

# WEATHER or NOT

A REVIEW OF SEASONAL AND CROP OUTLOOKS FOR THE FARMLINK REGION

July 2013

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## The season so far....

After two consecutive years of high summer rainfall the 2012/13 summer period was a return to what some believe is a normal weather pattern. I am sure everyone enjoyed the break from spraying the two, three or four times that was required in the previous years. Unfortunately the combination of a decile 1 growing season rainfall (GSR) in 2012 and no summer rainfall resulted in the moisture profile being very low. This was a concern to many especially those considering canola and early sown cereals.

We have welcomed healthy rainfall since the beginning of May and currently this seasons GSR is similar or above that of 2012 already. For those who wished to spread Nitrogen, the season has provided several opportunities already. Yield Prophet modeling and the Moisture Probe Network provide us with information on the current soil moisture. While there is now a reasonable profile there will need to be more rainfall events in the coming months to ensure crops are not moisture limited in the annually critical period of spring.

The Greenethorpe site had the highest summer rainfall receiving 155mm from January to March. Ardlethan received 63.4 and Dirnaseer and Lockhart measured 38.3 and 25.6 respectively. At the time of writing all sites have received between 139 and 175mm of in crop rainfall. At the same time in 2012 Ardlethan had recorded 56.8mm, Dirnaseer 125mm, Greenethorpe 139mm and Lockhart 89mm. This puts all sites with considerably higher GSR than the same period in 2012.

We have some YP paddocks that contain a soil moisture probe in 2013. These are Greenethorpe Canola, Dirnaseer Wheat and Lockhart Wheat. We have included copies of the probe graphs compared to 2012 for your information. We have also included three nitrogen application scenarios for each crop included. You can use these to assess the impacts of a range of nitrogen applications at the time of writing.

The short-term weather forecast is positive with a 50-60% chance of exceeding annual median rainfall between August and October.

***Paul Breust***

(\*please use the results as a guide only and discuss potential outcomes of your own paddocks with your advisor.)

Principal Sponsor

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# ARDLETHAN ~ CANOLA

VARIETY CL575 SOWING DATE 27/4/20123

N APPLIED 127 kg/ha

SOIL TYPE Sandy clay over a medium clay

PLANT DENSITY 29 plants/m<sup>2</sup>

GROWING SEASON RAINFALL 139mm

CURRENT ROOTING DEPTH 602mm

PREDICTED FINAL ROOTING DEPTH 1800mm

CURRENT CROP PAW 40mm

SOIL PAW 41mm

PAWC 216mm

DAILY WATER USE 1.2mm

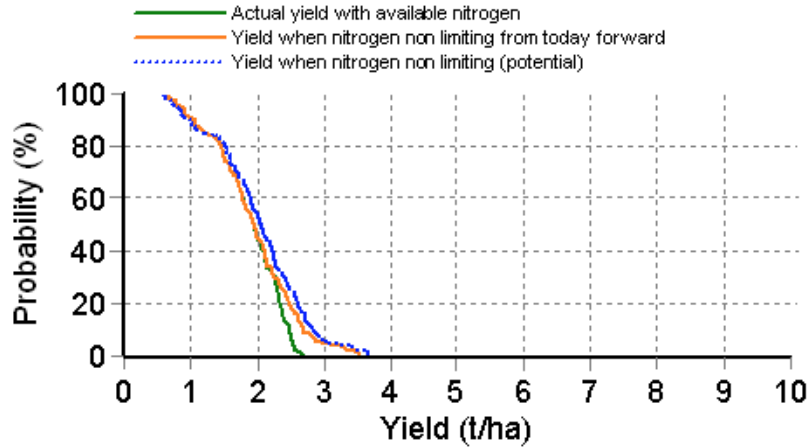
INITIAL N 100kg/ha

TOTAL N 121kg/ha

N AVAILABLE TO ROOTS 100kg/ha

CURRENTLY USING 4.7kg of N/ha/day

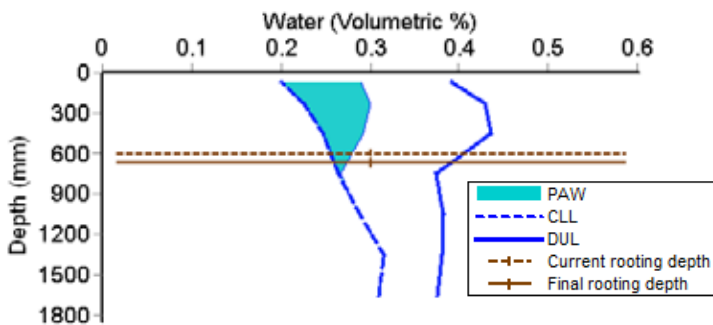
## Grain Yield Probabilities \*



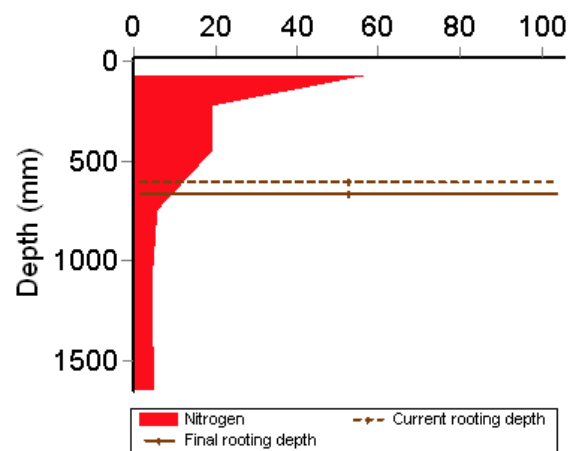
\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

\*\* 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 occur.

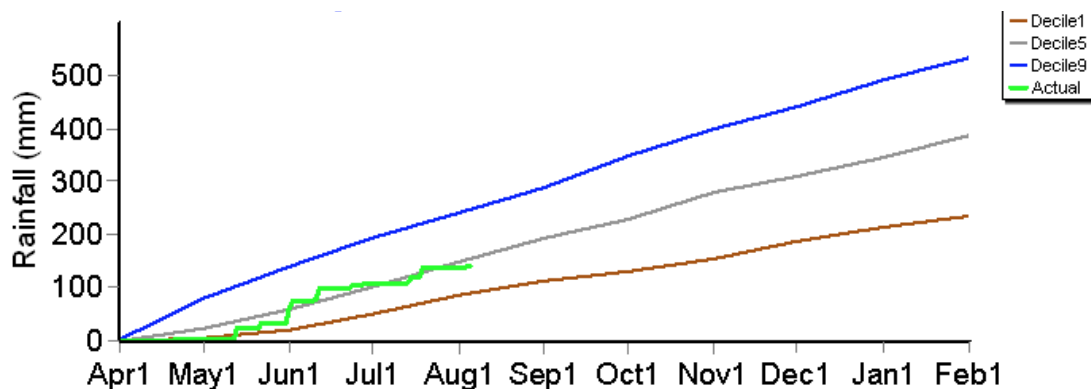
## Water Availability \*\*



## Soil Nitrogen



## Growing Season Rainfall

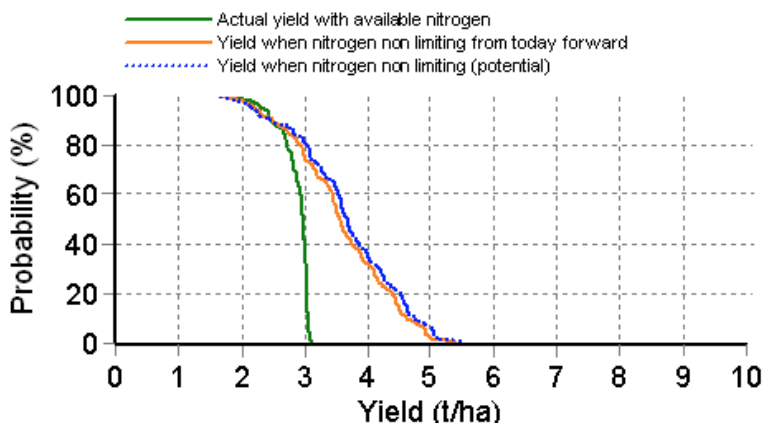


# DIRNASEER ~ CANOLA

**VARIETY** Gem TT    **SOWING DATE** 24/4/2013  
**N APPLIED** 62kg/ha  
**SOIL TYPE** Red Kandosol  
**SOWING DENSITY** 65plants/m<sup>2</sup>  
**GROWING SEASON RAINFALL** 150mm  
**CURRENT ROOTING DEPTH** 741mm  
**PREDICTED FINAL ROOTING DEPTH** 1650mm

