

# WEATHER or NOT

A REVIEW OF SEASONAL AND CROP OUTLOOKS FOR THE FARMLINK REGION

ISSUE October 2011

## REMINDER: Change to Grain Yield Charts

An extra curve to the Grain Yield Probability chart has been added. The chart now shows the grain yield potential assuming no additional nitrogen (green line), grain yield potential assuming unlimited nitrogen from now on (orange line) and grain yield potential assuming unlimited nitrogen since the start of the season (dotted blue line).

The extra line enables us to recognise crop potential yield from now on. If you find that the orange line and dotted blue lines are not overlapping then this is an indication that your crop has suffered some nitrogen stress to date.



## this issue

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Canola **P.4-5**

Growing season rainfall deciles **P.6**

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## The season so far ...

The 2011 season has been one of contrasts. The usually drier summer period saw widespread heavy rainfalls and the usually more reliable winter rainfall pattern was well below average.

This season has highlighted the importance of capturing and storing summer rainfall and that preserved moisture can play a critical role in crop production in our region. The FarmLink and CSIRO trial on the Coleman's property at Temora has provided scientific verification of this over the last three seasons.

Low winter rainfall has seen PAW water levels drop consistently during this season. Lockhart PAW has dropped to 0mm in the canola and 9mm in the wheat. Ardlethan and Dimaseer have retained minimal levels with the Dimaseer canola having 61mm which is the highest remaining PAW in the region.

All 2011 Yield Prophet crops have survived on between 1 to 2.5 decile growing season rainfalls and final yields have relied heavily on conserved summer moisture. Median predicted Canola yields\* at 50% probability range from 2.4 t/ha to 2.85 t/ha, with the Temora canola predicted to reach 2.85 t/ha. Predicted wheat yields range from 3 t/ha at the EH Graham site, 3.2 t/ha at Lockhart, 3.7

t/ha at Dimaseer (on a Lucerne pasture 2010) up to 4.9 t/ha at Temora, Ardlethan and Greenethorpe.

All crops were relatively weed free. Plant establishment, tiller numbers and head numbers are detailed on page 11 in Table 1.

A crop lower limit for the moisture capacitance probes installed at all sites this year can now be established. This will add an extra layer of data on which we can base management decisions in the future. You can follow each site's moisture probes on the FarmLink website with the link [www.farmlink.com.au/moisture-knowledge-ntwk.html](http://www.farmlink.com.au/moisture-knowledge-ntwk.html)

Weather predictions for the harvest period are not that favourable with the BOM predicting 60-70% chance of exceeding median rainfall for the November—January, 2012 period. The SOI is currently at 11.1 which is similar to the years in 2005, 1999 and 1986. With last year's wet harvest still fresh in the memory there will be lots of sky gazing during this harvest. I hope all goes well and the grain price is strong. Have a good and safe harvest.

**Paul Breust**

(\* Remember these yield predictions are based on median rainfall for the rest of the year and no disease, pest, frost or heat stress).

Principal Sponsor

**CommonwealthBank**



# WHEAT

## LOCKHART » » » »

variety Lincoln sown 11th May

N applied 31kg/ha

soil type Lockhart brown sodosol

growing season rainfall to date 182.7 mm

plant density 54 plants/m<sup>2</sup>

current rooting depth 1650 mm

predicted final rooting depth 1650 mm

## DIRNASEER » » » »

variety Crusader sown 2nd June

N applied 9kg/ha

soil type Dirnaseer red kandosol

growing season rainfall to date 211.6 mm

plant density 144 plants/m<sup>2</sup>

current rooting depth 1223 mm

predicted final rooting depth 1643 mm

## ARDLETHAN » » » »

variety Ventura sown 18th May

N applied 45kg/ha

soil type Griffith No. 697

growing season rainfall to date 194.5 mm

plant density 56 plants/m<sup>2</sup>

current rooting depth 1500 mm

predicted final rooting depth 1500 mm

## GREENETHORPE » » » »

variety Gregory sown 12th May

N applied 41kg/ha

soil type heavy red kandosol Grenfell

growing season rainfall to date 229.6 mm

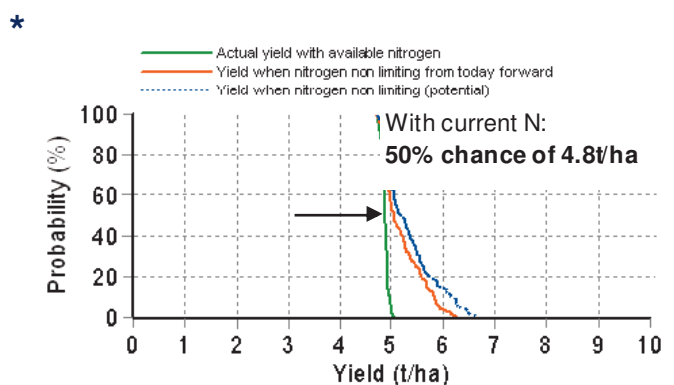
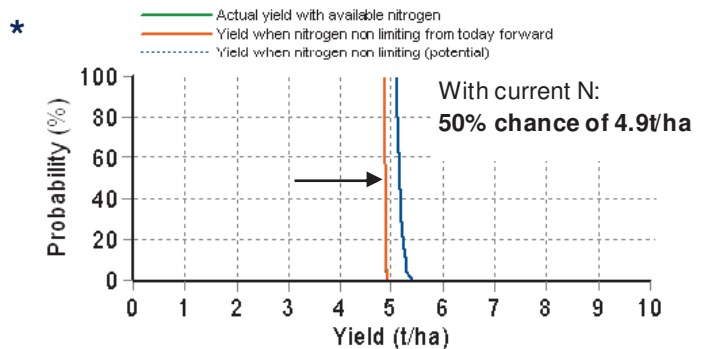
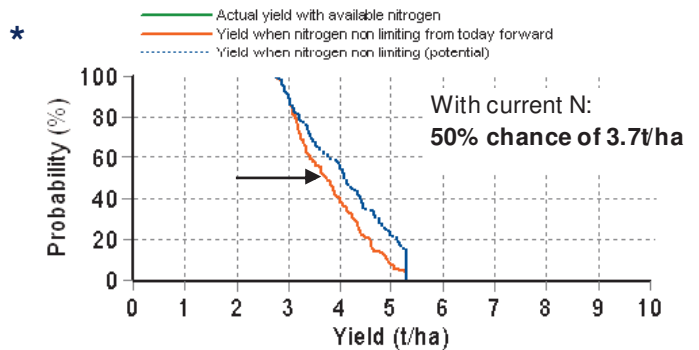
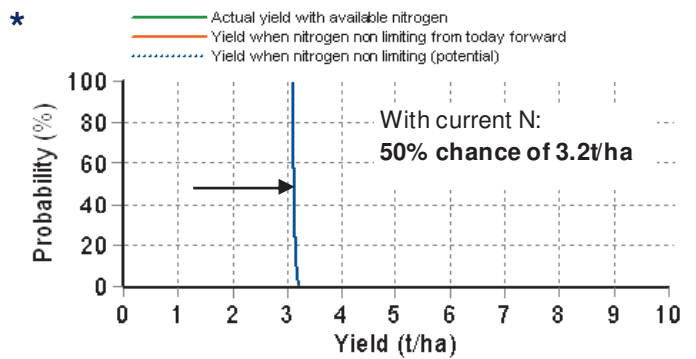
plant density 150 plants/m<sup>2</sup>

