WEATHER or NOT

A REVIEW OF SEASONAL AND CROP OUTLOOKS FOR THE FARMLINK REGION

September 2013

Index

The season so far....

Pheww… The collective sigh of relief heard all over NSW grain growing regions on the 19th September 2013. In the western areas of our region the rain came just in time. At a Barellan grower meeting on Friday the 20th of September, crops looked fantastic and reports are similar across the region. Rainfalls were between 30 and 50mm and were exactly what was required and in most cases at exactly the right time.

Growing season rainfalls range from 234mm to 260mm which is an average year as indicated by a decile 5 rating. The model indicates that Canola in most locations will get no extra benefit from additional rainfall, see Table 1 below, minimum vs maximum yield predictions. When inspecting the crops the current growth stage and the significant rainfalls last week confirm this prediction. Greenethorpe has some potential to increase yield but the other crops are almost finished and the current plant available water is enough to get them home, see photos of crops on page 14.

Wheat on the other hand still has a way to go with the crops at Greenethorpe and Lockhart are in the early stages of booting and have 49-54mm of soil moisture underneath them. Temora WUE, Dirnaseer and Ardlethan are approaching, or in the midst of flowering and may require another rain event to attain full yield potential. These sites have between 26-39mm soil moisture in the profile and are using approximately 1-1.5mm per day which will get the crops through to the end of October. The model reflects this with yield predictions of between 2.3 – 5.4t/ha and this data is presented below in Table 1. Minimum yields are calculated if no more rain falls from this date forward.

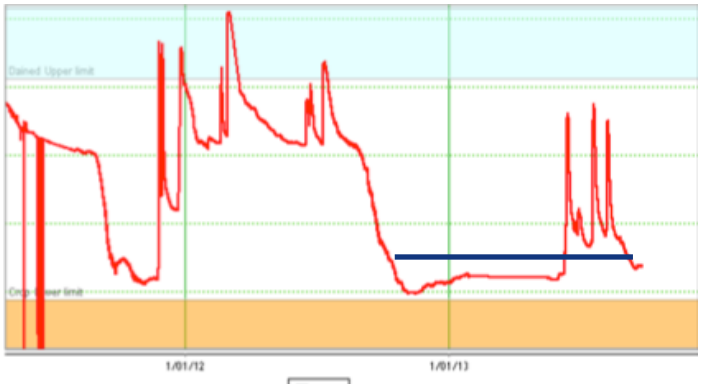
Table 1: Yield Prophet yield predictions, actual maturity and PAW 26th September, 2013.

Site	Min t/ha	Max t/ha	PAW	Maturity	GSR	mm/day
Ardlethan W	2.75	4.5	26	early flower	234	1.3
Ardlethan C	2	2	24	mid flower	234	1.2
Dirnaseer W	2.5	5.3	39	early flower	260	1.4
Dirnaseer C	3	3	26	Late flower	260	1.5
Greenethorpe W	2.3	5.3	54	booting	251	2.6
Greenethorpe C	2.7	3	46	mid flower	251	2.3
Lockhart W	3	5.4	49	early flower	243	2
Lockhart C	2.2	2.4	25	late flower	243	1.3
Temora WUE W	3.8	6.1	44	mid flower	235	2.0
Temora WUE C	2.3	2.6	40	late flower	235	2.0
EH Graham W	3.5	6.8	54	early flower	242	2.7

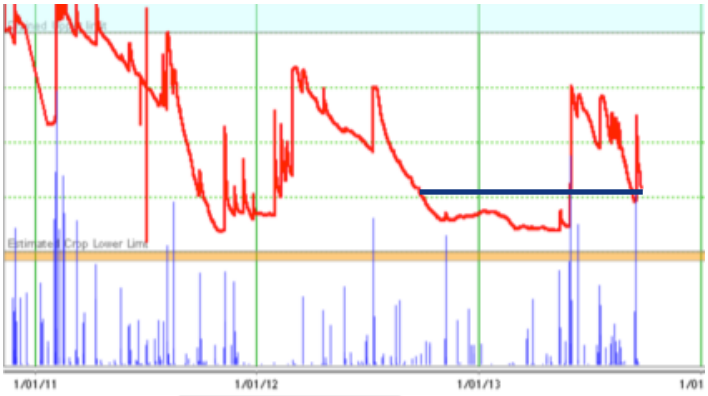
The season so far continued....

The moisture probes at each of the yield prophet sites show similar trends to the model for plant available water, see graphs below.The arrows on each graph indicate the soil moisture probe levels in 2013 compared to 2012. All graphs are the same levels for each year which should give confidence for good grain yields this harvest based on soil water profile.

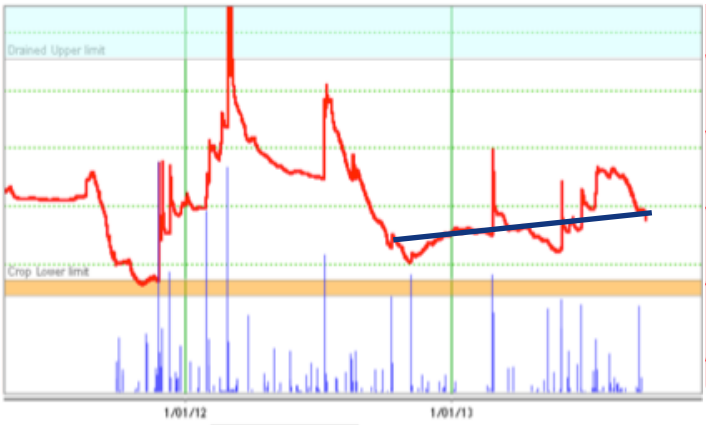
The year is looking very promising to this stage and a good rainfall event in the next month will allow wheat crops to maximise their current potential. There have been some reports of stripe rust in the western areas so it would be wise to stay vigilant to prevent potential damage. Consider each varieties adult plant resistance when developing management plans. Other issues to keep in mind are aphids, heliothis and armyworm. Good luck with the rest of the season.



