

Weather Station

We recommend installing a weather node at your operation, which is connected to a number of sensors that measure environmental data. These are typically air temperature, relative humidity, and vapor pressure deficit (VPD), photosynthetically active radiation (PAR), a rain gauge and an anemometer (wind speed and direction). You can learn more about weather stations in our learning module at <https://myelms.umd.edu/courses/1110351>

Although the data are useful to growers to precisely measure their microclimatic conditions on the farm, it is the additional information that the Sensorweb software can calculate that provides very powerful information for informing daily decisions.

This integrated data includes “Degree Days,” used for calculating insect emergence rates, and hence timing and targeting pesticide applications appropriately.

Chilling hours (predicting bud and flower emergence for fruit growers) can also be easily tracked, enhancing pollination decisions.

Leaf wetness measurements can be used to predict disease outbreaks. This information, combined with real-time wind speed and direction data can significantly increase the efficacy of agrochemical sprays, to help avoid costly mistakes.

Many additional predictive models are being integrated into the software over time, adding to the value of the information that sensor networks provides farmers, to improve timing, resource use efficiency, productivity and ultimately profitability.



Figure 13. It is recommended that you install a weather station node at your operation. It is invaluable for providing information about your microclimate, and is used by the software to calculate a number of factors (degree days, chill hours, etc.).