current rooting depth 1800 mm

predicted final rooting depth 1800 mm

**Please note** Yield Prophet is a tool to help guide decision-making only.

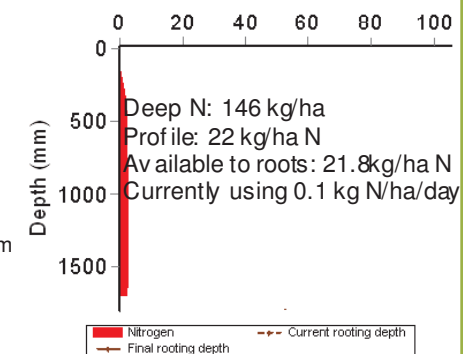
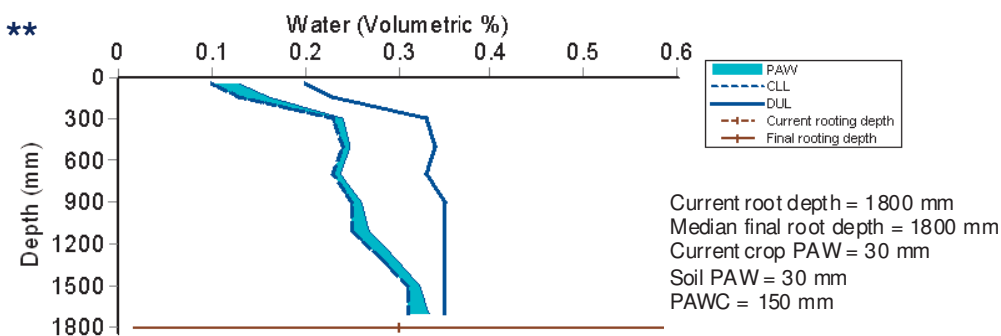
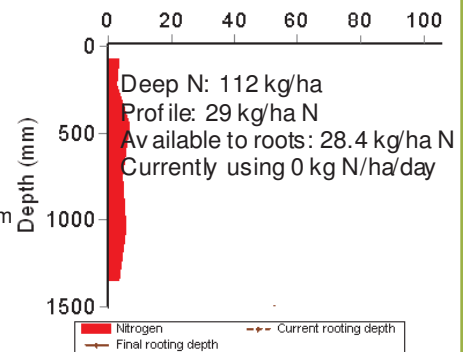
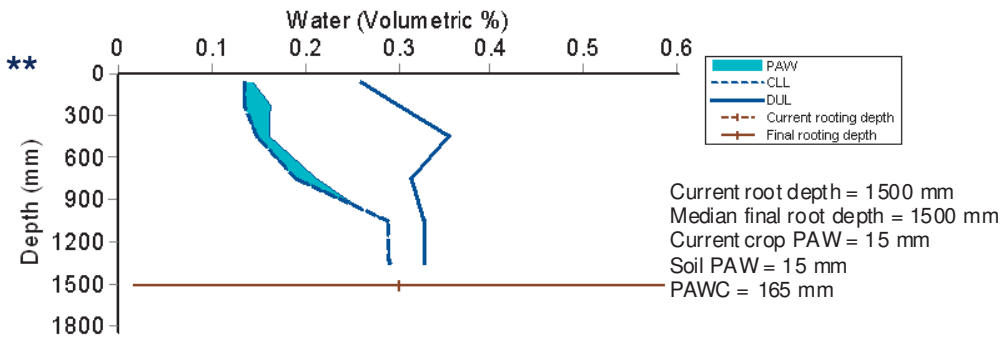
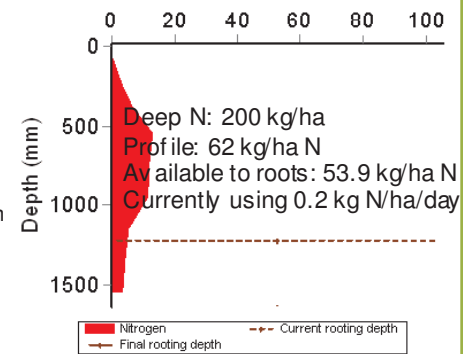
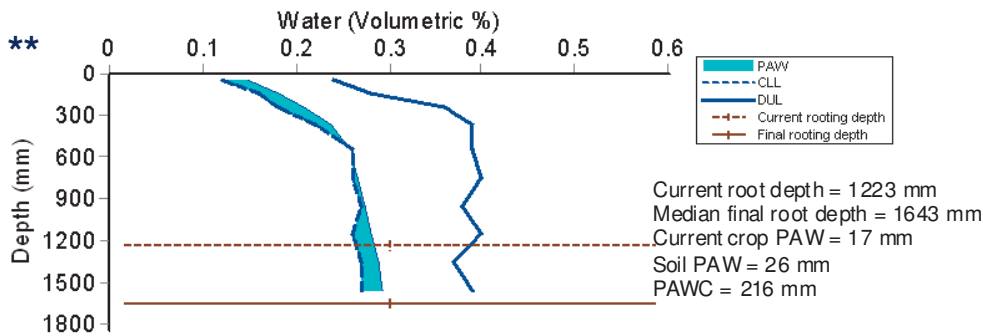
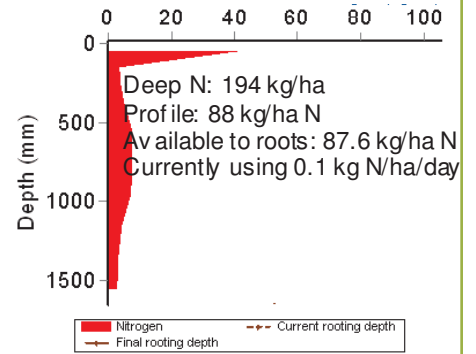
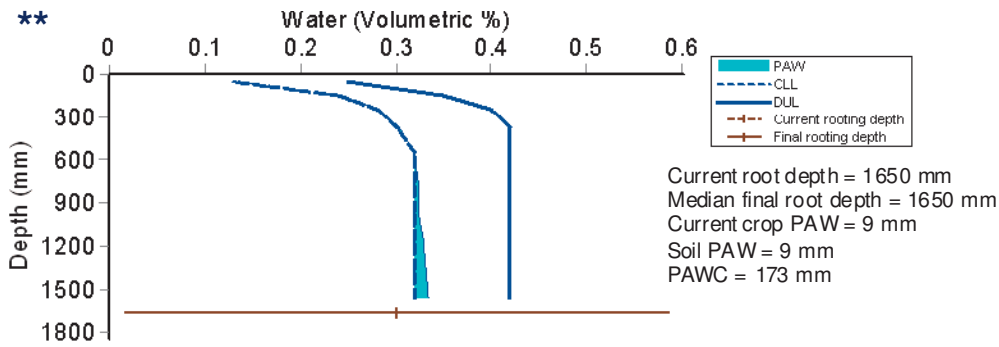
## Grain Yield Probabilities