**CURRENT CROP PAW** 44mm  
**SOIL PAW** 46mm  
**PAWC** 216mm  
**DAILY WATER USE** 1.0mm  
**INITIAL N** 133kg/ha    **TOTAL N** 32kg/ha  
**N AVAILABLE TO ROOTS** 11kg/ha  
**CURRENTLY USING** 0.5kg of N/ha/day

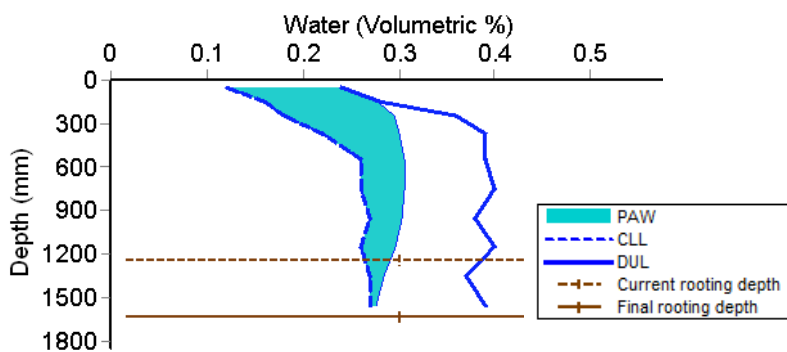
## Grain Yield Probabilities \*



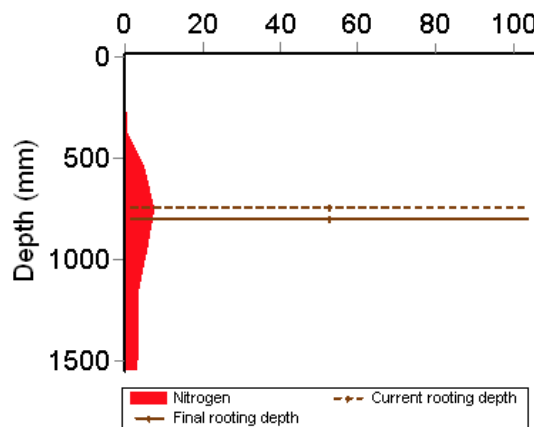
\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

\*\* 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 occur.

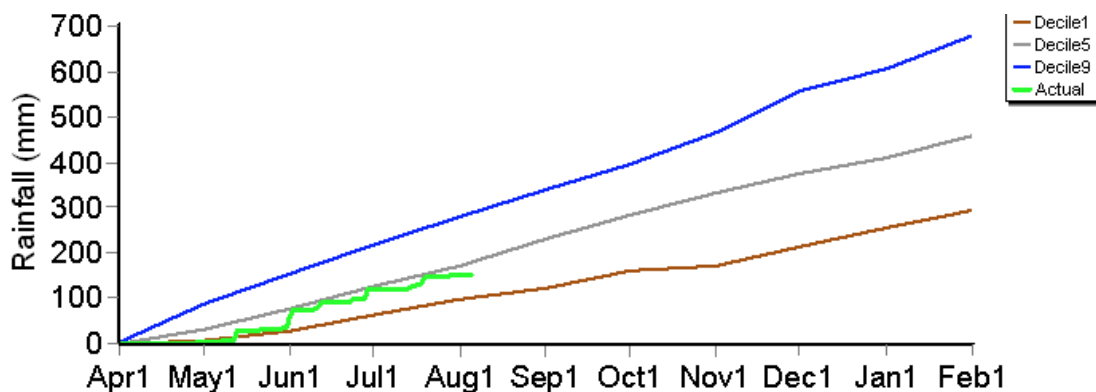
## Water Availability \*\*



## Soil Nitrogen



## Growing Season Rainfall



# GREENETHORPE ~ CANOLA

VARIETY GemTT SOWING DATE 2/5/2013

N APPLIED 30kg/ha

SOIL TYPE Heavy Red Kandosol

SOWING DENSITY 50 plants/m<sup>2</sup>

GROWING SEASON RAINFALL 175mm

CURRENT ROOTING DEPTH 1122mm

PREDICTED FINAL ROOTING DEPTH 1378mm

CURRENT CROP PAW 104mm

SOIL PAW 109mm

PAWC 150mm

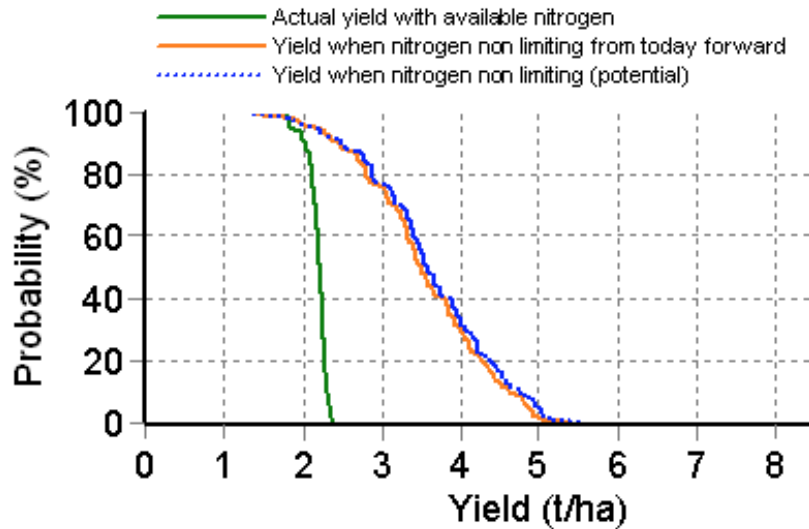
DAILY WATER USE 0.8mm

INITIAL N 106kg/ha TOTAL N 31kg/ha

N AVAILABLE TO ROOTS 18kg/ha

CURRENTLY USING 2.1kg of N/ha/day

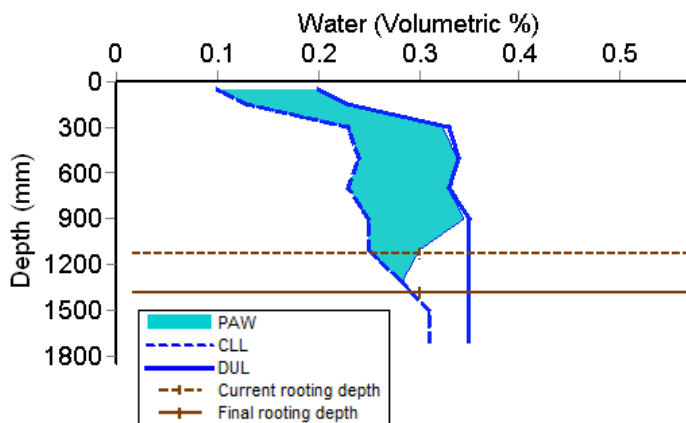
## Grain Yield Probabilities \*



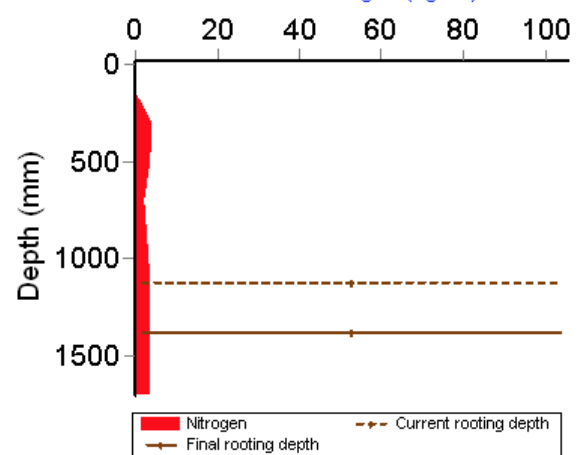
\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