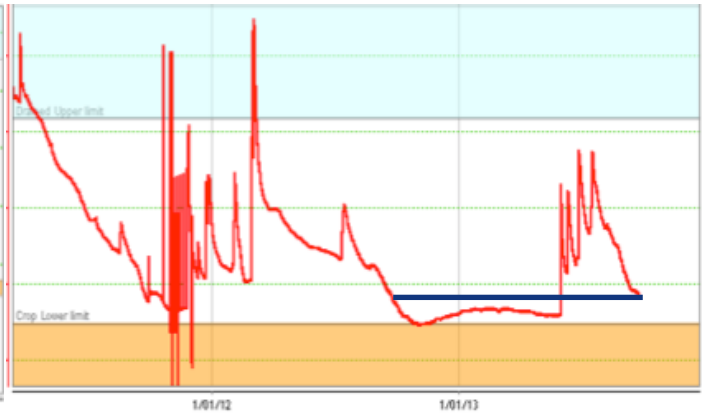
Greenethorpe West probe Sum C11 W12 C13



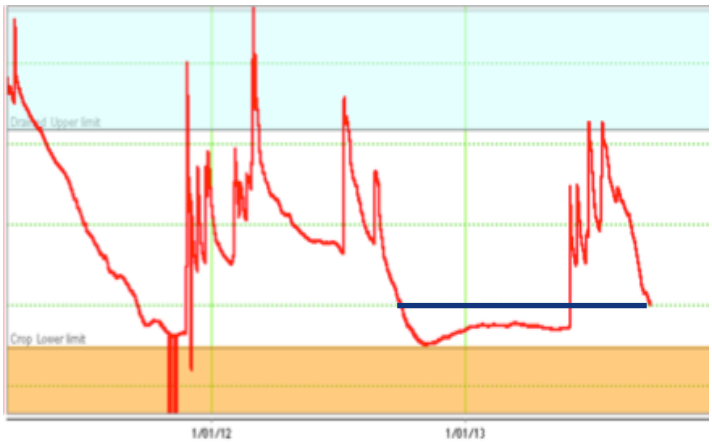
Lockhart North East probe Sum B11 C12 W13



Dirnaseer YP North Probe Sum W11 C12 W13



Temora South WUE Plot 11 Probe Sum C11 W12 W13



Temora South WUE Plot 16 Probe Sum W11 W12 C13

Paul Breust
Research and Extension Coordinator, FarmLink Research

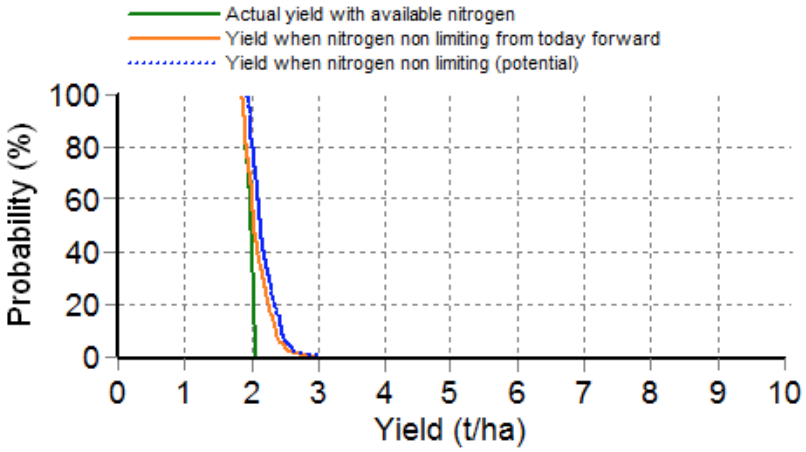
(*please use the results as a guide only and discuss potential outcomes of your own paddocks with your advisor.)

ARDLETHAN ~ CANOLA

VARIETY CL575 **SOWING DATE** 27/4/2013
N APPLIED 89 kg/ha
SOIL TYPE Sandy clay over a medium clay
PLANT DENSITY 29 plants/m²
GROWING SEASON RAINFALL 234mm
CURRENT ROOTING DEPTH 800mm
PREDICTED FINAL ROOTING DEPTH 840mm

CURRENT CROP PAW 23mm
SOIL PAW 24mm
PAWC 216mm
DAILY WATER USE 1.2mm
INITIAL N 100kg/ha **N PROFILE** 19kg/ha
N AVAILABLE TO ROOTS 3.8kg/ha
CURRENTLY USING 0.1kg of N/ha/day

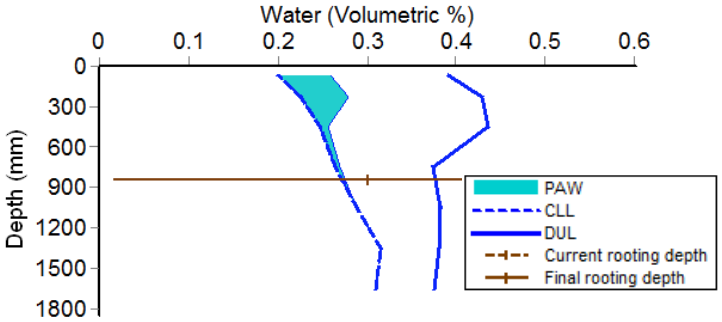
Grain Yield Probabilities *



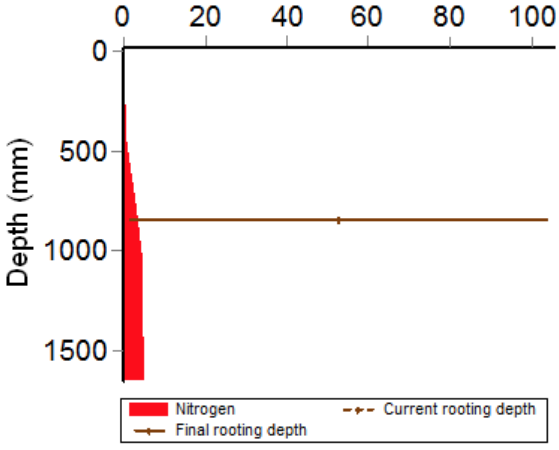
* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