\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

## Water Availability

## Soil Nitrogen



\*\* PAW = plant available water; CLL = crop lower limit; DUL = drained upper limit. **Note:** Soil water parameters are taken from paddocks previously characterised on the same farm. Although the data should be representative of the paddock, minor discrepancies may occur.

# CANOLA

## Grain Yield Probabilities

### LOCKHART » » » »

**variety** Crusher

**sown** 25 April

**N applied** 40kg/ha

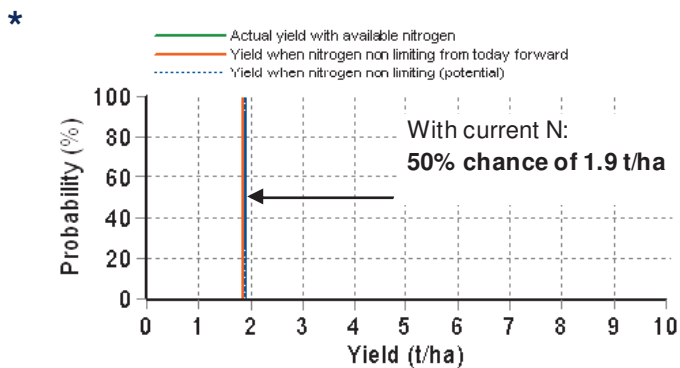
**soil type** Lockhart brown kandosol

**growing season rainfall to date** 182.7 mm

**plant density** 15 plants/m<sup>2</sup>

**current rooting depth** 1033 mm

**predicted final rooting depth** 1033 mm



### DIRNASEER » » » »

**variety** Jardee

**sown** 4th May

**N applied** 9kg/ha

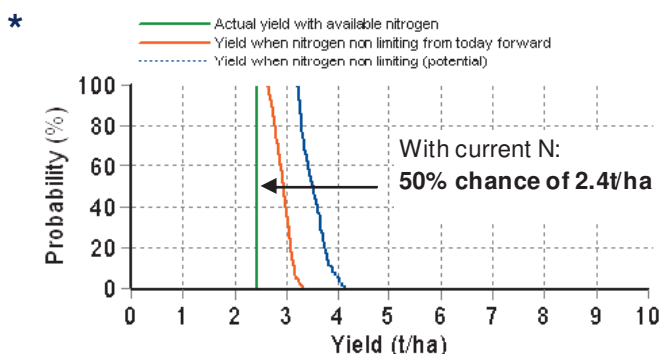
**soil type** Dimaseer red kandosol

**growing season rainfall to date** 211.6 mm

**plant density** 51 plants/m<sup>2</sup>

**current rooting depth** 1650 mm

**predicted final rooting depth** 1650mm



### ARDLETHAN » » » »

**variety** Fighter TT

**sown** 28th April

**N applied** 60kg/ha

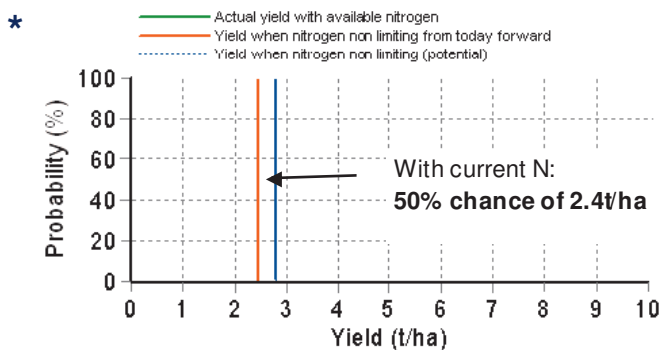
**soil type** Griffith No. 697

**growing season rainfall to date** 194.5 mm

**plant density** 40 plants/m<sup>2</sup>

**current rooting depth** 1500 mm

**predicted final rooting depth** 1500 mm



### GREENETHORPE » » » »

**variety** Hyola 555TT

**sown** 4th May

**N applied** 27kg/ha

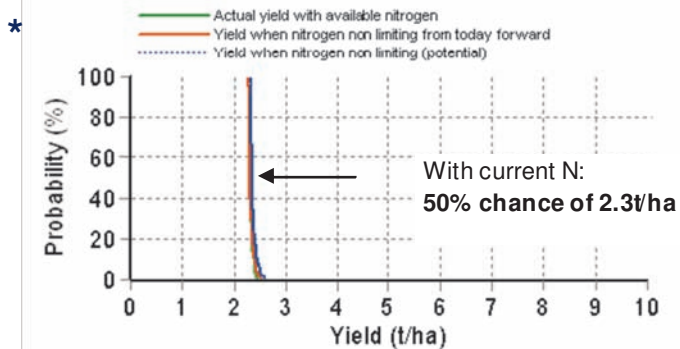
**soil type** heavy red kandosol Grenfell

