

Getting Serious About Water Management.

What does irrigation farming mean? It means applying water to a crop in order to supplement water requirements not met by rain, in order to grow the maximum yield and quality of the desired plant product.

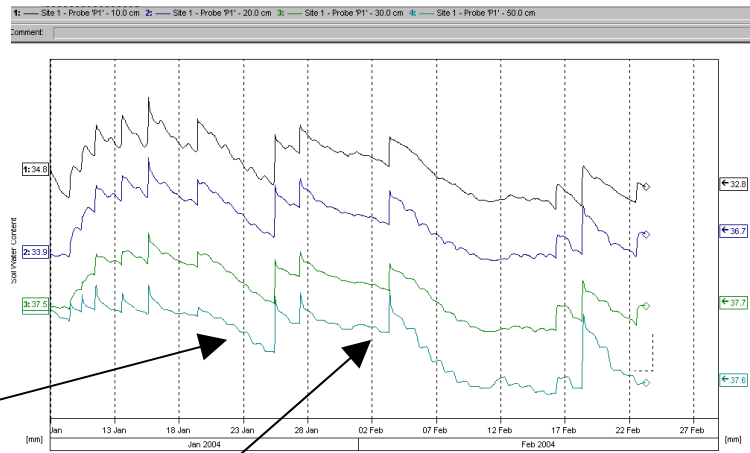
Knowing how much water to apply and when to apply it is a fundamental management decision on which effective water management practices should be based. However, very few irrigation farmers are using such technology.

Irrigation scheduling can be defined as applying the correct amount of water at the correct time to ensure optimum soil moisture levels to maintain optimum plant growth. There are many ways growers decide on when to irrigate. These can be looking at the plant, digging the soil and feeling how wet or dry conditions are, historical information or looking at the neighbours. These can all be valuable aids with assisting in making irrigation decisions, however, without some form of objective monitoring, to actually measure and record soil moisture levels, informed decisions can not be made.

Measuring soil moisture levels does not just inform you how wet or dry the soil is. It provides valuable information on which to plan and manage your irrigation applications. Soil moisture measurement can provide you with accurate information on such things as how effective the last irrigation was, how effective a rain event was, the amount of water the plant is using, the depth of water extraction, the rate and extent of through drainage, how long you need to water for and how often. Without some form of soil moisture monitoring, it is extremely difficult, if not impossible to work out.

Installing, reading and using soil moisture monitoring equipment is not “rocket science”. Sensors and the data collected provide a valuable management tool on which to develop and refine irrigation decisions based upon what is actually happening below the ground.

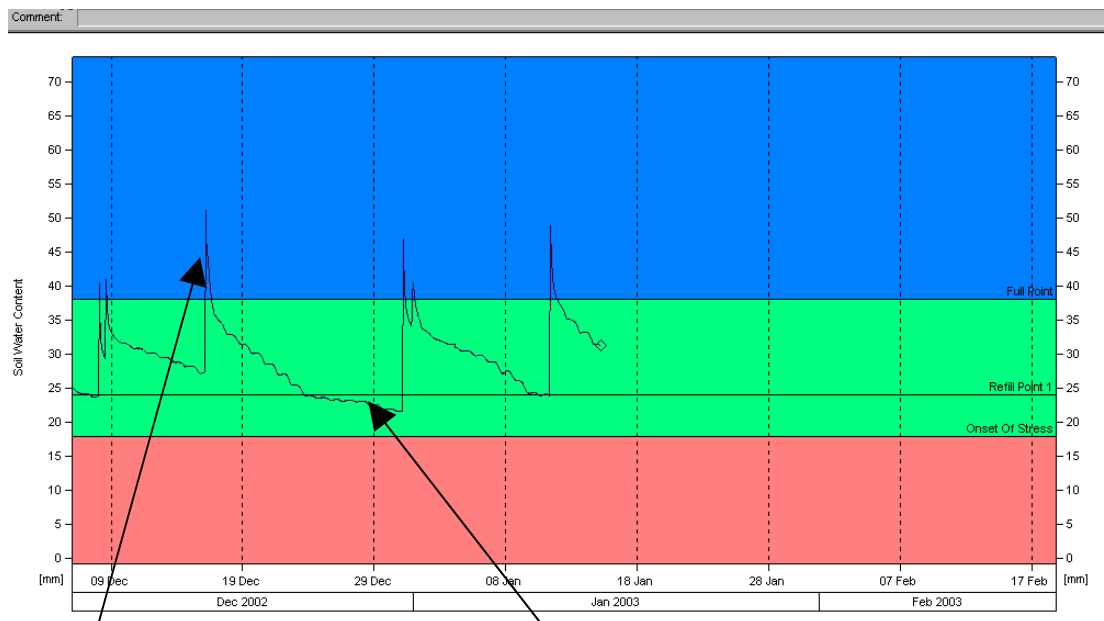
A graph showing data from a probe with sensors positioned at 10cm, 20cm, 30cm and 50cm installed in a strawberry crop.



Crop water extraction can be seen at 50cm.

Data showing irrigation effective to 50cm.

Graph showing the total volume of water in the rootzone of the crop. The aim was to maintain the line in the “green zone”.



Rapid decline in soil moisture level, above the full point indicates through drainage, and over watering.

Slow down in the rate of water extraction indicates either cooler weather or lack of soil moisture, resulting in potential water stress.

There are a wide range of sensors available to measure soil water content or soil tension that can be used to develop and manage irrigations. These can be simple manual type of sensors or probes where users must go into the field and take readings, data loggers where the information from the sensors is continuously recorded and systems that can transmit readings from the field to a computer with small radio units.

For further information on the best system for your requirements, contact Adrian Orloff at MAIT Industries on 1300 739 920, mobile 0438 655 350 or email adrian.orloff@mait.com.au.

