2.   Scaling the graph for interpretation

Scaling both the x- and y-axis is important for correctly interpreting data and is dependent on how detailed of information is needed. Displaying a narrow range of on the y-axis may result in apparent differences among sensors, even if the values are actually pretty similar. On the other hand, displaying a wide range of values on the y-axis may obscure differences that could be important.

Scaling the x-axis properly, where time is displayed, is important as well. It is possible to display data from a few minutes to months of data. There is not an optimal way to set up graphs; it differs among crops. In crops where things change quickly, such as bedding plants or cut flowers, shorter time scales will be needed than in in production system with slower changes (such as in-ground tree production).

Figure 1. One hour of data. Looking at data on a shorter time scale, such as a minute or hour, can provide a view of what is currently happening, but will likely obscure long-term trends. Note that the readings from the five sensors can be seen, but there is no visible long-term trend.
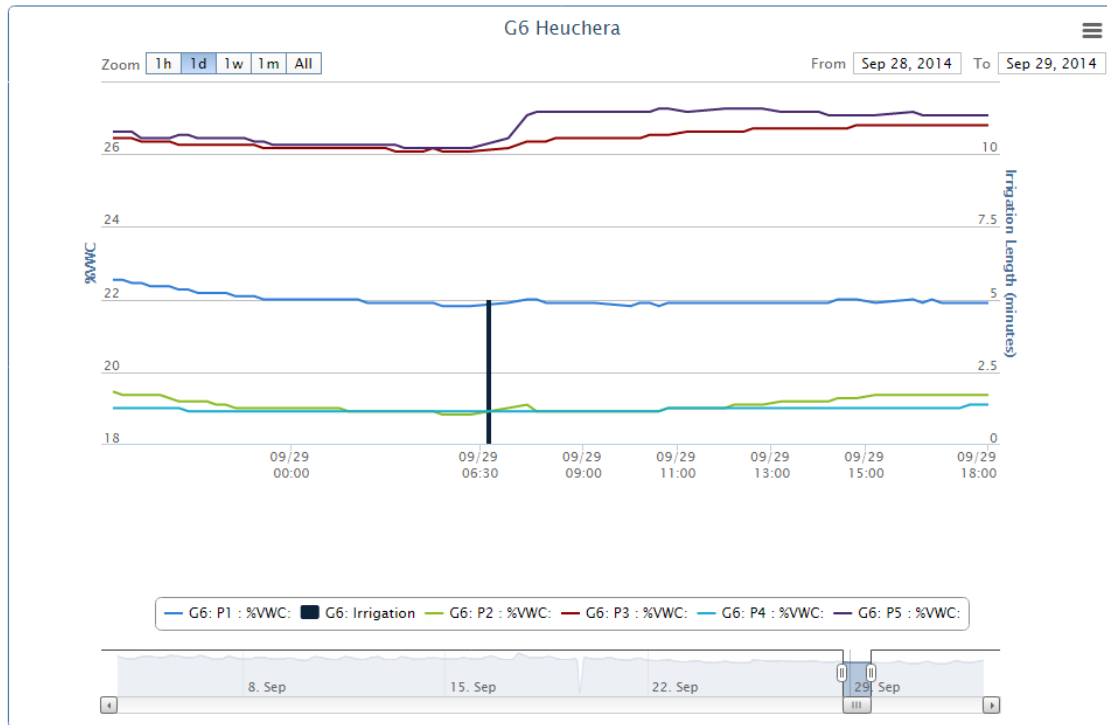
Figure 2. One day of data. The black bar shows an irrigation event, which resulted in a clear increase in the readings from sensors 3 and 5, but without a clear effects on the readings of the other sensors. Some longer term trends are becoming visible.
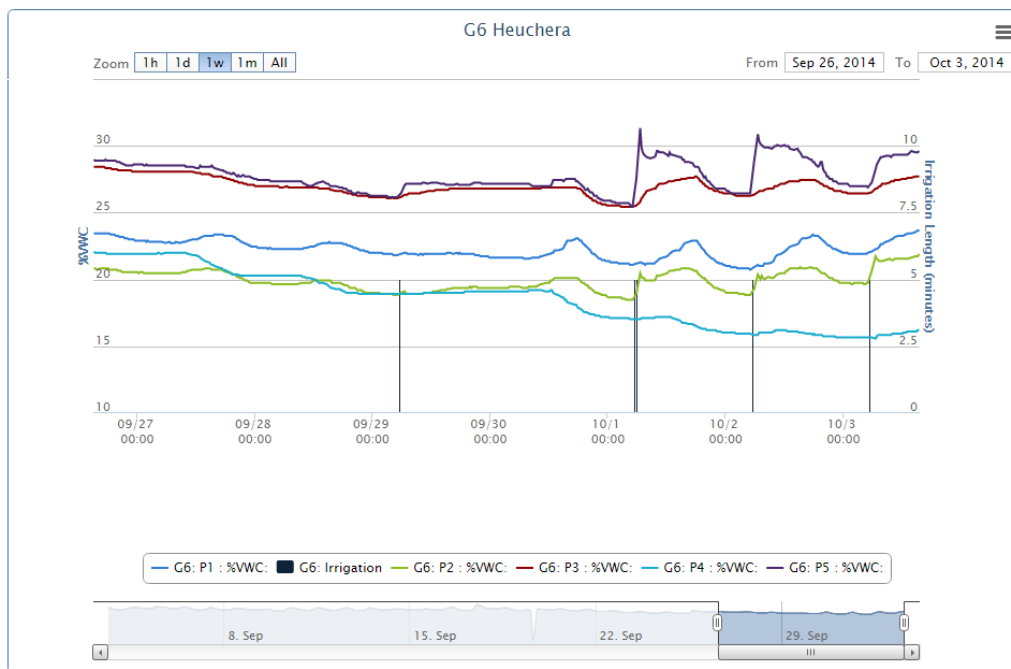