**growing season rainfall to date** 229.6 mm

**plant density** 40 plants/m<sup>2</sup>

**current rooting depth** 1359 mm

**predicted final rooting depth** 1359 mm

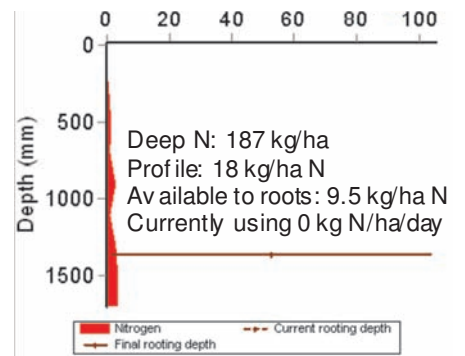
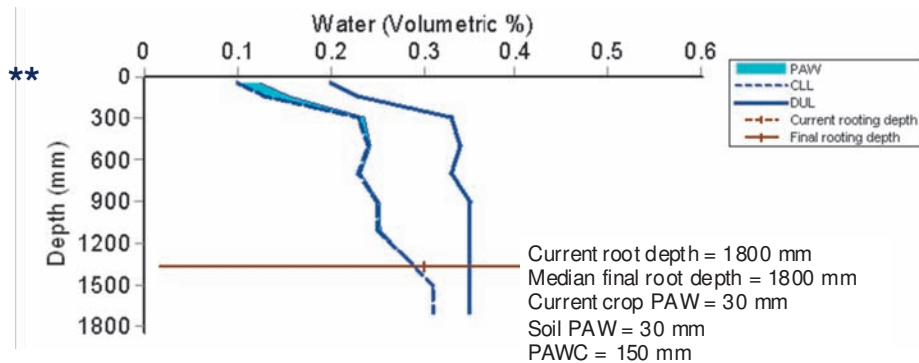
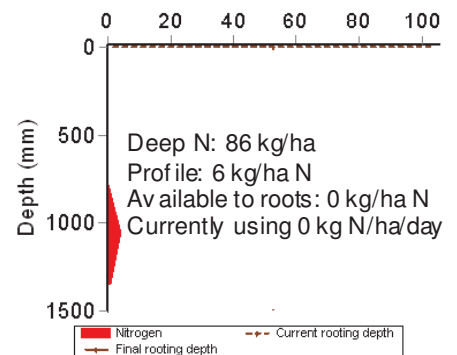
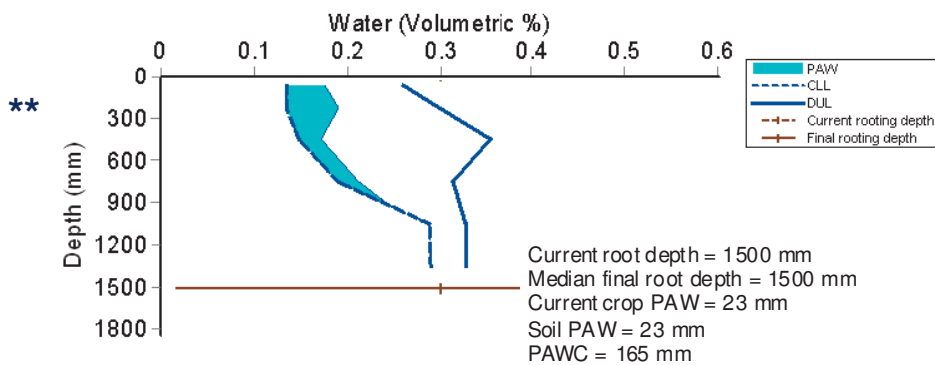
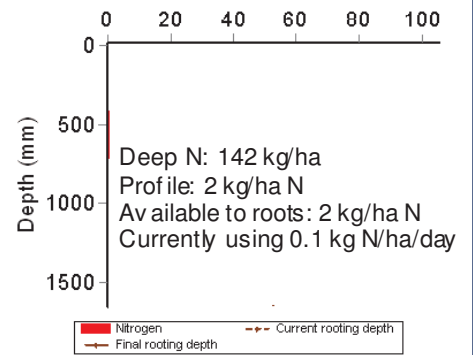
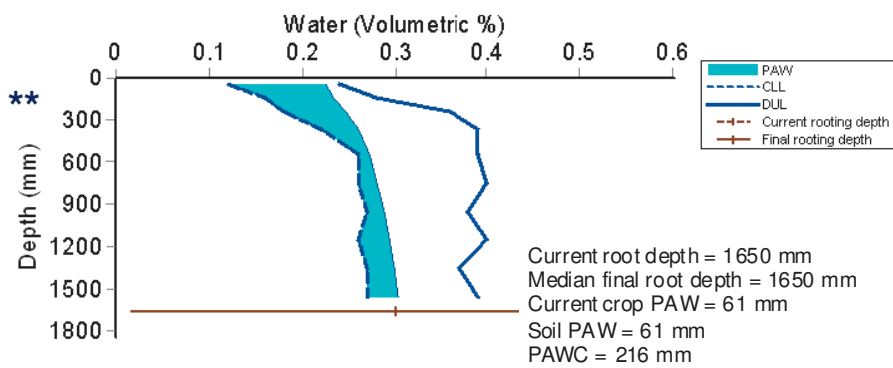
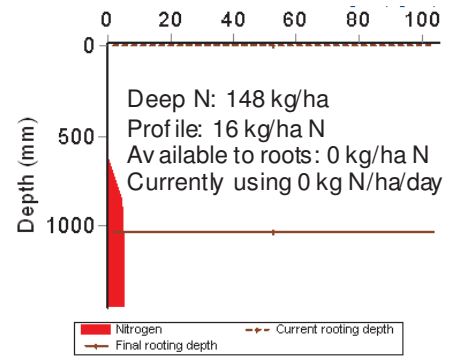
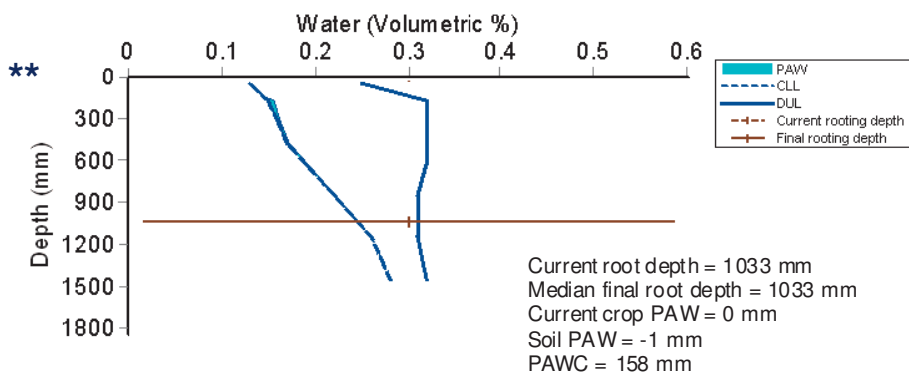


**Please note** Yield Prophet is a tool to help guide decision-making only.

\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

# Water Availability

# Soil Nitrogen



**\*\*** PAW = plant available water; CLL = crop lower limit; DUL = drained upper limit. **Note:** Soil water parameters are taken from paddocks previously characterised on the same farm. Although the data should be representative of the paddock, minor discrepancies may occur.

