

## Soil Moisture Probes Update

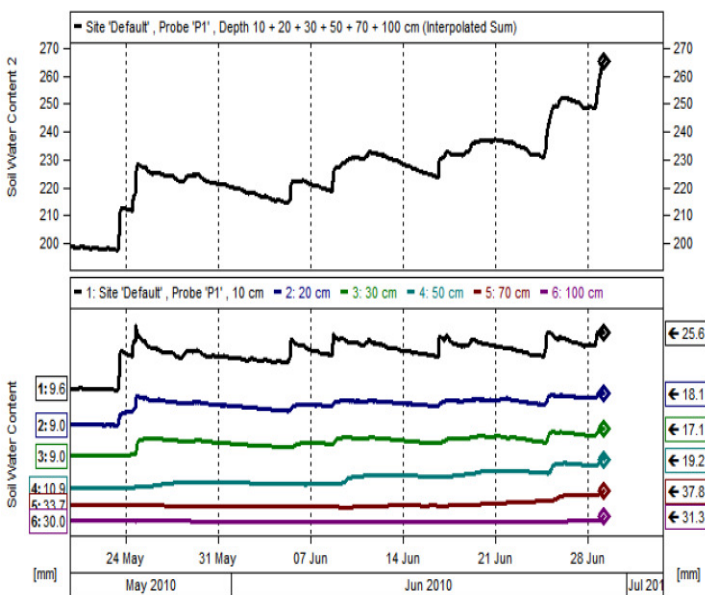
Following some excellent rains we are seeing some interesting data from our Sentek soil moisture probes. The graph below (Figure 1) shows moisture data from the Wangary trial site probe. The top panel with a single line is the **Summed Graph** and shows the total soil moisture in the metre profile. The figure is an *interpolated sum*, meaning that the software calculates a continuous moisture figure down the whole depth of the probe, not just for the 6 sensors taking readings. It gives an approximation of the total soil moisture in mm, however not all of this moisture is potentially available to plant roots. The lower panel with different coloured lines is a **Stacked Graph**. This graph shows moisture at each of the of the sensor depths, in this case 10, 20, 30, 50, 70 and 100cm.

As of 7am on 29<sup>th</sup> June, the summed graph shows **there is approximately 265mm** of moisture over the 1m profile at the Wangary site. From the stacked graph we can see that the past few rainfall events have increased moisture down to 50cm and the most recent rainfall has increased moisture down to 70 and 100cm. As the crop begins to grow more vigorously and draw on the soil moisture reserves, this will be evident on the graphs as daily stepping, known as **diurnal fluctuation**. Diurnal fluctuation is the daily cycle of moisture movement where by roots extract moisture during the day and the graph moves downward (photosynthesis/transpiration happening) and then during the night the plants shut down. When it fluctuates you can be sure that the plant roots are active at that level. The further we move into spring, the steps during the day will get bigger as the plant uses more moisture.

The probe installed at the Cummins cereal trial site at Peter Minhard's is currently showing **402mm of total soil moisture, with the latest rainfall events infiltrating to 50cm**.

The Landmark demonstration probe at Yeelanna (Mike Smith's property, opposite silos) is currently showing **398mm of total soil moisture, with the latest rainfall soaking in to 70cm**.

At this stage, how much of this water is plant available is unknown... However as we get more years data we will be able to assess where the 'Full Point' and 'Onset of Stress' points are for each site, giving us a better idea of how our crops are travelling and helping with decisions such as nitrogen applications. Trial site moisture probe data can be viewed on the web at [www.cumminsag.com.au/site02](http://www.cumminsag.com.au/site02)



Congratulations Jakobi Modra

Winner of the Seeding Photo Competition

**SECONDHAND BOOMS FOR SALE**

**COMMANDER 3224**, foam, quickmix, Tronic.....\$15,000 + GST

**GOLDACRES 6030**, dual lines, airbag susp, 02 model, 6 section, 24.5 x 32  
tyres, hyd drive, 2" drive pump .....\$63,000 + GST

**NEW COMMANDER IN STOCK, 7000L, 36M**

[www.cumminsag.com.au](http://www.cumminsag.com.au)

**Ram Sales— On Property Auctions**

July

Monday 26th—Brimanna Poll Merino

Wednesday 28th—Roemahkita Poll Merino

Friday 30th—Allala Poll Merino

September

Monday 13th—Teakle Hill White Suffolk

Friday 17th—Kurrabi Park Suffolk Selection Day

**NDVI for Potentially Better Nitrogen Decisions.**

This season **we have some growers trialling the use of air borne NDVI** (Normalized Difference Vegetative Index. Commonly used to measure plant health and vigour,  $NDVI = (NIR_{reflected} - Red_{reflected}) / (NIR_{reflected} + Red_{reflected})$ ) imaging. This imaging can be collected by hand held devices, aerial or satellite. From this we can determine areas within a crop that have a different vegetative index and reflectance. Extrapolating this data we then hope to be able to **identify regions from within the paddock that require different nitrogen requirements.**

Going forward we are hoping this information will give us and growers the ability to use different (variable) rates of nitrogen within the one paddock or on a paddock by paddock basis. Enabling more accurate and targeted nitrogen use where it is required more and less where levels are closer to adequate, rather than the blanket approach of one rate fits all. **We envisage the cost to be approx \$5/ha which includes the capture of data and interpretation.** Down the track we envisage this technology, together with the other tools available such as the soil moisture probes, will enable us to **deliver nitrogen on an actual real-time crop needs basis** giving greater crop consistency in yield and quality.

We may be able to utilise this technology in the future to better target areas within certain crops for disease as generally areas of greater vegetative growth are more prone to greater disease. Also to zone graze paddocks by putting stock in areas of greater vegetative growth to enable other areas to catch up.

**If you are interested in trialling NDVI or want more information contact your agronomist ASAP.**

**HARDI 2011 Early Order Incentives**

Hardi is offering retail incentives on early orders for Commander and Navigator Booms. The drill is as follows;

- ♣ Order before the 31st of August 2010
- ♣ Delivery scheduled for October to December 2010
- ♣ Deposit must be paid to secure incentive
- ♣ Balance of payment due in Feb 2011
- ♣ Limited number of machines available

NAVIGATOR	3000	\$3,000
NAVIGATOR	4000	\$4,000
COMMANDER	5000	\$5,000
COMMANDER	7000	\$7,000
COMMANDER	9000	\$9,000

These incentives are exclusive of GST.

Contact Dicko for more information



Contact Mark Dickinson 0427 641 435 or

Email: [mark@cumminsag.com.au](mailto:mark@cumminsag.com.au)