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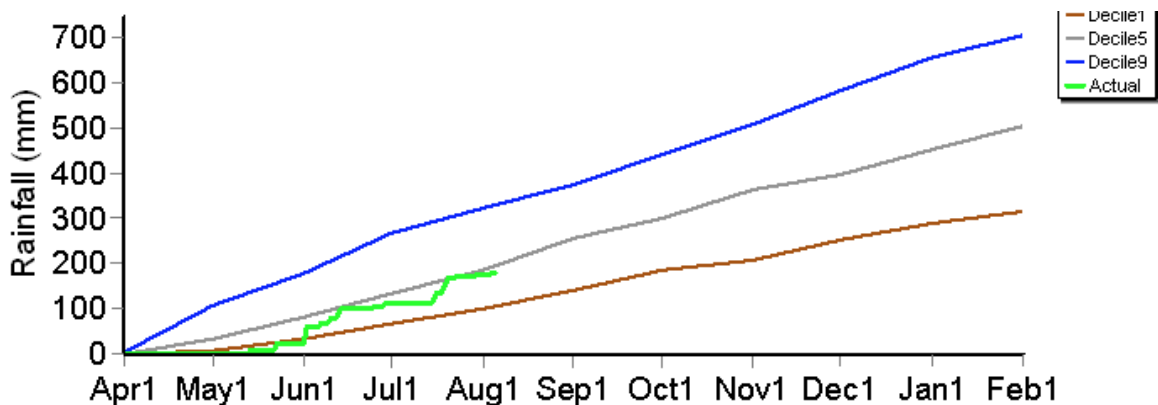
## Water Availability \*\*



## Soil Nitrogen



## Growing Season Rainfall

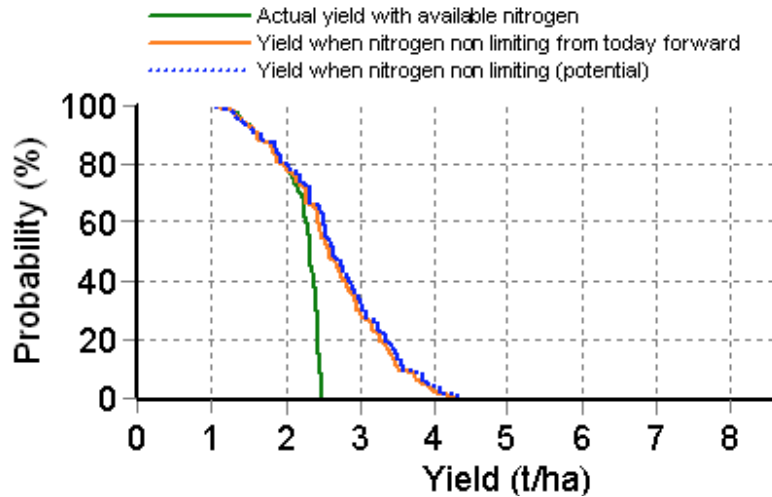


# LOCKHART ~ CANOLA

**VARIETY** Gem TT **SOWING DATE** 25/4/2013  
**N APPLIED** 71 kg/ha  
**SOIL TYPE** Brown Sodosol  
**SOWING DENSITY** 20 plants/m<sup>2</sup>  
**GROWING SEASON RAINFALL** 170mm  
**CURRENT ROOTING DEPTH** 878mm  
**PREDICTED FINAL ROOTING DEPTH** 1650mm

**CURRENT CROP PAW** 64mm  
**SOIL PAW** 65mm  
**PAWC** 173mm  
**DAILY WATER USE** 1.1mm  
**INITIAL N** 128kg/ha **TOTAL N** 98kg/ha  
**N AVAILABLE TO ROOTS** 84kg/ha  
**CURRENTLY USING** 4.3kg of N/ha/day

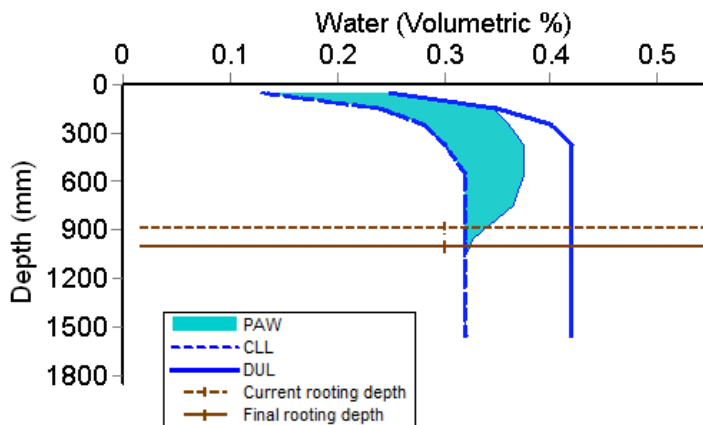
## Grain Yield Probabilities \*



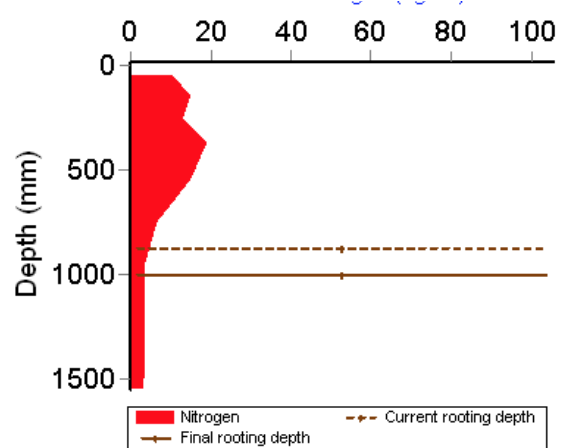
\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

\*\* 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 occur.