# Growing Season Rainfall Deciles

Figure 1: LOCKHART growing season rainfall deciles

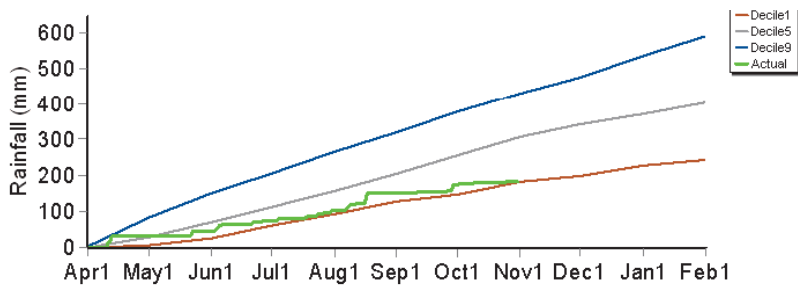


Figure 2: DIRNASEER growing season rainfall deciles

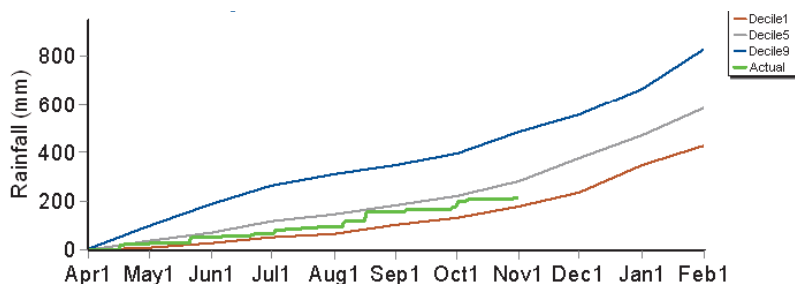


Figure 3: ARDLETHAN growing season rainfall deciles

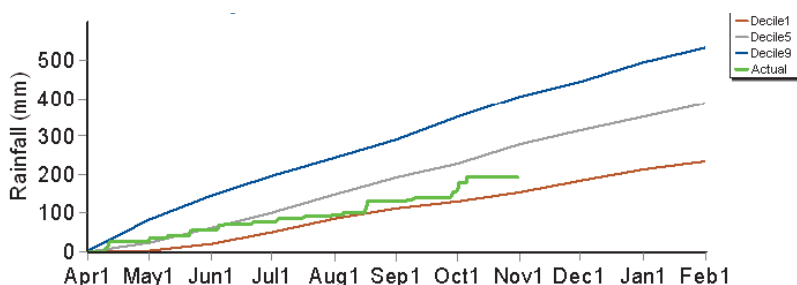
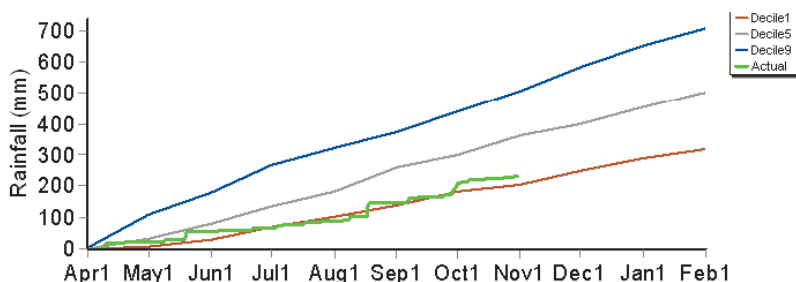


Figure 4: GREENETHORPE growing season rainfall deciles



## Growing Season Rainfall Decile Explanations

Figures 1 to 4 show how growing season rainfall (green line) is tracking in the Yield Prophet paddocks compared to deciles:

- Decile 1 rainfall received 90% of years (dry season)
- Decile 5 rainfall received in 50% of years (median)
- Decile 9 rainfall received in 10% of years (wet season)
- In the yield probability graphs on the previous pages, '50% chance' takes into account rainfall to date and decile 5 (median) rainfall for the rest of the season.