** 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.

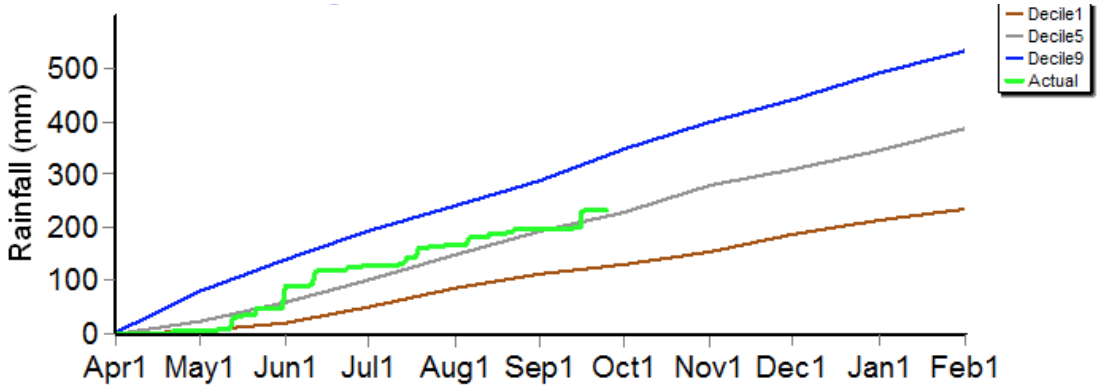
Water Availability **



Soil Nitrogen



Growing Season Rainfall

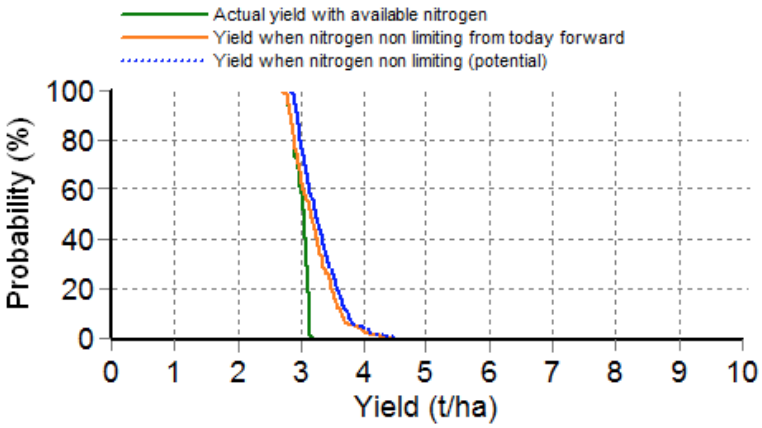


DIRNASEER ~ CANOLA

VARIETY Gem TT **SOWING DATE** 24/4/2013
N APPLIED 108kg/ha
SOIL TYPE Red Kandosol
SOWING DENSITY 65 plants/m^2
GROWING SEASON RAINFALL 260mm
CURRENT ROOTING DEPTH 1648mm
PREDICTED FINAL ROOTING DEPTH 1648mm

CURRENT CROP PAW 25mm
SOIL PAW 26mm
PAWC 216mm
DAILY WATER USE 1.5mm
INITIAL N 133kg/ha **N IN PROFILE** 5kg/ha
N AVAILABLE TO ROOTS 5.2kg/ha
CURRENTLY USING 0.1kg of N/ha/day

Grain Yield Probabilities *



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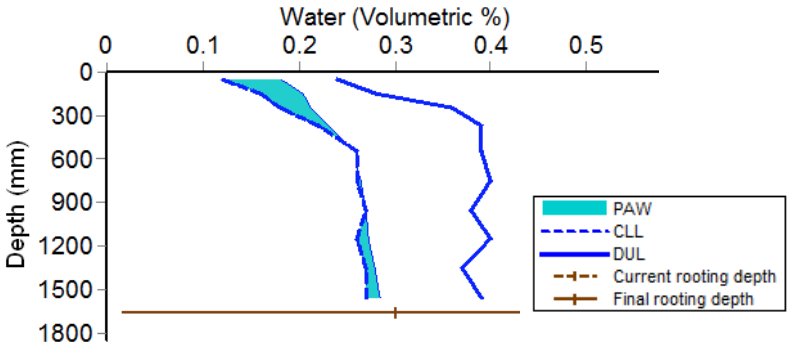
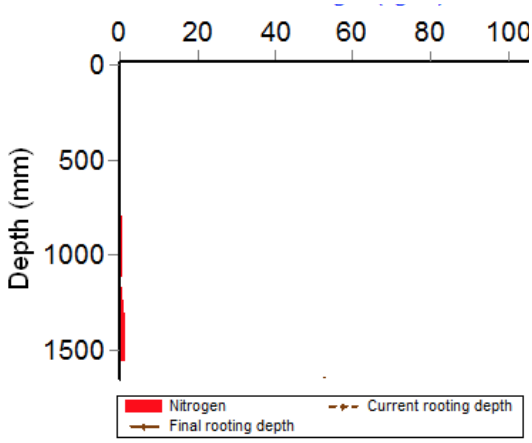
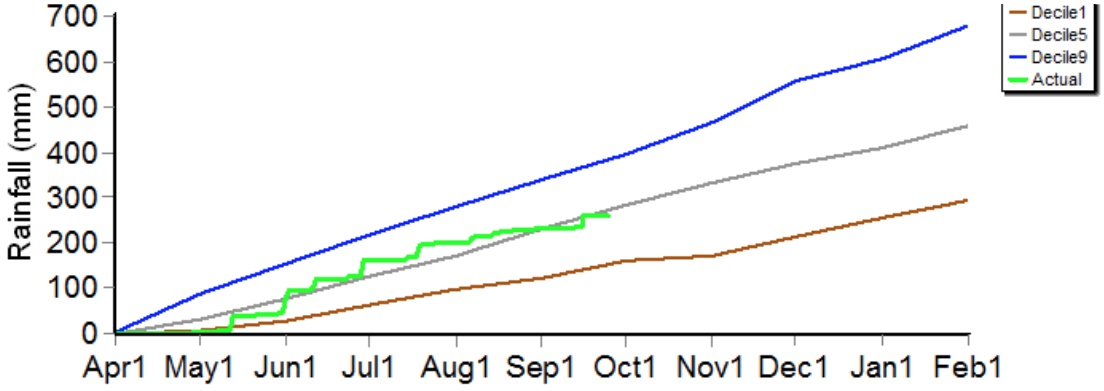


Soil Nitrogen



Growing Season Rainfall

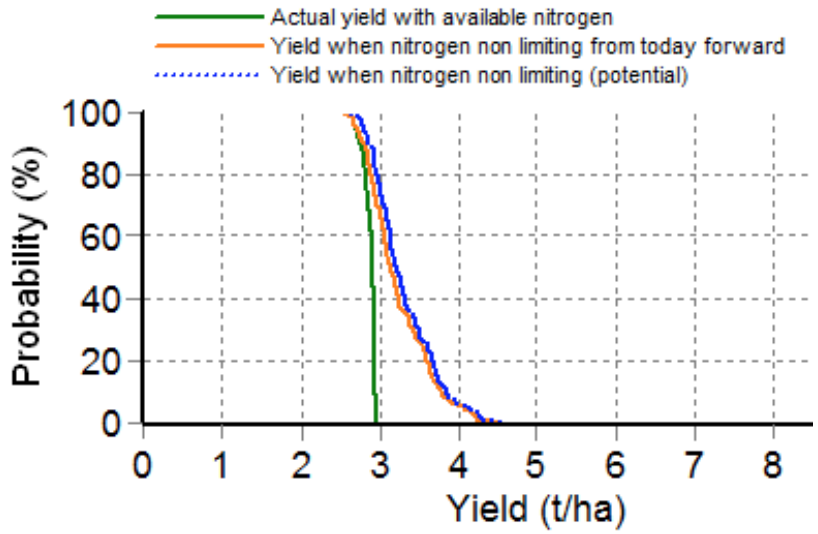


GREENETHORPE ~ CANOLA

VARIETY Gem TT **SOWING DATE** 2/5/2013
N APPLIED 99kg/ha
SOIL TYPE Heavy Red Kandosol
SOWING DENSITY 50 plants/m²
GROWING SEASON RAINFALL 251mm
CURRENT ROOTING DEPTH 1393mm
PREDICTED FINAL ROOTING DEPTH 1393mm