Figure 3. One week of data, with four irrigation events. Longer time scales, which look at data over the course of weeks or months, give a better picture of trends in data. Longer

scales are also more useful in looking at the bigger picture of water use and irrigation control.
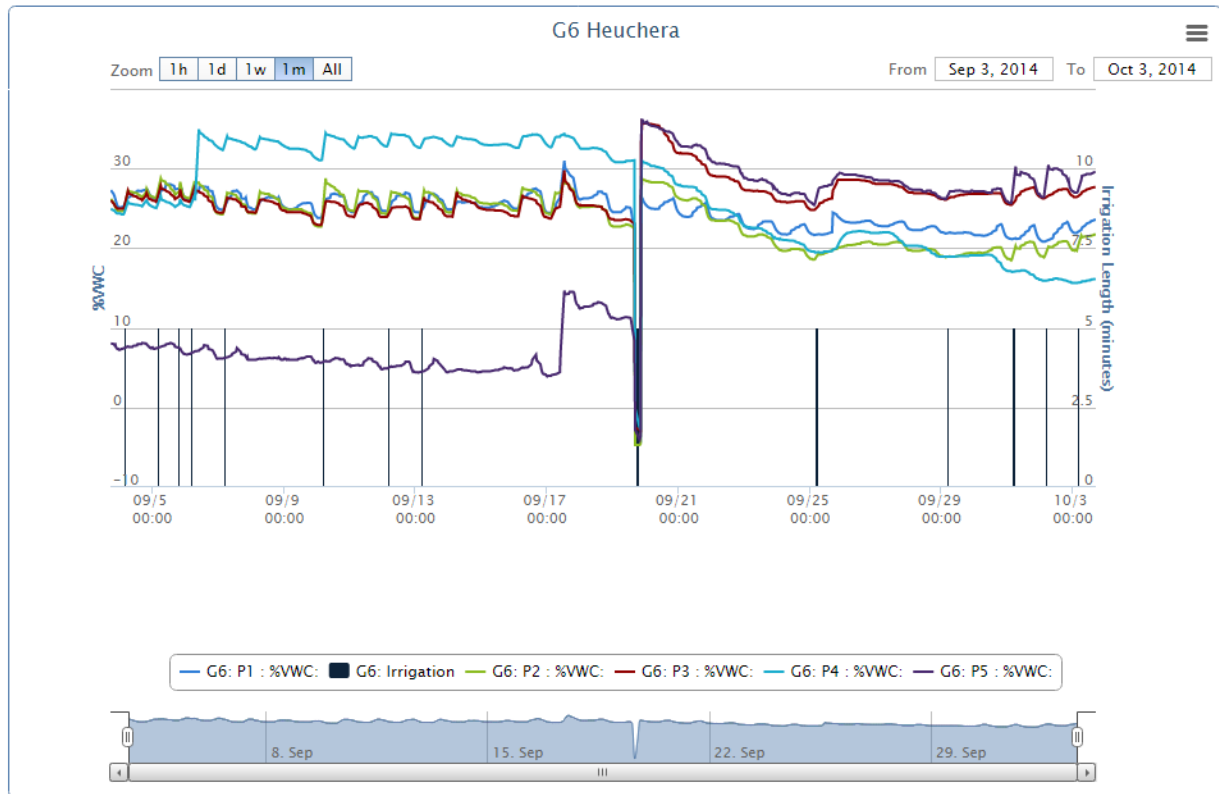

Figure 4. One month of data. During the first two weeks, one of the sensors read consistently lower than the other sensors. On September 20, the sensors were taken out of the pots and reinserted into different pots. Note that the reading from sensor 4 gradually drops after that. It is possible that this sensor is in an area with poor irrigation coverage.