**This is the final edition of 'Weather or Not' for 2011.**

**Thank you for all your valuable feedback.**

**Fingers crossed for a good quality harvest.**

### Date for Your Diary

FarmLink Research Ltd  
Annual General Meeting

Wednesday  
4th January, 2012

FarmLink Research  
Office, Junee

# Yield Prophet Paddocks October/November 2011



LOCKHART » wheat Lincoln » 1 Nov 2011



LOCKHART » canola Crusher » 1 Nov 2011



DIRNASEER » wheat Crusader » 3 Nov 2011



DIRNASEER » canola Jardee » 3 Nov 2011



ARDLETHAN » wheat Ventura » 1 Nov 2011



ARDLETHAN » canola Fighter TT » 1 Nov 2011



GREENETHORPE » wheat Gregory » 31 Oct 2011



GREENETHORPE » canola Hyola 555TT » 31 Oct 2011

# WHEAT

## EH GRAHAM CENTRE Wagga »

variety Wedgetail sown 14th May

N applied 62kg/ha

soil type Dimaseer red kandosol

growing season rainfall to date 218.8 mm

plant density 89 plants/m<sup>2</sup>

current rooting depth 1650 mm

predicted final rooting depth 1650 mm

## TEMORA » » » »

variety Bolac sown 15th April

N applied 54kg/ha

soil type Red chromosol Temora

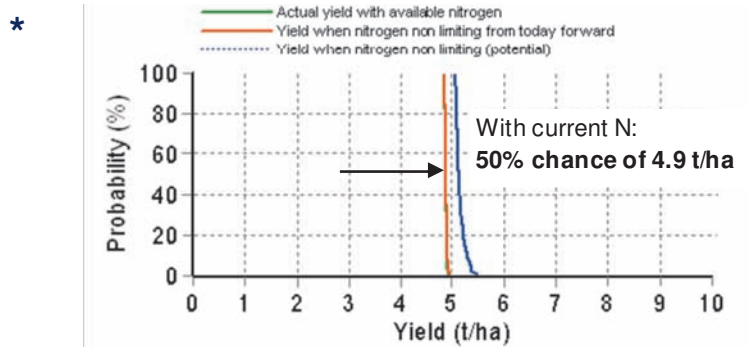
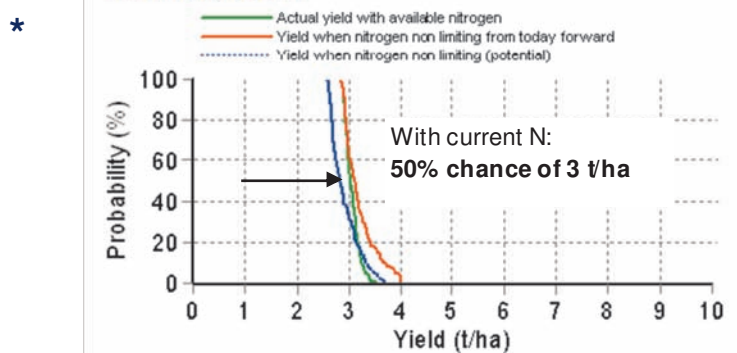
growing season rainfall to date 202.1 mm

plant density 104 plants/m<sup>2</sup>

current rooting depth 1349 mm

predicted final rooting depth 1349 mm

## Grain Yield Probabilities



# CANOLA

## TEMORA » » » »

variety 45Y82 sown 15th April

N applied 74kg/ha

soil type red chromosol Temora

growing season rainfall to date 202.1 mm

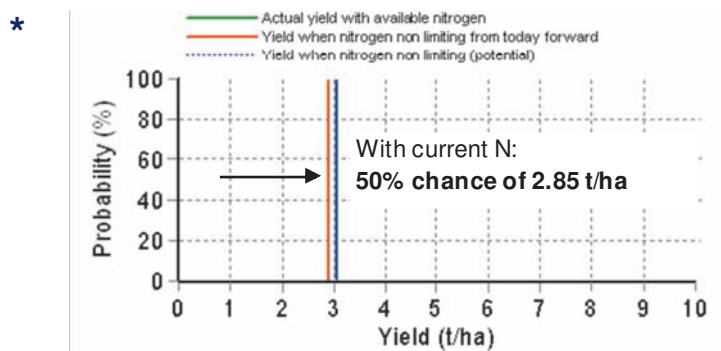
plant density 40 plants/m<sup>2</sup>

current rooting depth 1650mm

predicted final rooting depth 1650mm

Please note Yield Prophet is a tool to help guide decision-making only.

## Grain Yield Probabilities



\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

## Stored Grain

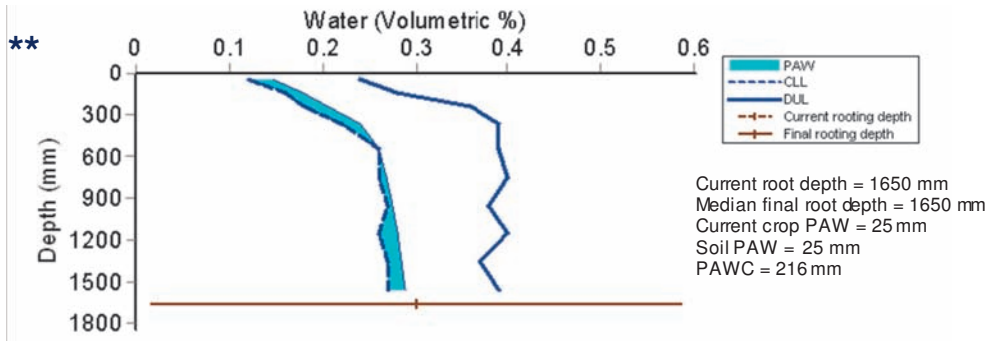


The Grains Research and Development Corporation says grain farmers are the first in the value chain, so they have a pivotal role in determining the quality and reputation of Australian grain being offered in domestic and international markets.

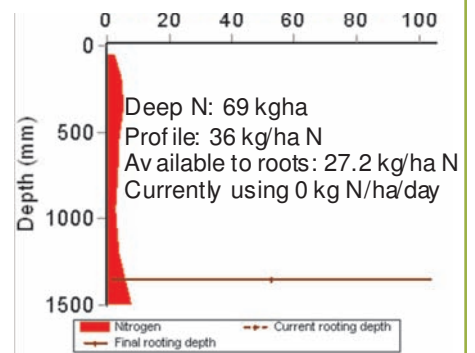
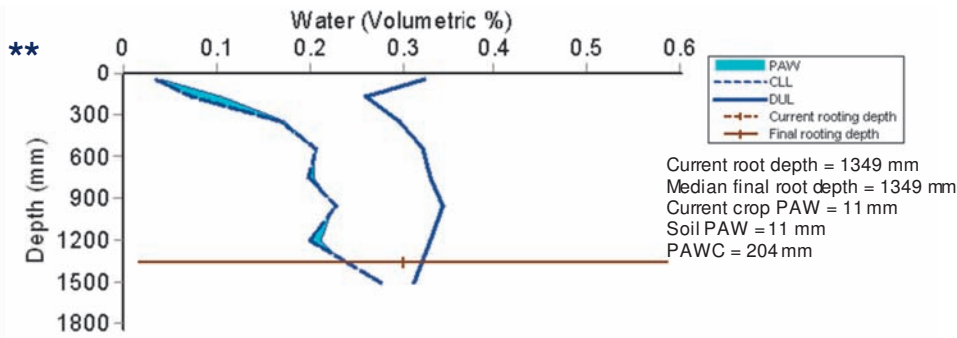
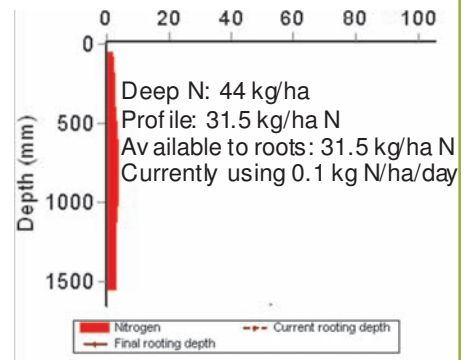
There is useful information on all aspects of storing grain at the GRDC extension programme website, [www.storedgrain.com.au](http://www.storedgrain.com.au)