CURRENT CROP PAW 46mm
SOIL PAW 46mm
PAWC 150 mm
DAILY WATER USE 2.3mm
INITIAL N 106kg/ha **N PROFILE** 9kg/ha
N AVAILABLE TO ROOTS 1.9kg/ha
CURRENTLY USING 0kg of N/ha/day

Grain Yield Probabilities *



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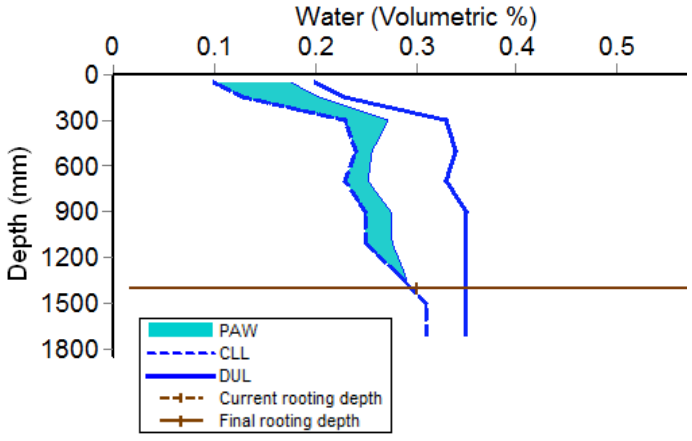
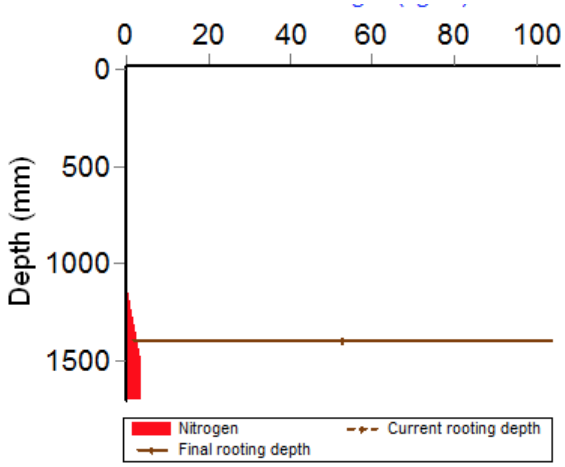
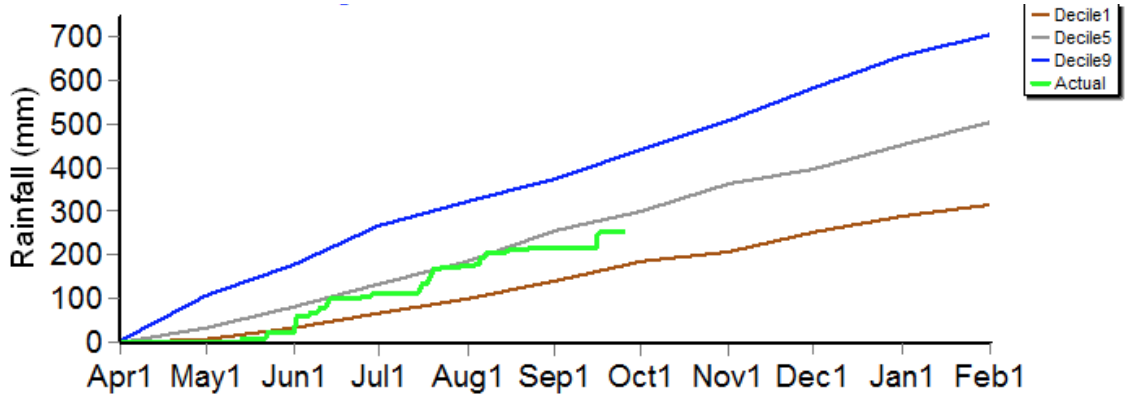
Water Availability **



Soil Nitrogen



Growing Season Rainfall

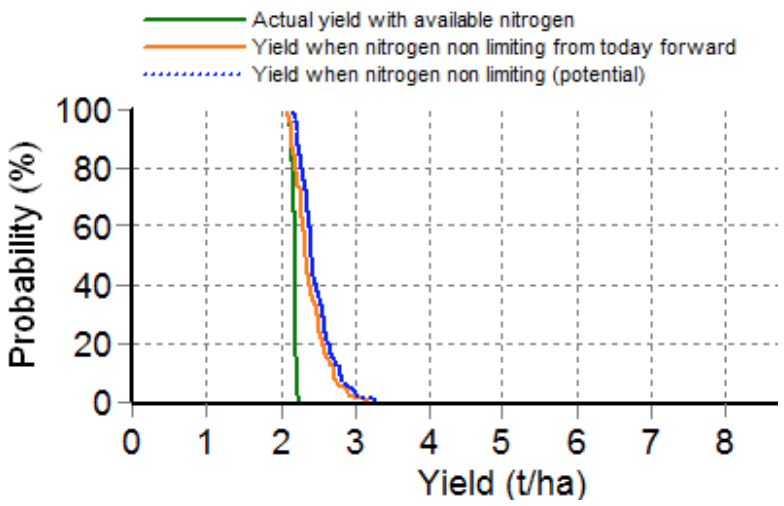


LOCKHART ~ CANOLA

VARIETY GEM TT **SOWING DATE** 25/4/2013
N APPLIED 71kg/ha
SOIL TYPE Brown Sodosol
SOWING DENSITY 20 plants/m²
GROWING SEASON RAINFALL 243mm
CURRENT ROOTING DEPTH 1002mm
PREDICTED FINAL ROOTING DEPTH 1002mm

CURRENT CROP PAW 24mm
SOIL PAW 25mm
PAWC 173mm
DAILY WATER USE 1.3mm
INITIAL N 128kg/ha **N PROFILE** 20kg/ha
N AVAILABLE TO ROOTS 9.0kg/ha
CURRENTLY USING 0.1kg of N/ha/day

