

CRYSTAL BALL

ET, CWSI, and DEGDAY Software Models

ET (Evapotranspiration)

The ET model is a measurement of the reference evapotranspiration the plant is experiencing. ETO is calculated from the air temperature, humidity, solar radiation, and wind speed. For elevations above 6,000 feet, a correction for barometric pressure must be made.

CWSI (Crop Water Stress Index)

CWSI utilizes plant canopy temperature measurement; along with solar radiation, air temperature, and humidity readings to indicate when a plant is “stressed”. Often, before the plant shows observable signs of stress, thus providing the grower with another tool for making optimum irrigation, fertigation, and disease management decisions. NOTE: CWSI Software is available for real-time use only; it is not available with Data Logger Software/Hardware.

DEGDAY (Degree Day Model for Insect and Plant Development)

The DEGDAY software model computes degree-days for predicting insect emergence for more efficient pest management scheduling and plant development for harvest data prediction. It calculates and stores hourly average temperatures from any number of sensors in the system. The user selects the start date and the upper and lower threshold temperatures for the target insect or crop. Any temperature data file may be reprocessed with a range of values of the above parameters to facilitate developing a model if one is not available. The degree day calculation is based on real-time temperatures and is therefore more accurate than the averaging, triangulation, or sine “linear” approximations in use.

System Requirements

200 MHz computer running Windows 95/98/NT, 64 Megabytes of RAM, PS/2 or Bus Mouse 40 Megabytes of Hard drive space and Automata’s data acquisition software (FIELD COMMANDER or FIELD VISION) and hardware.

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