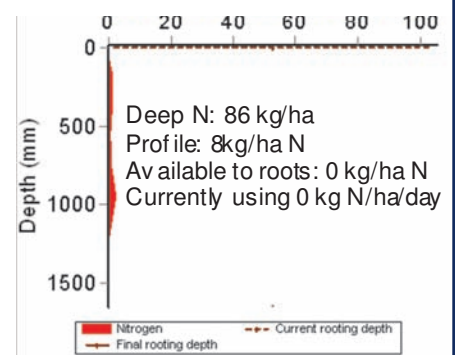
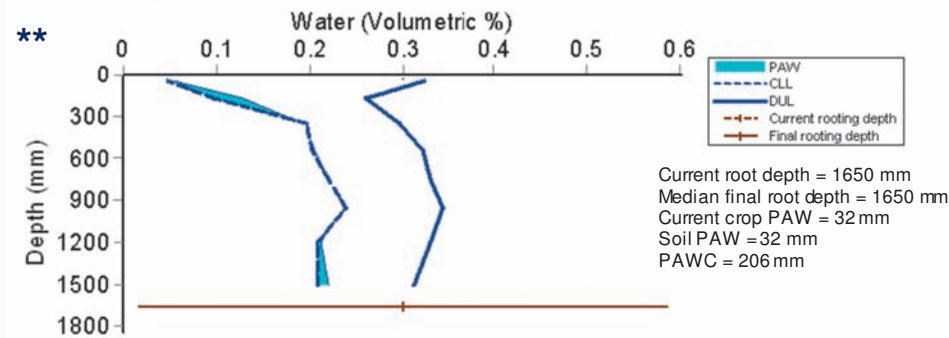
## Water Availability



## Soil Nitrogen

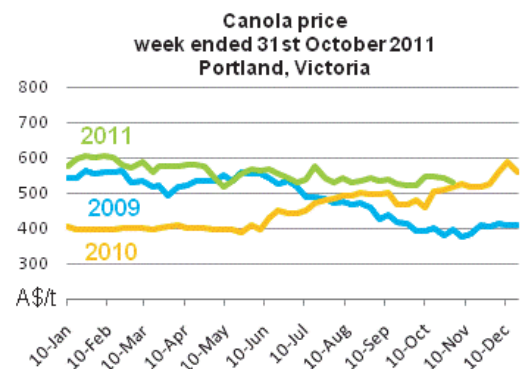
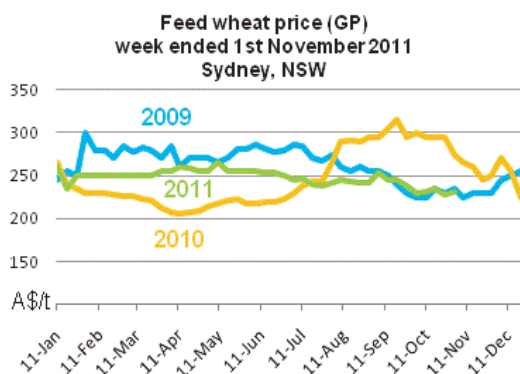


## Water Availability



\*\* PAW = plant available water; CLL = crop lower limit; DUL = drained upper limit. **Note:** Soil water parameters are taken from paddocks previously characterised on the same farm. Although the data should be representative of the paddock, minor discrepancies may occur.

## ABARES Crop Indicator Prices



This information is the latest from the Bureau of Meteorology in Australia. The tropical Pacific Ocean is now in the early stages of a late forming La Niña event. Models surveyed by the Bureau of Meteorology suggest a further strengthening of the event is likely through until the mid (southern) summer. However, current observations and outlooks indicate this La Niña will be considerably weaker than the strong 2010-11 event.

## BUREAU OF METEOROLOGY

### Wet season favoured for most of southern Australia

[www.bom.gov.au/climate](http://www.bom.gov.au/climate)

The southeast Australian outlook for November 2011 to January 2012 shows the following:

- A wetter season is likely for most of southeastern Australia
- Strongest probabilities occur in northeastern NSW
- No strong signal for Victoria or Tasmania, and
- A warm Indian Ocean is the main contributor to this outlook.

A persistently warm Indian Ocean is the main driver behind this outlook, although it is also consistent with the developing La Niña in the Pacific Ocean.

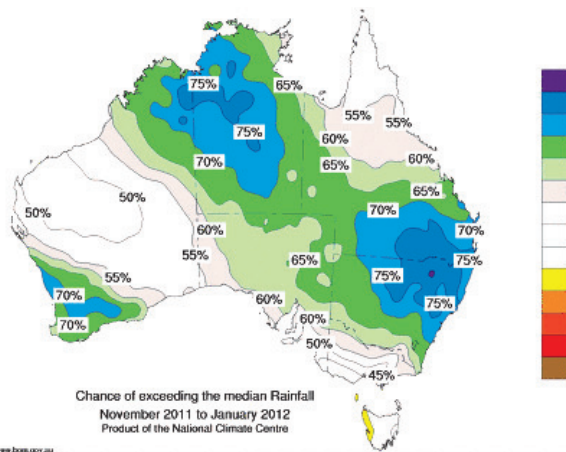


Figure 5—Chance of exceeding median rainf all November to January 2012 (Bureau of Meteorology)

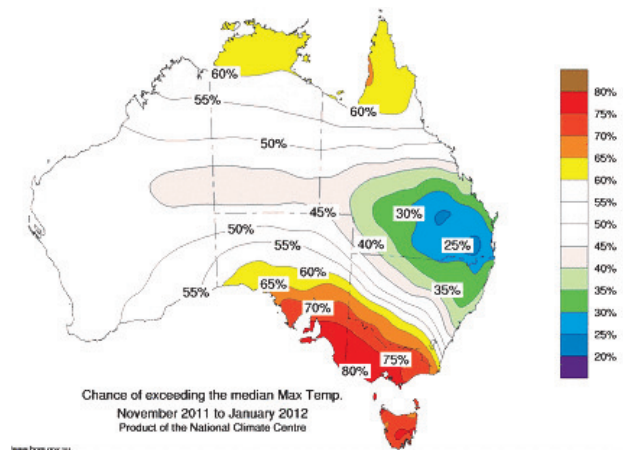


Figure 6—Chance of exceeding the median Max Temp. November to January 2012 (Bureau of Meteorology)

