GROWERTALKS

Features

6/1/2023

Remote Controlled

Bill Calkins

Professional growers operating greenhouses of all sizes are turning to remote monitors and wireless sensors to read and record environmental data. These units aren't intended to replace comprehensive environmental control systems, but instead allow you to measure environmental data in different ways, across more locations and in application-specific situations.

Having the ability to see a snapshot of conditions like temperature, humidity, light levels, soil moisture, oxygen, microclimates and more on your phone, tablet or laptop gives you and your team insights that can lead to improved crop quality and yield.

Growers using portable environmental sensors and data loggers cite many benefits that extend beyond the expected pros, such as the ability to capture information to ensure they're getting the most out of existing systems, determining degradation of equipment (like heating, lighting and greenhouse coverings), calibration double-checks and verifying the readings of their comprehensive environmental control systems.

The portability and small size of new remote sensors and units allows you to quickly collect data in new greenhouse areas where you plan to move crops. Such sensors can also generate data in specific greenhouse areas like "cold corners" and places you think there's an environmental anomaly that your larger control system cannot pinpoint. Stationary sensors are often placed higher in greenhouses to avoid booms and other equipment, so using remote sensors to collect bench-level readings can also help uncover interesting environmental information critical for fine-tuning your crop production.

The reasons for considering remote sensors and wireless systems are fairly clear, but choosing a system can be tricky because each one has different features, collects different data and uses somewhat different technology. Here's a look at a number of different options. (Note: The manufacturers of these products offer a lot of different options and levels of monitoring. Visit their websites to see the complete ranges and reach out with interest because they all offer custom solutions, as well. Many of these are "off-the-shelf" options, but customization to each unique operation will elicit the best results and most usable data.)

Sigrow Soil Pro Mini: Small wireless sensors that measure PAR (light levels), air and soil data. Check your soil conditions pot by pot to discover possibilities for improvement by spotting hyper-local fluctuations. sigrow.com

HOBO Data Loggers by Onset: HOBO data loggers are used in many North American greenhouses to measure a wide range of variables, from water and soil temperature and relative humidity to soil moisture and dissolved oxygen. The readings from these remote sensors can be viewed on the HOBOconnect monitoring app. onsetcomp.com

WatchDog by Spectrum Technologies: WatchDog is Spectrum's cost-effective line of weather-measuring

equipment. The data logger and weather station lines include communications options from wired to wireless to satellite. Also available are the Sprayer Station and Frost Alert, as well as other handheld instruments to measure temperature, humidity, CO2 and wind. specmeters.com

CO2Meter: Dataloggers for CO2 and O2 are this company's specialty, and they supply many industries, including greenhouses. They can record air quality data over time and are available in extremely small sizes for handheld use. CO2Meter's free data logging software allows you to view and analyze the info you collect. co2meter.com

Apogee Instruments: Handheld PAR sensors and PAR meters allow you to accurately measure photosynthetically active radiation from all light sources and use this data to manage daily light integral, photoperiod and more. Use these handhelds to measure light levels above the plant canopy transmitted at the bench level or screw in a small stake to mount them within your crops. apogeeinstruments.com **GT**

Left to right: ■ Sigrow Soil Pro Mini ■ HOBO Data Loggers by Onset ■ WatchDog by Spectrum Technologies ■ CO2Meter ■ Apogee Instruments