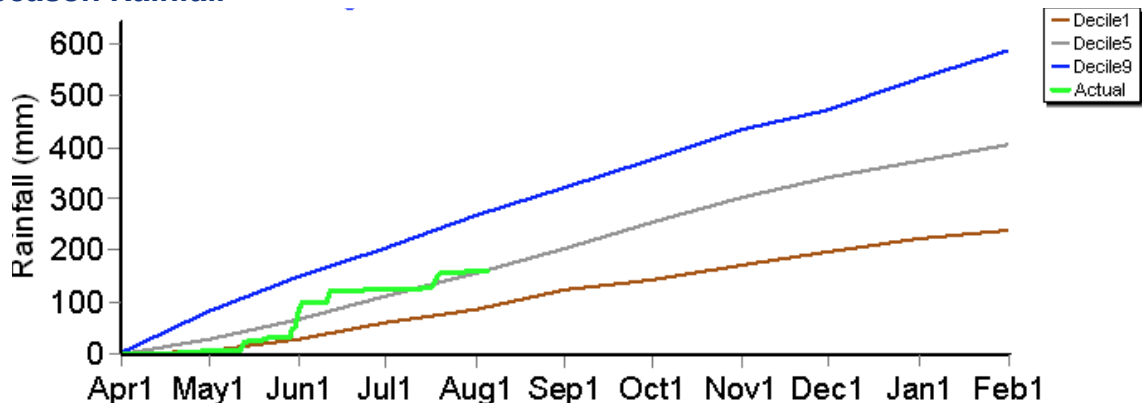
## Water Availability \*\*



## Soil Nitrogen



## Growing Season Rainfall



# ARDLETHAN ~ WHEAT

VARIETY Gregory SOWING DATE 1/5/2013

N APPLIED 48kg/ha

SOIL TYPE Sandy clay over a medium clay

SOWING DENSITY 120 plants/m<sup>2</sup>

GROWING SEASON RAINFALL 139mm

CURRENT ROOTING DEPTH 487mm

PREDICTED FINAL ROOTING DEPTH 604mm

CURRENT CROP PAW 28mm

SOIL PAW 32mm

PAWC 216 mm

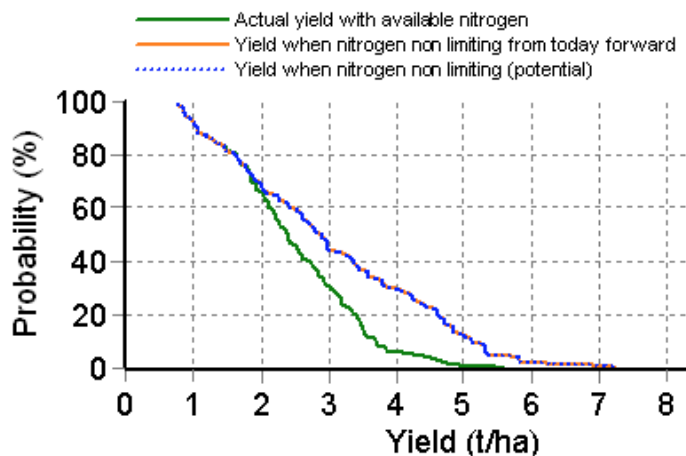
DAILY WATER USE 1.1mm

INITIAL N 140kg/ha TOTAL N 69kg/ha

N AVAILABLE TO ROOTS 23kg/ha

CURRENTLY USING 0.5kg of N/ha/day

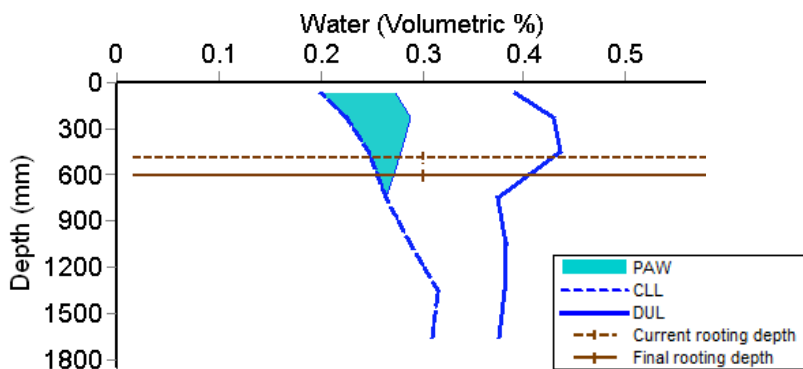
## Grain Yield Probabilities \*



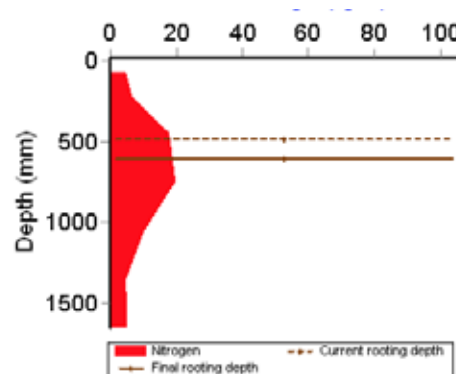
\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

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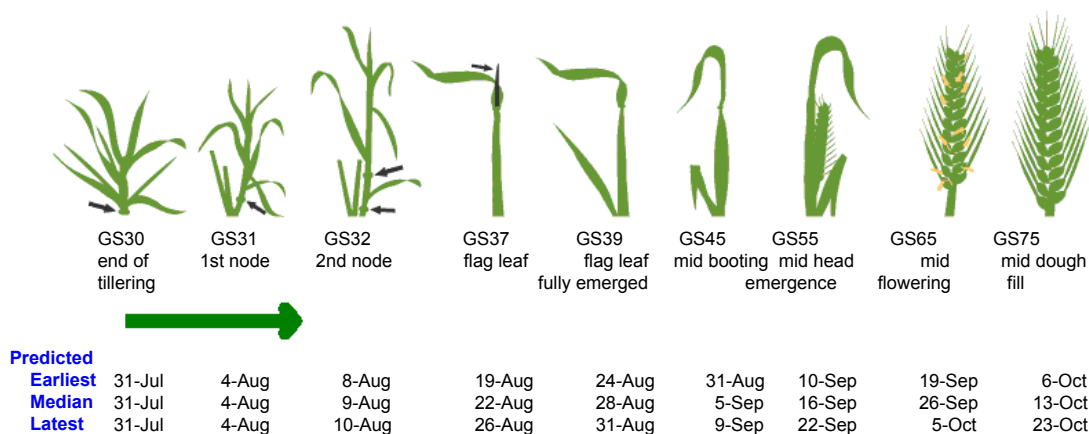
## Water Availability \*\*



## Soil Nitrogen



## Zadok's Growth Stages

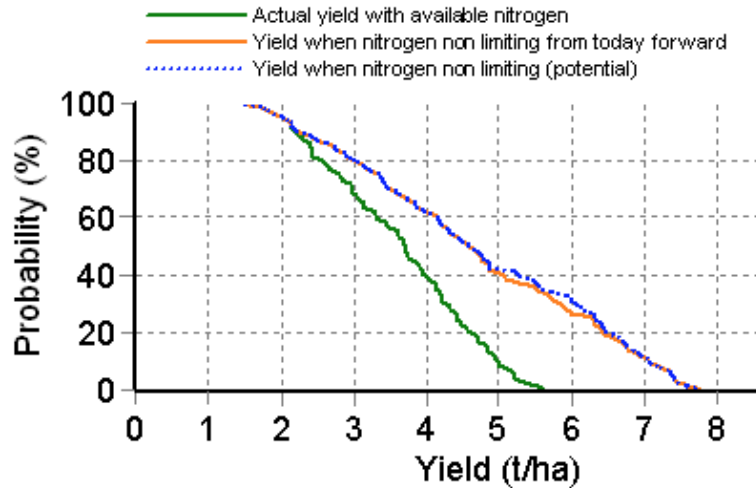


# DIRNASEER ~ WHEAT

**VARIETY** Sunvale **SOWING DATE** 12/5/2013  
**N APPLIED** 48kg/ha  
**SOIL TYPE** Red Kandosol  
**SOWING DENSITY** 119 plants/m<sup>2</sup>  
**GROWING SEASON RAINFALL** 150mm  
**CURRENT ROOTING DEPTH** 945mm  
**PREDICTED FINAL ROOTING DEPTH** 1650mm

**CURRENT CROP PAW** 42mm  
**SOIL PAW** 46mm  
**PAWC** 216mm  
**DAILY WATER USE** 0.9mm  
**INITIAL N** 129kg/ha **TOTAL N** 86kg/ha  
**N AVAILABLE TO ROOTS** 54kg/ha  
**CURRENTLY USING** 2.6kg of N/ha/day

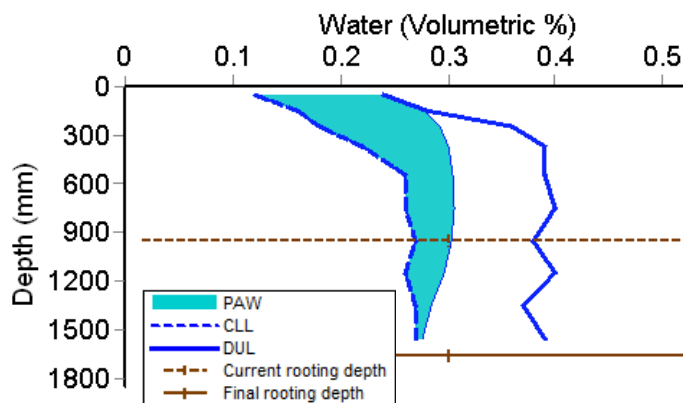
## Grain Yield Probabilities \*



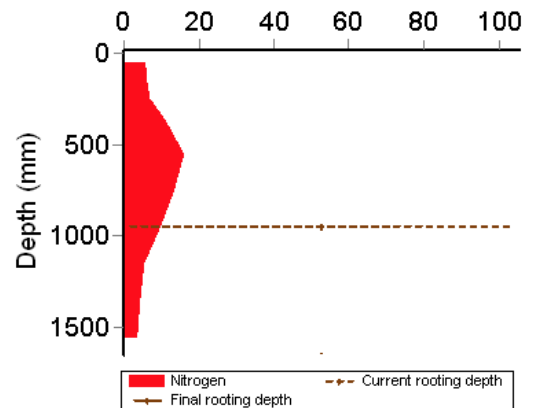
\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

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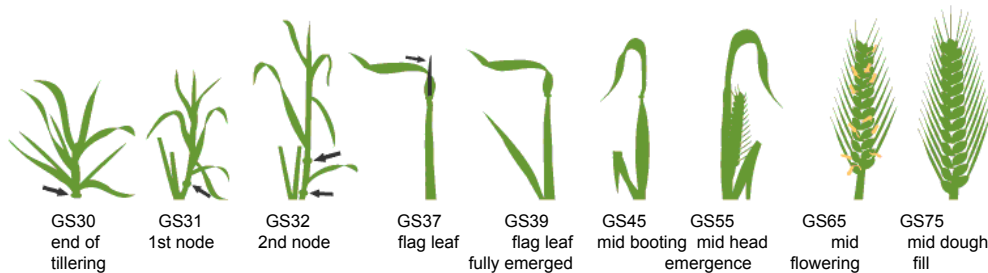
## Water Availability \*\*



