

## A practical side to soil moisture monitoring

Like most cotton growing regions this season, water was limited at St George. Scott Armstrong, “Cooinda Cotton” has had C-Probe capacitance technology for the past three seasons and in that time has learnt a lot from the information that they have provided.

With a limited water allocation this season and pre-watering taking up to 24 hours on some fields, there was always the danger of not being able to grow a crop to its full potential.

“It has become a matter of fine tuning our irrigation practices on farm, and this can’t really be done without collecting some accurate information from the field first. We have had the probes for the past few seasons and this year being particularly tough, I felt comfortable that the information being generated would be of real benefit.”

Scott uses information gathered from the field to help make an informed irrigation decision. Information such as current soil moisture levels and weather data are combined with field reports to help provide a better picture of the irrigation situation.

“Timing is everything and the data coming off the probes is excellent in determining where the roots are active in the profile and what crop stage we have reached. There are no excuses for being early or late with an irrigation.”

As part of the C-Probe software package, the integration of soil moisture and weather data is an important function that allows the generation of practical site-specific information. Current soil moisture readings, combined with rainfall data allow for a simple interpretation of infiltration rates to see if the rain event was beneficial. Scott has been able to come in early on some irrigations



Fine-tuning irrigation needs accurate information.

based on the fact that a rain event hasn’t reached the lower parts of the profile.”

“It’s been a steep learning curve, but there is a very practical side to using this technology. We can see how much moisture is being used at different depths and through a prediction model in the software, determine when the irrigation would be due.

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## About Gyp-Flo

Many cotton soils have a poor structure, causing difficulties in water penetration, surface crusting and unsatisfactory crop germination and root growth.

Excess sodium content is a primary cause of poor soil structure, and it is estimated that at least one-third of Australian soils have excess sodium levels (sodic soils).

The major concerns with bulk gypsum is that it may take 12 months or more to become effective, because the particle sizes are relatively large. Gypsum particles commonly range up to about one mm diameter (1000 micron) or more.

Gyp-Flo is an advanced liquid suspension of superfine calcium and sulphur, which reacts in the soil in exactly the same way as gypsum.

Gyp-Flo is designed for application via all types of spray systems, without the need to remove fine filters. The average particle size in Gyp-Flo is only five microns.

Unlike bulk gypsum, which can contain salts, heavy metals and various other impurities depending on its source, Gyp-Flo is manufactured from components of very high purity.

**TABLE 1: Field results from one application of Gyp-Flo in one season**

Test	Gyp-Flo	Untreated
Soil pH	8.4	8.3
Sodium %	6.3	10.1
Calcium %	55.6	48.7
Ca Mg Ratio	1.66	1.28

**TABLE 2: When to apply Gyp-Flo**

Item	Gyp-Flo
Soil compaction and crusting	Yes
Sodium % >5	Yes
Low calcium levels (<65% of CEC)	Yes