CAMPBELL SCIENTIFIC, INC.

MEASUREMENT & CONTROL SYSTEMS

www.campbellsci.com/agriculture

Agriculture

Benefits of Our Systems

1. Monitor ET_O, weather, and soil moisture.
2. Open format allows data to be input into third-party crop, disease, and pest models.
3. Evapotranspiration stations provide daily estimates of water use.
4. Data from remote locations can be transmitted to a home or office.
5. Long-term operation is provided by batteries and solar panels.
6. Systems operate reliably in harsh environments.

Our systems provide reliable and accurate data allowing farm managers to make informed crop management decisions.

The portable HydroSense provides instant measurements, displayed as soil water content or water deficit.

Irrigation needs can be estimated using the ET106 Evapotranspiration Station.

Campbell Scientific measurement systems are used extensively in agricultural applications for both day-to-day and research purposes. Our automated weather stations and other measurement products provide accurate and reliable data that can assist in the overall management of crops and farm operations. Our systems are used by large commercial and private farms, agricultural engineers, and agronomy researchers. The versatility of our measurement systems allows them to be used in a variety of applications including:

- Evapotranspiration
- Soil moisture
- Heat/chill monitoring
- Integrated pest management
- Irrigation scheduling
- Frost prediction
- Pesticide and fertilizer application

Weather & Evapotranspiration Stations

Our weather stations provide data that can be used in many ways. Measurements include wind speed and direction, solar radiation, RH, rain, soil moisture, and temperature (air and soil). This data can be input into crop models, providing information for optimized crop management. Data can be used for integrated pest management, disease prediction, growing degree days, and frost forecasting. Wind speed and direction measurements are useful for fungicide, pesticide, and fertilizer applications.

Our evapotranspiration stations help provide an accurate method of estimating crop water needs to eliminate under- and over-watering, which saves money and improves crop quality. These automated stations calculate ET_o using the Penman-Monteith equation. The output provides daily estimates of water needs. Our low-cost, preconfigured station calculates ET_o from a reduced set of sensors.

Soil Water Content Systems

Soil moisture sensors also provide water management information. They can be added to weather/evapotranspiration stations or used independently. For portable water content measurements, the hand-held HydroSense probe can be easily carried from site to site and provides instantaneous soil water content readings. Low power requirements allow thousands of measurements powered only by 2 AAA batteries.

System Components

Our stations are based around state-of-the-art instrumentation that features proven reliability, even in harsh environments. Most communications methods are available with our systems, including phone (land-line, cellular, and voice-synthesized), radio, short haul, and the Internet.

In addition to meteorological parameters, the station also monitors soil water content via probes located throughout the agricultural plot.

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