## Soil Nitrogen



## Zadok's Growth Stages



**Predicted**

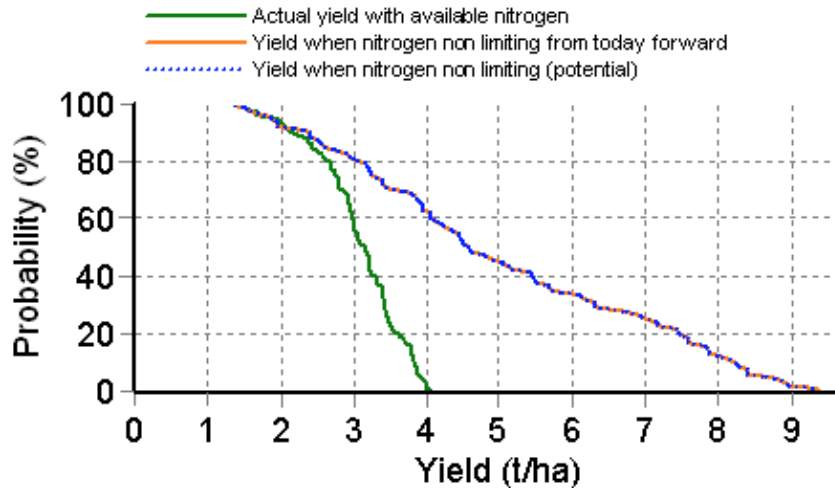
<b>Earliest</b>	10-Aug	13-Aug	17-Aug	29-Aug	2-Sep	10-Sep	20-Sep	30-Sep	16-Oct
<b>Median</b>	12-Aug	16-Aug	21-Aug	3-Sep	8-Sep	17-Sep	28-Sep	8-Oct	25-Oct
<b>Latest</b>	14-Aug	19-Aug	24-Aug	7-Sep	13-Sep	22-Sep	6-Oct	16-Oct	5-Nov

# GREENETHORPE ~ WHEAT

VARIETY Gregory SOWING DATE 23/5/2013  
 N APPLIED 10kg/ha  
 SOIL TYPE Heavy Red Kandosol  
 SOWING DENSITY 136 plants/m<sup>2</sup>  
 GROWING SEASON RAINFALL 175mm  
 CURRENT ROOTING DEPTH 696mm  
 PREDICTED FINAL ROOTING DEPTH 1385mm

CURRENT CROP PAW 66mm  
 SOIL PAW 102mm  
 PAWC 150mm  
 DAILY WATER USE 0.4mm  
 INITIAL N 115kg/ha TOTAL N 76kg/ha  
 N AVAILABLE TO ROOTS 40kg/ha  
 CURRENTLY USING 2.2kg of N/ha/day

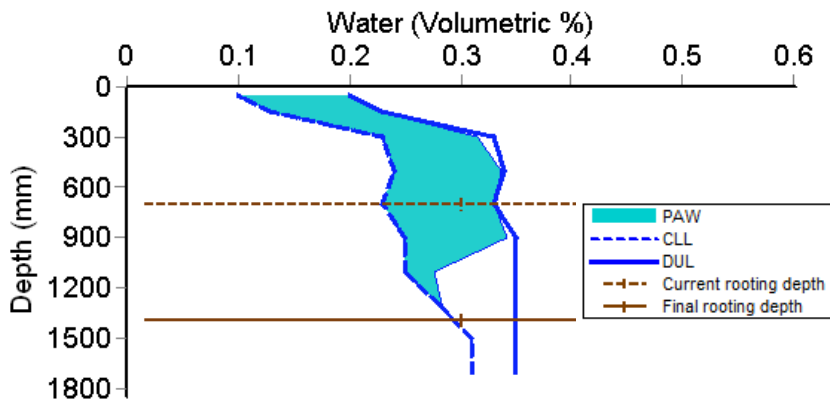
## Grain Yield Probabilities \*



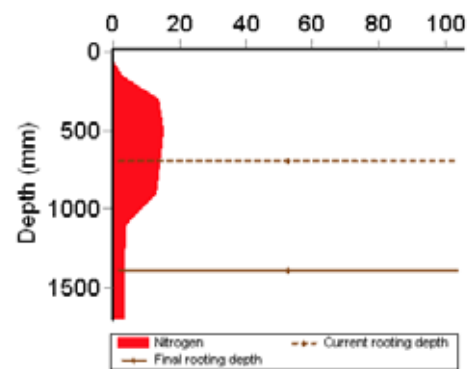
\* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

\*\* 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 occur.

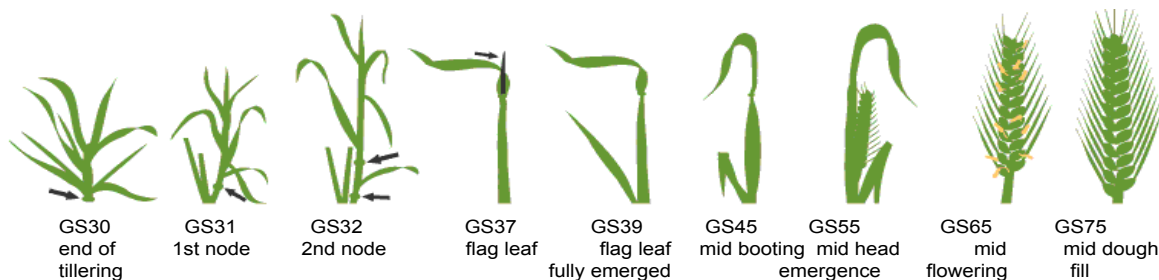
## Water Availability \*\*



## Soil Nitrogen



## Zadok's Growth Stages



	27-Aug	30-Aug	2-Sep	13-Sep	18-Sep	24-Sep	3-Oct	12-Oct	28-Oct
<b>Predicted Earliest</b>	27-Aug	30-Aug	2-Sep	13-Sep	18-Sep	24-Sep	3-Oct	12-Oct	28-Oct
<b>Median</b>	1-Sep	4-Sep	8-Sep	20-Sep	24-Sep	2-Oct	12-Oct	21-Oct	6-Nov
<b>Latest</b>	5-Sep	8-Sep	12-Sep	26-Sep	2-Oct	10-Oct	21-Oct	1-Nov	18-Nov



