Time is money! How much is your time worth?

Although it is a cliché, it is also true. Labor is a large portion of the expense for many horticultural operations. The time that you or your employees spend tending to a crop increases the cost to produce it. People that make irrigation decisions are typically in higher paying positions; the owner puts a lot of trust in this person to make the right decisions on a daily basis.

Figure 10. Sensors may be able to reduce labor expenses at an operation.

There are two main ways that a sensor system can save you time (and money): managing irrigation, and monitoring moisture status. Reducing the time that it takes to make and manage irrigation decisions frees up time for these employees. Sensor networks reduce the need for workers to visit every block, every day in the operation, to determine if irrigation needs to be applied; then to adjust the controller, or manually turn the irrigation on and off. Unfortunately, very often irrigation decisions are performed by setting a time-clock, without actually determining whether the plants in the block actually need it.

How often these steps are completed and the time it takes to do them will impact your cost savings with sensor networks. Sensor networks do this automatically based on the set points you determine, saving labor while irrigating the crop at the right time, with the correct amount of water. In other words, sensors take much of the guess work out of irrigation frequency and timing. Sensors can also free up time to focus on different tasks (IPM scouting, irrigation maintenance, training etc.). Sensors that measure electrical conductivity (EC) can also help with fertilization decisions, allowing for continuous monitoring of fertilizer availability in the root zone and eliminating the need for manual pour-through evaluations. Since sensors may reduce disease incidence, you may also save considerable amounts of money and time on fungicide applications.

During one of our studies, someone forgot to come in on the weekend to water the plants that were being controlled by the grower (but they were still monitored), which severely water stressed the crop. The plants that the researchers were monitoring and controlling did not have the same “near death experience”. Unlike your employees, sensors never forget to come in on the weekend or fail to turn irrigation on or off, so there is less of a risk to your crop. If there is a problem, the system can also send you an alert, so it can be dealt with in a timely manner.