir. Each sensor outputs a signal within ±32 mV with a sensitivity of approximately 200 µV/bar.
- In critical applications, we recommend installing two sensors into the same tree or vine for validation and maximum reliability.

- If a sensor malfunctions, or has issues during installation, we will work with you to make things right and send replacements if necessary.
- We discourage the use of our analog and SDI12 sensors for growers. Raw sensor data can be difficult to interpret for irrigation decisions and is most appropriate for scientific research. We recommend that growers use our subscription service. This service includes yearly replacement sensors and cloud-based display of analyzed data and irrigation recommendations through a smart-phone app or webpage.
- Growers may also buy from one of our distributors. Some distributors resell FloraPulse SDI12 sensors and will generally do the sensor integration.

Pricing

- The FloraPulse sensors have been under development for 15 years, with millions of dollars spent in R&D. They are the world's first sensors capable of reliable measurement of SWP in multiple crops for a year or longer.
- Our goal is to provide the most advanced, highest performance water status sensors, and great customer service. This technology and service is expensive to provide and we charge accordingly. We believe the data is worth it.
- We generally cannot provide free trials. We depend on profitable sales to pay for the hardware, manual labor, and data costs associated with providing a high-quality, reliable product for agriculture.

Validated crops

- The sensor has been tested and validated, to varying degrees, in various crops. The lists below catalog the status of various crops – for a comprehensive list see our crop validation database. We recommend typical growers stick to **validated** crops. Scientists can test our systems in **experimental** and **untested** crops. We do not recommend use at all in **not recommended crops** because our testing indicates that the sensors usually flood and only measure zero SWP.
- **Validated crops**– the sensor has been tested successfully against the pressure chamber. Recommended for growers everywhere: almond, prune, apple, peach, apricot, plum, cherry, olive, hazelnut, grapevines. Crops should be at least 0.75" in diameter.
- **Experimental crops** – crops show promising data, but need more testing and sometimes have issues. Recommended for scientists and growers who like experimentation: citrus, pear, pistachio, mango, corn, blueberry, tomato, and any small/green crop.
- **Not recommended crops** – the plant wounding response currently prevents accurate measurement in these crops. We are developing a fix for these issues – hopefully coming soon: walnut, avocado, pecan, persimmon.

Installation

- Sensors should be installed in trunks at least 0.75" in diameter. Installation into smaller trunks is possible with our smallest sleeves, but this process is more error-prone and the data may not be as good.
- The sensor should only be installed in healthy, vibrant woody plants. Installation into diseased or very old crops is not recommended and will likely cause problems.

- We recommend sensors be installed in the early spring after the tree/vine leaf out because all of our testing has been with sensors installed post-dormancy. Installation during dormancy could cause unforeseen issues with the wounding response. Sensors can also break during the winter in particularly cold places. The sensor contains a small volume of water that will freeze at a particular temperature below 0 °C. We thus recommend that new sensors be installed every spring for the best reliability.

Payment terms

- Orders are generally paid in advance, unless with explicit credit approval. Late payments for invoiced orders will incur a 1.5% late fee per month.