# LOCKHART ~ WHEAT

VARIETY Ellison SOWING DATE 7/5/2013

N APPLIED 44kg/ha

SOIL TYPE Brown Sodosol

SOWING DENSITY 87 plants/m<sup>2</sup>

GROWING SEASON RAINFALL 130mm

CURRENT ROOTING DEPTH 1075mm

PREDICTED FINAL ROOTING DEPTH 1648mm

CURRENT CROP PAW 81mm

SOIL PAW 90mm

PAWC 173mm

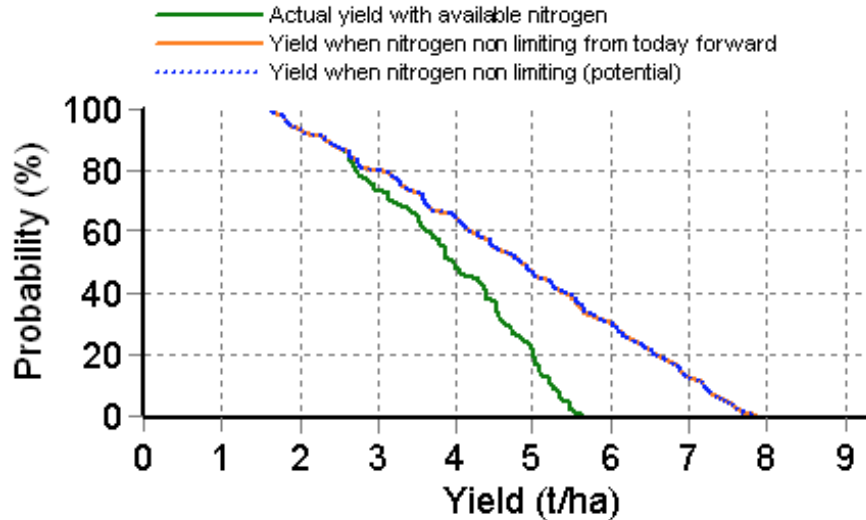
DAILY WATER USE 0.9mm

INITIAL N 110 kg/ha TOTAL N 79 kg/ha

N AVAILABLE TO ROOTS 68kg/ha

CURRENTLY USING 3.1kg of N/ha/day

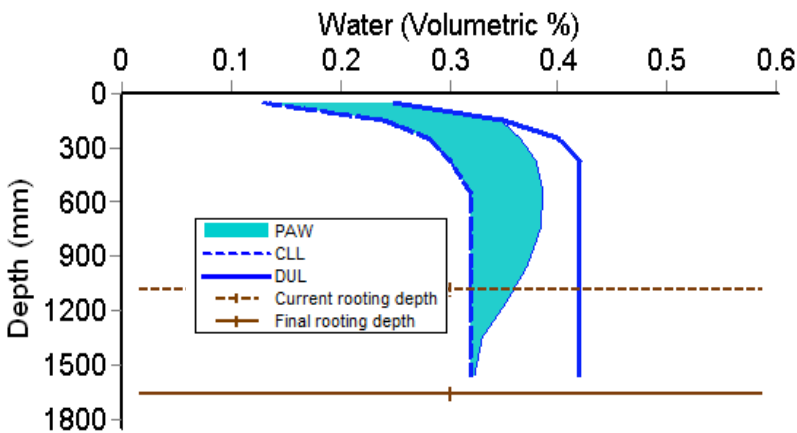
## Grain Yield Probabilities \*



\* 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.

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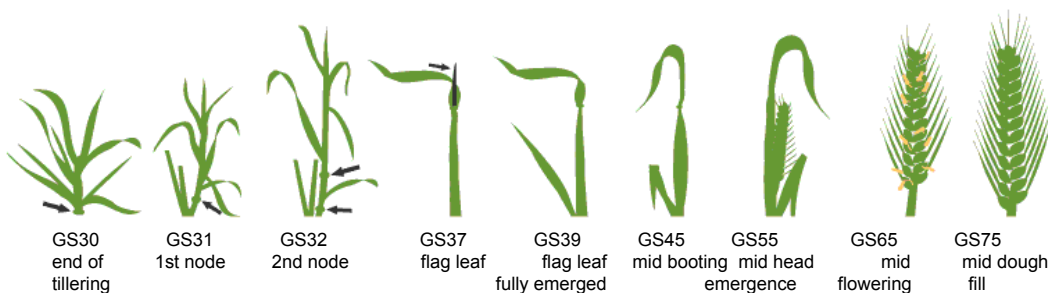
## Water Availability \*\*



## Soil Nitrogen



## Zadok's Growth Stages



Predicted	Earliest	Median	Latest	9-Aug	13-Aug	17-Aug	28-Aug	1-Sep	8-Sep	17-Sep	26-Sep	12-Oct
Earliest	9-Aug	13-Aug	17-Aug	28-Aug	1-Sep	8-Sep	17-Sep	26-Sep	12-Oct			
Median	11-Aug	15-Aug	20-Aug	1-Sep	6-Sep	14-Sep	25-Sep	4-Oct	21-Oct			
Latest	12-Aug	17-Aug	23-Aug	5-Sep	10-Sep	20-Sep	3-Oct	13-Oct	2-Nov			