Grain Yield Probabilities *



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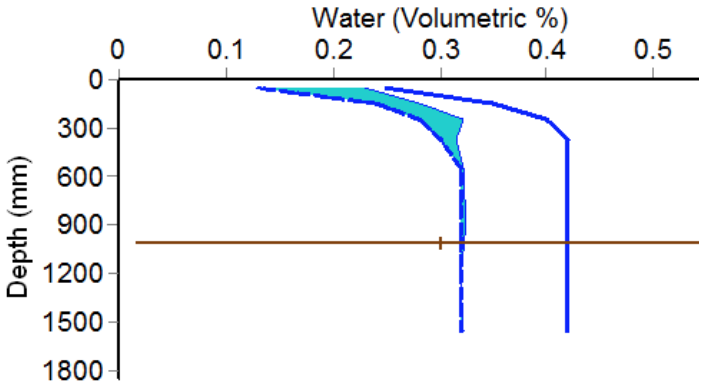
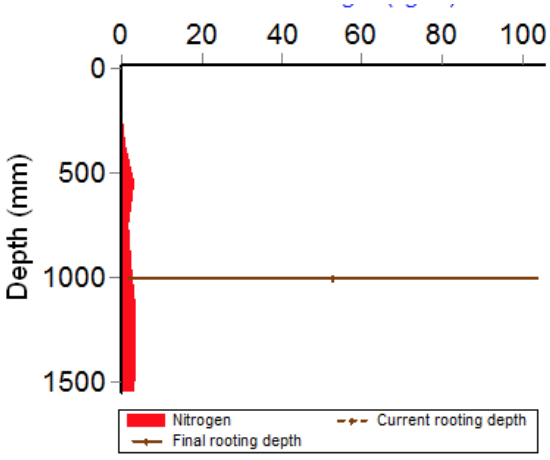
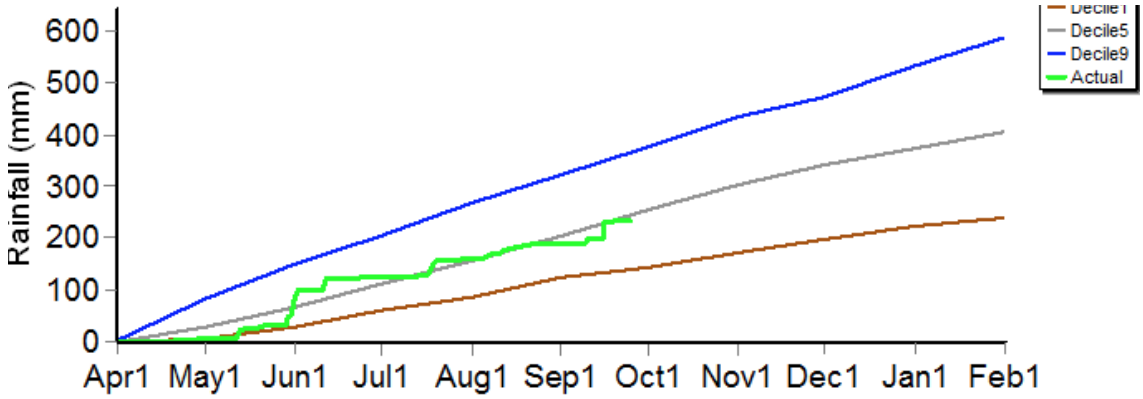
Water Availability **



Soil Nitrogen



Growing Season Rainfall

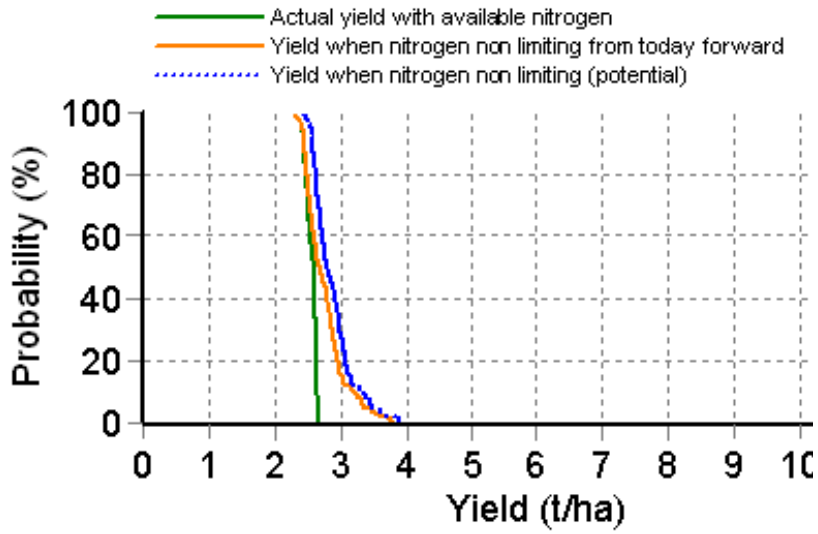


TEMORA WUE SITE ~ CANOLA

VARIETY Clearfield 575 **SOWING DATE** 23/4/2013
N APPLIED 100kg/ha
SOIL TYPE Red Chromosol
SOWING DENSITY 40 plants/m²
GROWING SEASON RAINFALL 235mm
CURRENT ROOTING DEPTH 1489mm
PREDICTED FINAL ROOTING DEPTH 1489mm

CURRENT CROP PAW 33mm
SOIL PAW 40mm
PAWC 206mm
DAILY WATER USE 1.4mm
INITIAL N 91kg/ha **N PROFILE** 8kg/ha
N AVAILABLE TO ROOTS 6.8kg/ha
CURRENTLY USING 0.3kg of N/ha/day