## BUREAU OF METEOROLOGY

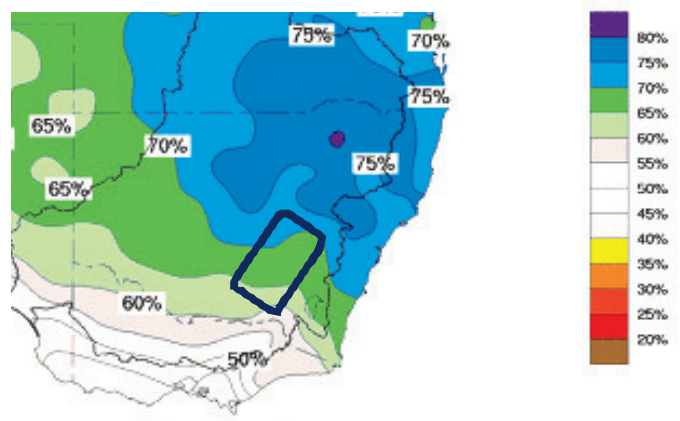
### NSW Rainfall Outlook

### November 1– January 31, 2012

Issued 25-10-2011

[www.bom.gov.au/climate](http://www.bom.gov.au/climate)

Right: Figure 7 —NSW rainf all outlook November 1– January 31, 2012 (Bureau of Meteorology)



## Yield Prophet Paddocks — Tiller and Head Counts

	Lockhart Wheat	Lockhart Canola	Ardlethan Wheat	Ardlethan Canola	Dirnaseer Wheat	Diranseer Canola	Greenethorpe Wheat	Greenethorpe Canola
Establishment Plants/m <sup>2</sup>	54	15	56	33	144	51	136	33
Tillers/m <sup>2</sup>	419		224		497		486	
Heads/m <sup>2</sup>	358		206		406		448	
50% yield probability (t/ha)	3.2	1.9	4.9	2.4	3.7	2.4	4.8	2.3

**Table 1.** Plant establishment, tiller numbers and head numbers for 2011 Yield Prophet paddocks.

Lockhart canola suffered mouse damage and this will have affected the yield prediction model output. Lockhart and Ardlethan wheat establishment numbers were low but the Lincoln at Lockhart achieved 419 tillers/m<sup>2</sup> while the Ventura at Ardlethan produced only 224 tillers. All other sites had sufficient numbers of tillers. Tiller loss ranged from 8.5% at Ardlethan and Greenethorpe up to 17 and 21% respectively at Lockhart and Dirnaseer. Tillers at Dirnaseer appeared to be adversely affected by the drier moisture profile from the previous year's lucerne pasture phase.

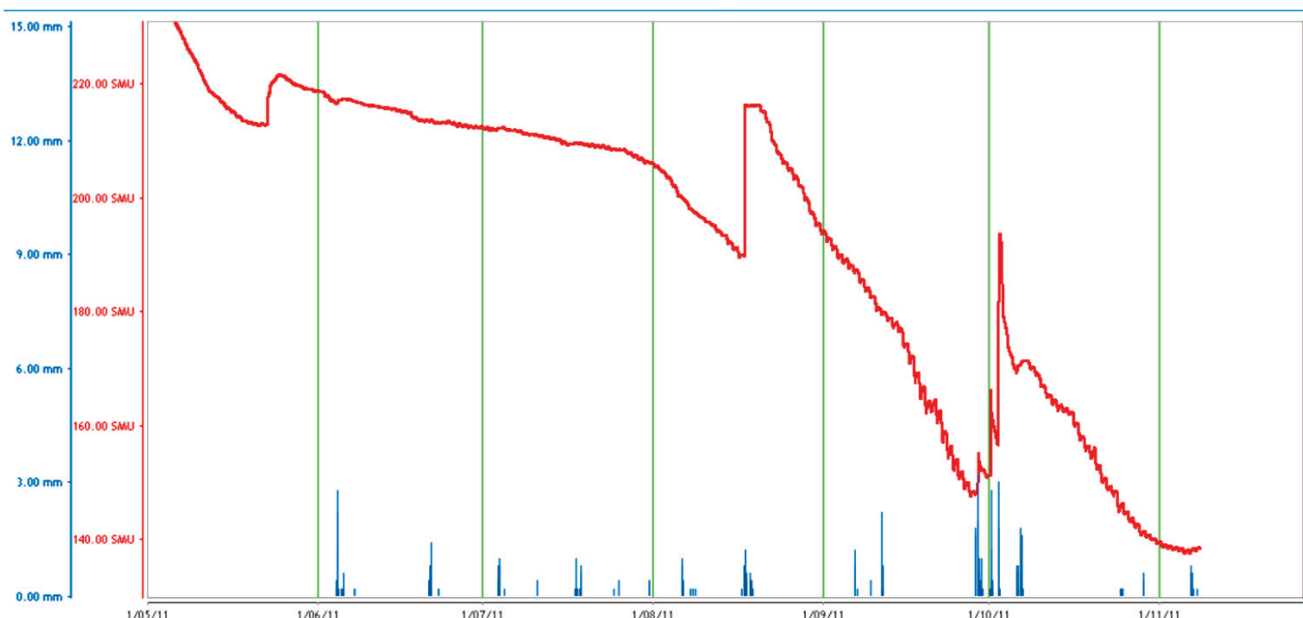
## Moisture Knowledge Network

The sum graph (pictured below) displays soil moisture readings from one of FarmLink's capacitance probes. The graph spans seven months from May 1, 2011 for the yield prophet site Beckom.

The sum graph shows gradual soil water use over the winter months followed by a dramatic increase in soil moisture use from mid August onwards. By the end of September the soil moisture profiles was getting very low due to lack of rain, warm temperatures and peak crop water use. Good rainfall around the last week of September recharged soil water levels giving crops enough moisture for a reasonable run home.

By logging onto the FarmLink soil moisture network webpage you can access more detailed information for 13 sites. There are two types of graphs available. Sum graphs represent the total soil moisture in 1m of soil below 28cm. Separate level graphs provide a detailed view of the soil moisture at each sensor buried at 28cm, 38cm, 58cm, 78cm, 98cm, 118cm.

[www.farmlink.com.au/moisture-knowledge-nw k.html](http://www.farmlink.com.au/moisture-knowledge-nw k.html)





## **FarmLink Research Ltd**

PO Box 240 (17 Denison St) Junee NSW 2663

P: 02 6924 4633

F: 02 6924 4677

[farmlink@farmlink.com.au](mailto:farmlink@farmlink.com.au)

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

FarmLink's **WEATHER or NOT** is partly funded by The National Climate Adaptation and Mitigation Initiative



**Australian Government**  
**Department of Agriculture,  
Fisheries and Forestry**

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