# YIELD PROPHET PADDOCKS



**ARDLETHAN Wheat** 13 June 2013



**ARDLETHAN Canola** 13 June 2013



**DIRNASEER Wheat** 5 June 2013



**DIRNASEER Canola** 5 June 2013



**GREENETHORPE Wheat** 6 June 2013



**GREENETHORPE Canola** 6 June 2013



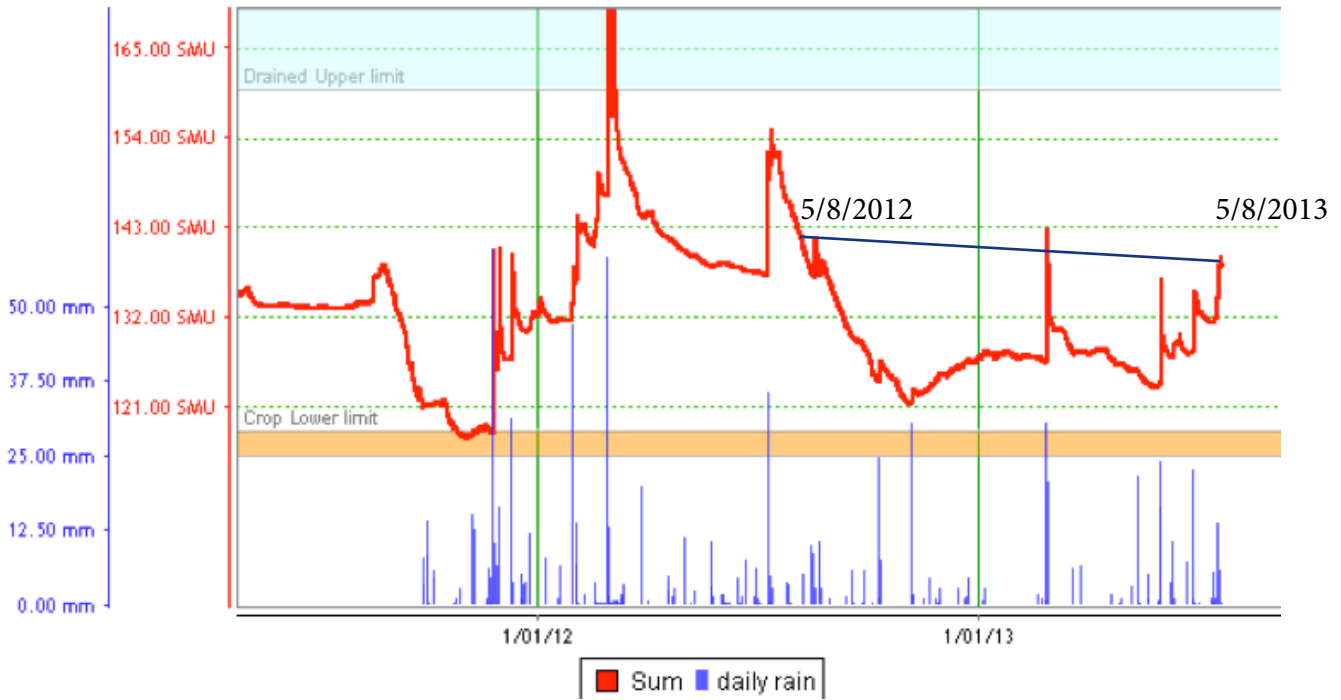
**LOCKHART Wheat** 17 June 2013



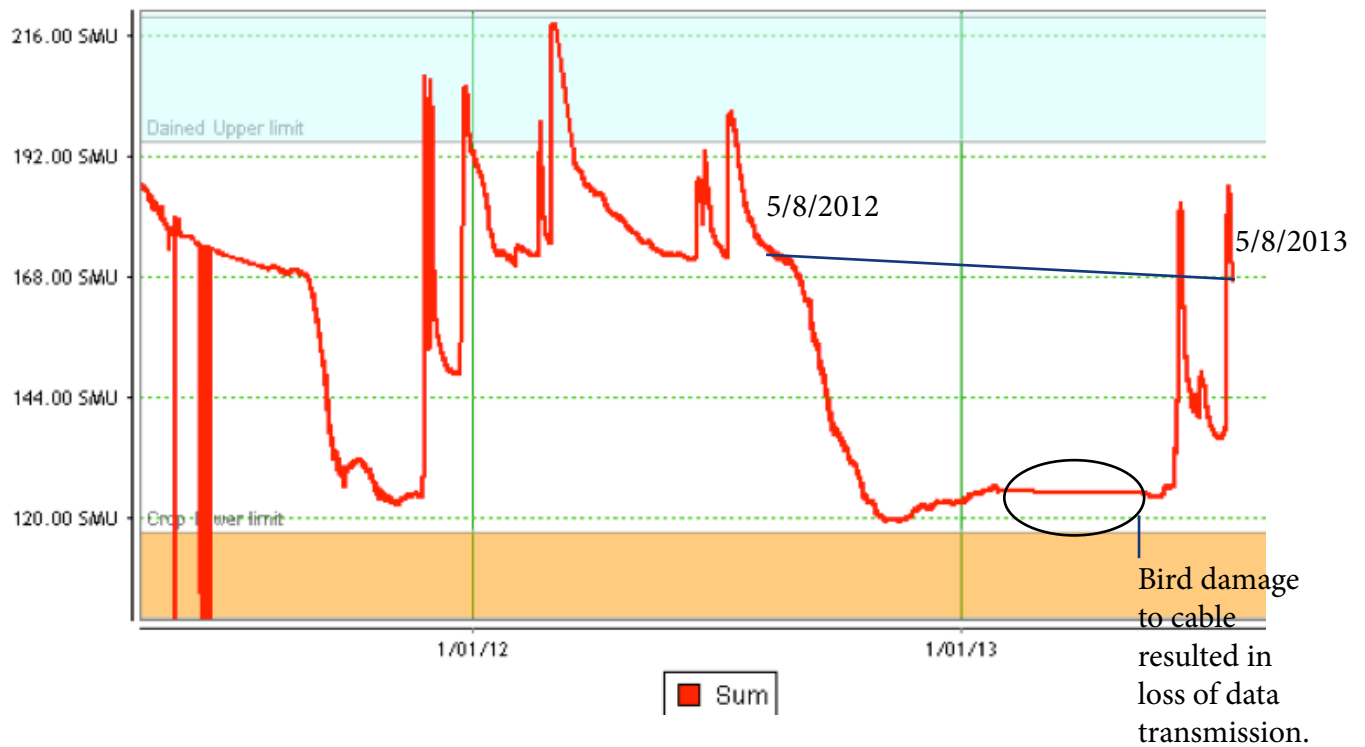
**LOCKHART Canola** 17 June 2013

# SOIL MOISTURE PROBES

## DIRNASEER NORTH - SUM

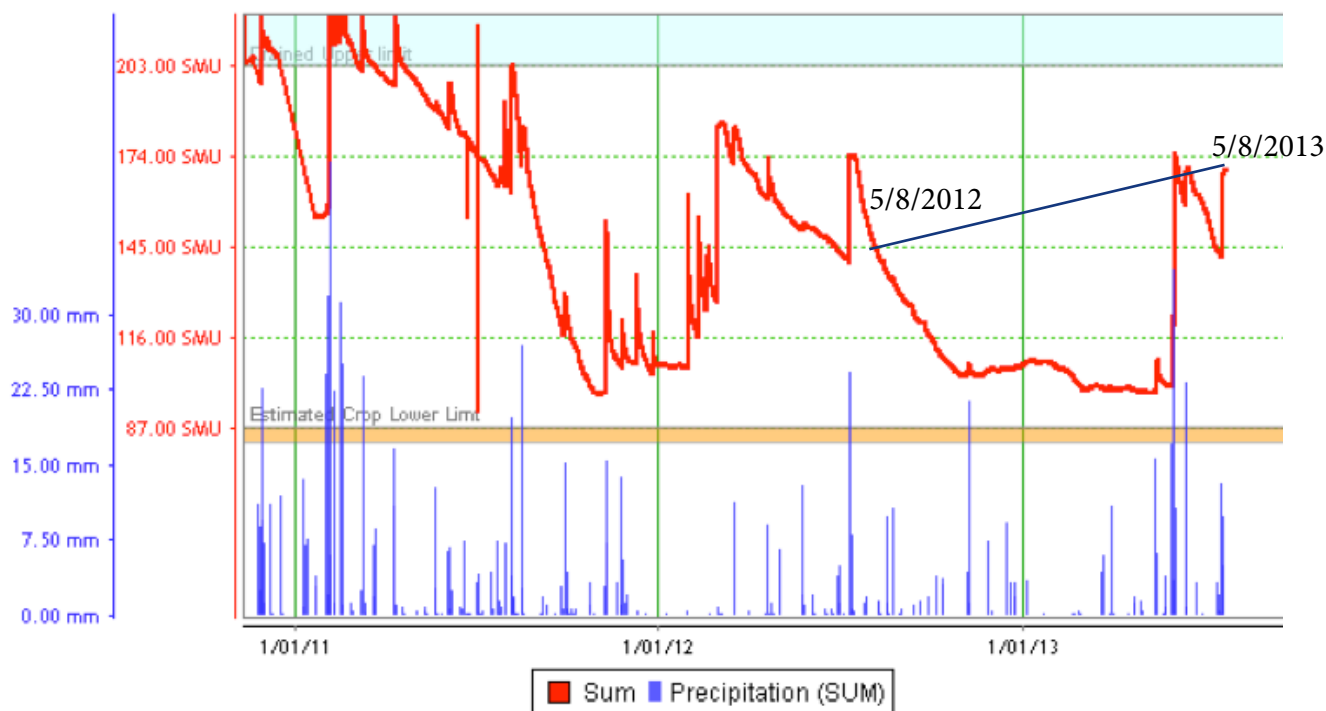


## GREENETHORPE EAST - SUM



# SOIL MOISTURE PROBES

## LOCKHART NORTH - SUM



## Is there a probe near me?

FarmLink Research has 18 paired soil moisture capacitance probes and automatic rainfall gauges throughout the region updating data daily to the Member's area of the website.

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

**SOIL MOISTURE PROBE DATA** is now easier to view through the member's area. Probes have been designated to a zone; **North, South, East and West** of Junee township. To find a probe near you click on the zone closest to you and the graphs will open in a new window.

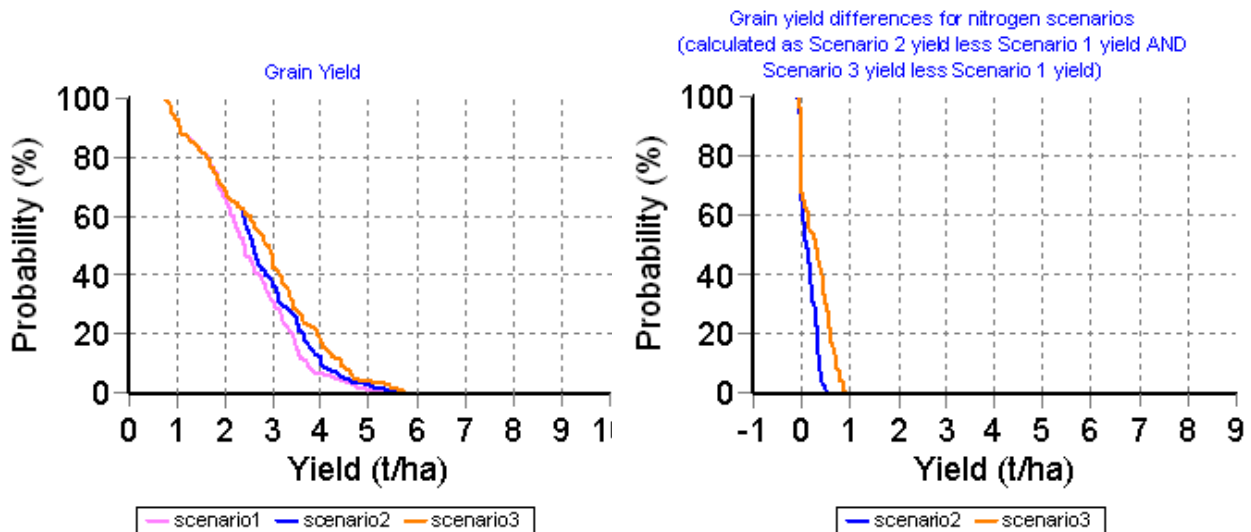
The screenshot shows the FarmLink Research website interface. The main content area is titled 'Soil Moisture Probe Data'. A red oval highlights the 'QUICK LINKS' menu, which includes options for North, East, South, and West. The website also features a 'Featured Supporter' section and a 'Soil Moisture Probe Zones' section.