Grain Yield Probabilities *



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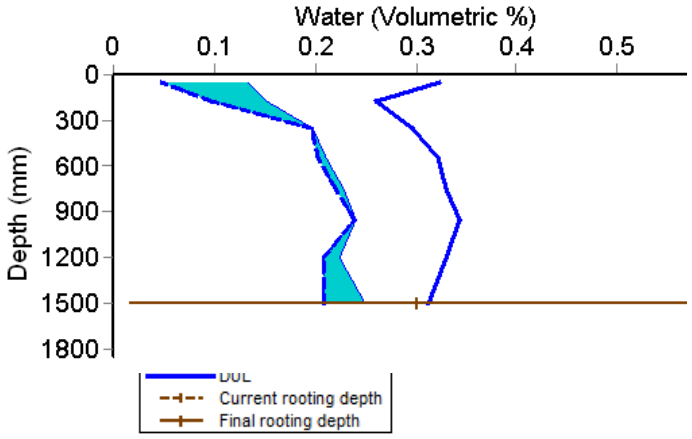
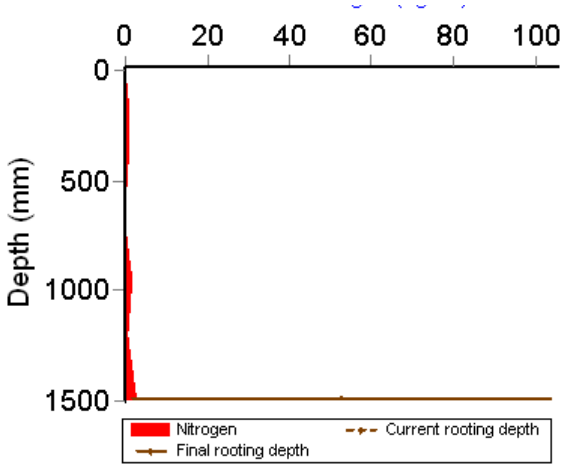
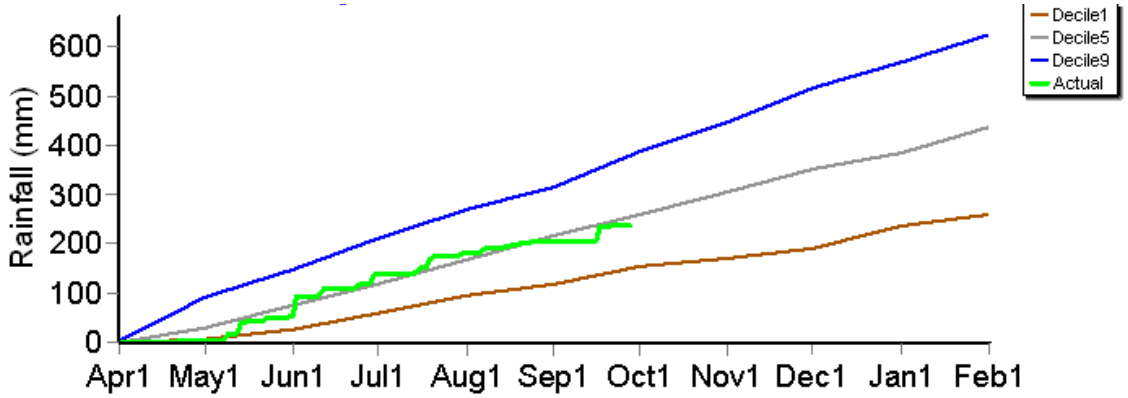
Water Availability **



Soil Nitrogen



Growing Season Rainfall

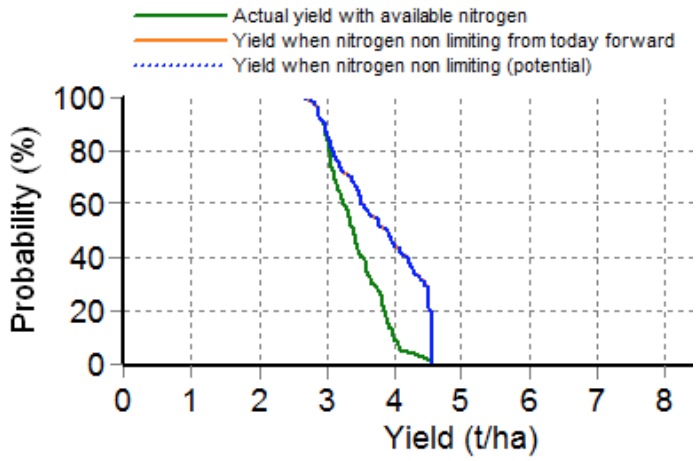


ARDLETHAN ~ WHEAT

VARIETY Gregory **SOWING DATE** 1/5/2013
N APPLIED 68kg/ha
SOIL TYPE Sandy clay over a medium clay
SOWING DENSITY 120 plants/m^2
GROWING SEASON RAINFALL 234mm
CURRENT ROOTING DEPTH 776mm
PREDICTED FINAL ROOTING DEPTH 782mm

CURRENT CROP PAW 25mm
SOIL PAW 26mm
PAWC 216 mm
DAILY WATER USE 1.3mm
INITIAL N 140kg/ha **N PROFILE** 51kg/ha
N AVAILABLE TO ROOTS 24.3kg/ha
CURRENTLY USING 0.1kg of N/ha/day

Grain Yield Probabilities *



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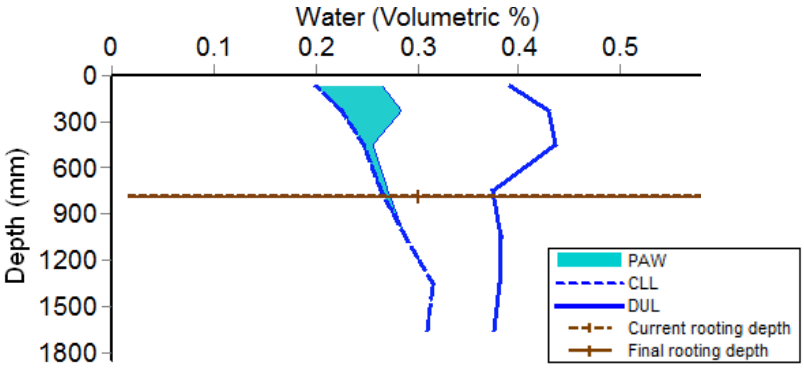
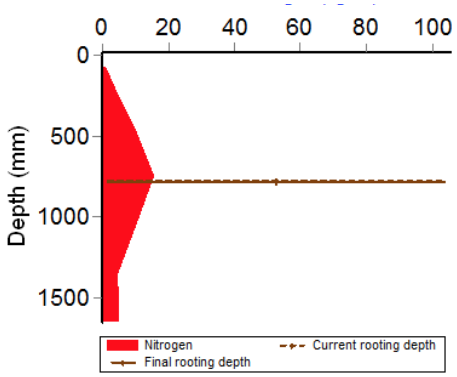
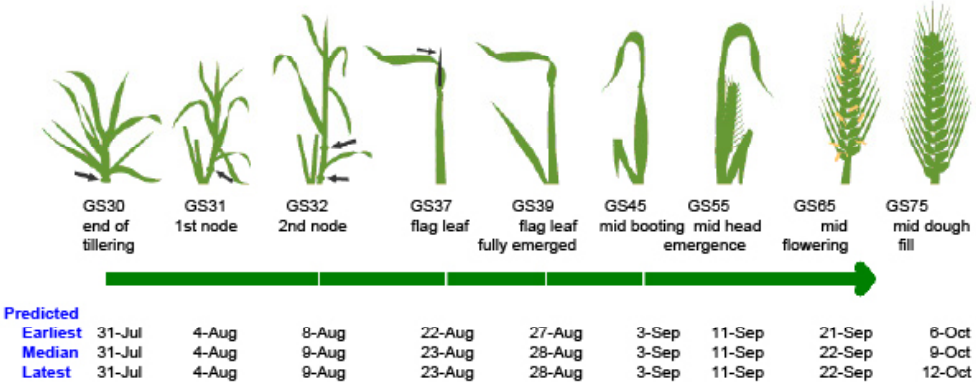