# NITROGEN COMPARISON SCENARIOS

## ARDLETHAN - WHEAT

Scenario1:		Scenario2:		Scenario3:	
Date	Amount (kg/ha)	Date	Amount (kg/ha)	Date	Amount (kg/ha)
1-May	31	1-May	31	1-May	31
5-Aug	0	5-Aug	23	5-Aug	46

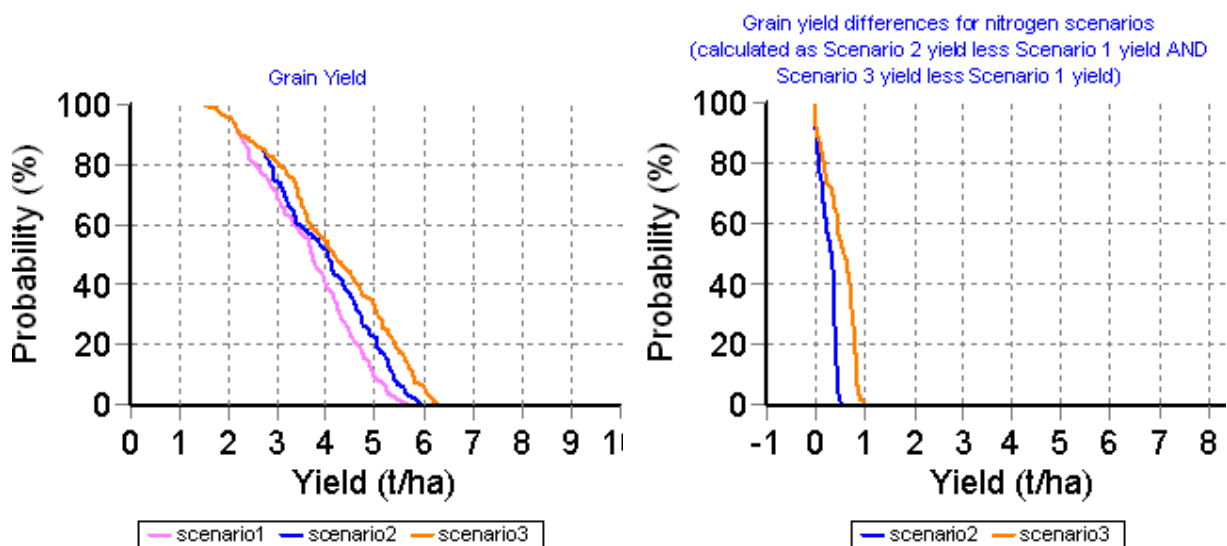
### 1. Grain Yield Outcomes for Nitrogen Scenarios



## DIRNASEER - WHEAT

Scenario1:		Scenario2:		Scenario3:	
Date	Amount (kg/ha)	Date	Amount (kg/ha)	Date	Amount (kg/ha)
15-Jul	37	15-Jul	37	15-Jul	37
12-May	11	12-May	11	12-May	11
5-Aug	0	5-Aug	23	5-Aug	46

### 1. Grain Yield Outcomes for Nitrogen Scenarios

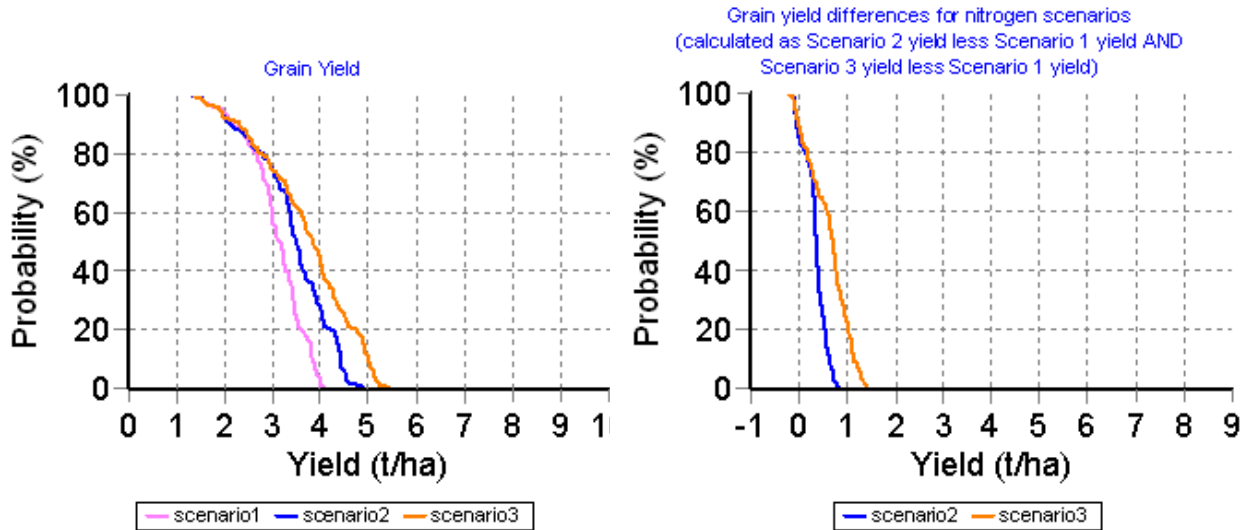


# NITROGEN COMPARISON SCENARIOS

## GREENETHORPE - WHEAT

Scenario1:		Scenario2:		Scenario3:	
Date	Amount (kg/ha)	Date	Amount (kg/ha)	Date	Amount (kg/ha)
23-May	10	23-May	10	23-May	10
5-Aug	0	5-Aug	23	5-Aug	46

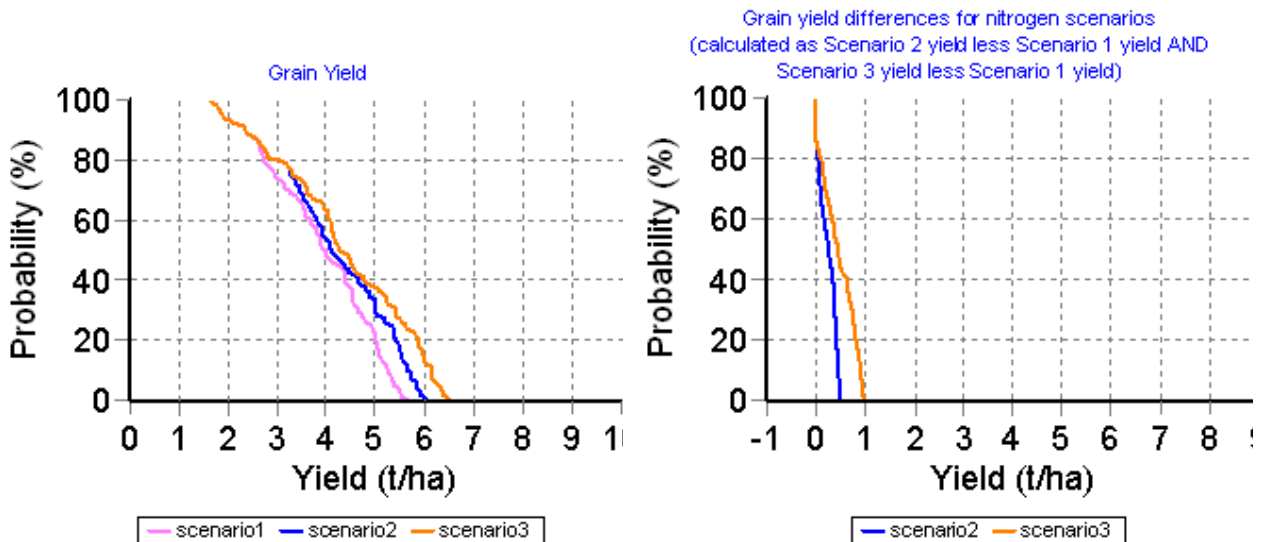
### 1. Grain Yield Outcomes for Nitrogen Scenarios



## LOCKHART - WHEAT

Scenario1:		Scenario2:		Scenario3:	
Date	Amount (kg/ha)	Date	Amount (kg/ha)	Date	Amount (kg/ha)
7-May	5	7-May	5	7-May	5
15-Jul	39	15-Jul	39	15-Jul	39
5-Aug	0	5-Aug	23	5-Aug	46

### 1. Grain Yield Outcomes for Nitrogen Scenarios



## ***FarmLink Research***



FarmLink Research Limited  
PO Box 240  
17 Denison St Junee NSW 2663  
P: (02) 6924 4633 F: (02) 6924 4677  
E: [farmlink@farmlink.com.au](mailto:farmlink@farmlink.com.au)  
[www.farmlink.com.au](http://www.farmlink.com.au)