Soil Nitrogen



Zadok's Growth Stages



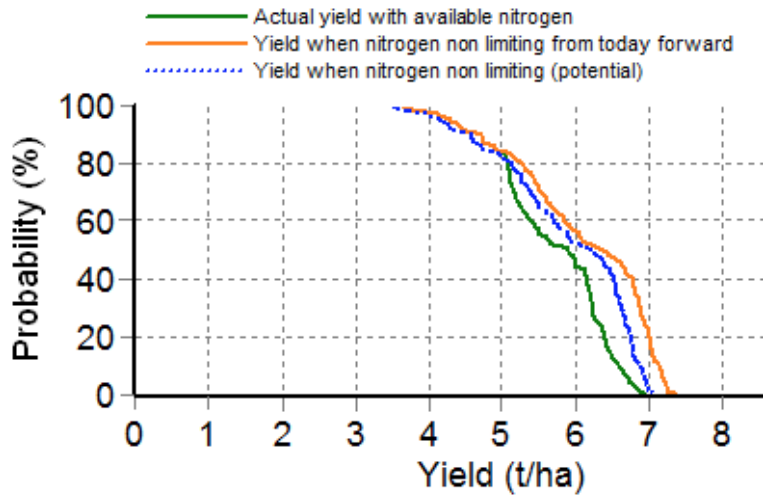
Predicted								
Earliest	31-Jul	4-Aug	8-Aug	22-Aug	27-Aug	3-Sep	11-Sep	21-Sep	6-Oct
Median	31-Jul	4-Aug	9-Aug	23-Aug	28-Aug	3-Sep	11-Sep	22-Sep	9-Oct
Latest	31-Jul	4-Aug	9-Aug	23-Aug	28-Aug	3-Sep	11-Sep	22-Sep	12-Oct

EH GRAHAM CENTRE ~ WHEAT

VARIETY Wedgetail **SOWING DATE** 15/4/2013
N APPLIED 98kg/ha
SOIL TYPE Red Kandosol
SOWING DENSITY 70plants/m^2
GROWING SEASON RAINFALL 242mm
CURRENT ROOTING DEPTH 1050mm
PREDICTED FINAL ROOTING DEPTH 1050mm

CURRENT CROP PAW 54mm
SOIL PAW 54mm
PAWC 216mm
DAILY WATER USE 2.7mm
INITIAL N 200kg/ha **N PROFILE** 48kg/ha
N AVAILABLE TO ROOTS 24.7kg/ha
CURRENTLY USING 0.2kg of N/ha/day

Grain Yield Probabilities *



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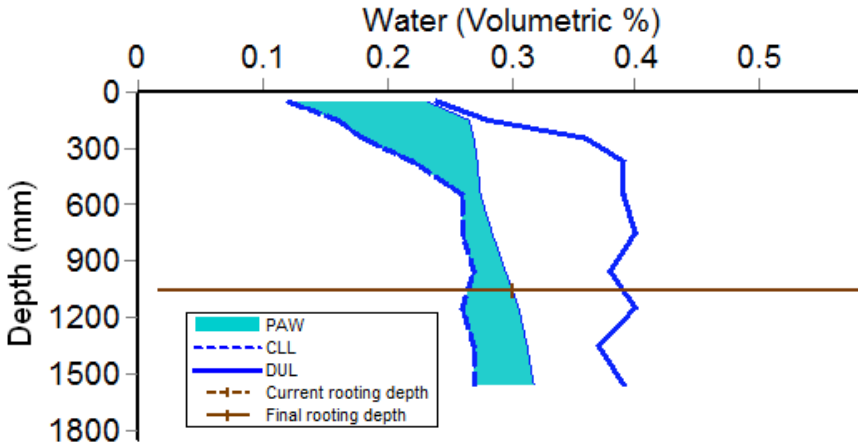
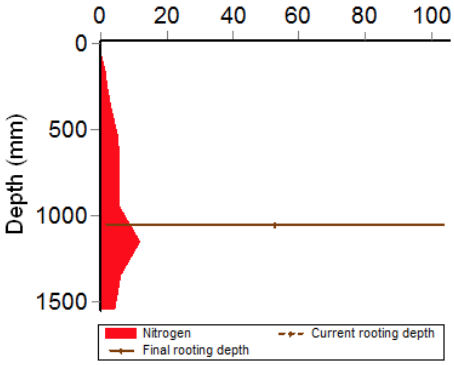


Soil Nitrogen



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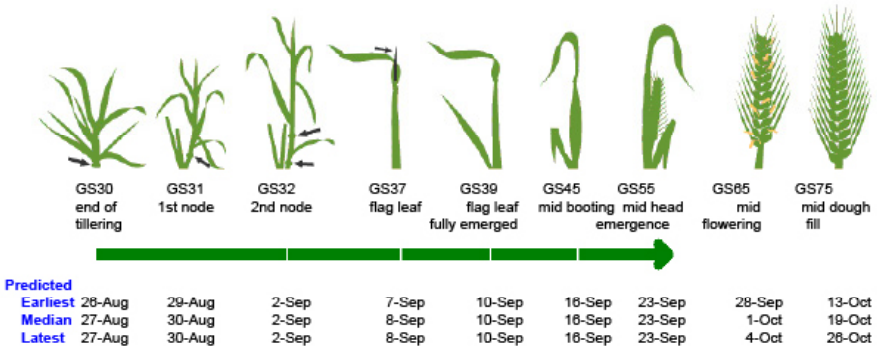
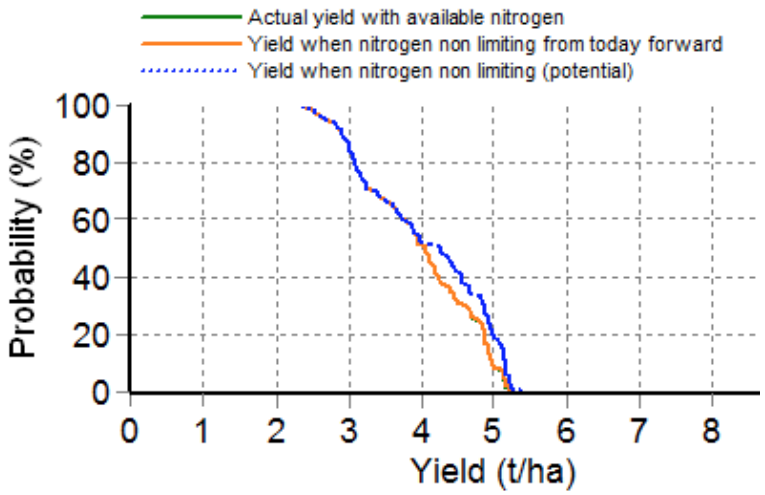


DIRNASEER ~ WHEAT

VARIETY Sunvale **SOWING DATE** 12/5/2013
N APPLIED 117kg/ha
SOIL TYPE Red Kandosol
SOWING DENSITY 119 plants/m^2
GROWING SEASON RAINFALL 260mm
CURRENT ROOTING DEPTH 1566mm
PREDICTED FINAL ROOTING DEPTH 1650mm

CURRENT CROP PAW 36mm
SOIL PAW 39mm
PAWC 216mm
DAILY WATER USE 1.4mm
INITIAL N 129kg/ha **N PROFILE** 79kg/ha
N AVAILABLE TO ROOTS 77kg/ha
CURRENTLY USING 0kg of N/ha/day

Grain Yield Probabilities *



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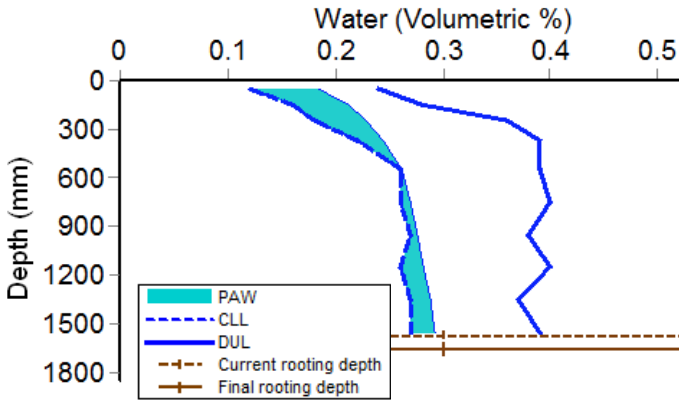
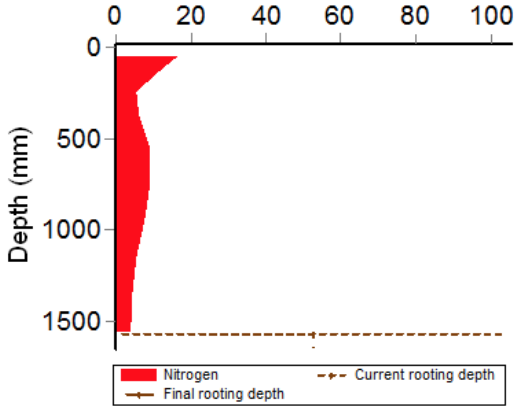
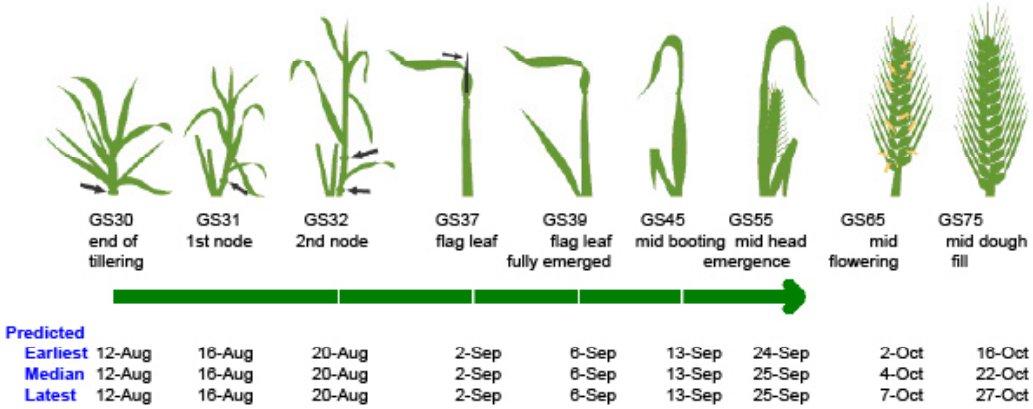
Water Availability **



Soil Nitrogen



Zadok's Growth Stages

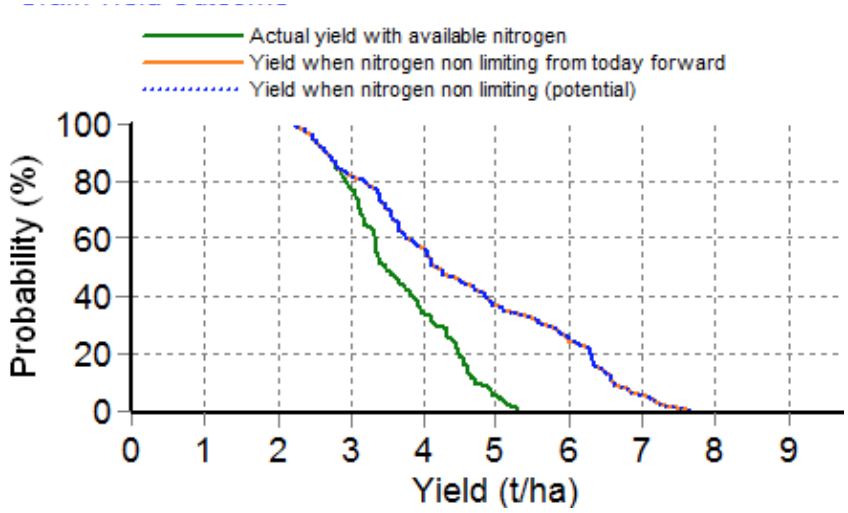


GREENETHORPE ~ WHEAT

VARIETY Gregory **SOWING DATE** 23/5/2013
N APPLIED 80kg/ha
SOIL TYPE Heavy Red Kandosol
SOWING DENSITY 136 plants/m^2
GROWING SEASON RAINFALL 251mm
CURRENT ROOTING DEPTH 1307mm
PREDICTED FINAL ROOTING DEPTH 1385mm

CURRENT CROP PAW 52mm
SOIL PAW 52mm
PAWC 150mm
DAILY WATER USE 2.0mm
INITIAL N 115kg/ha **N PROFILE** 37kg/ha
N AVAILABLE TO ROOTS 28kg/ha
CURRENTLY USING 0.2kg of N/ha/day

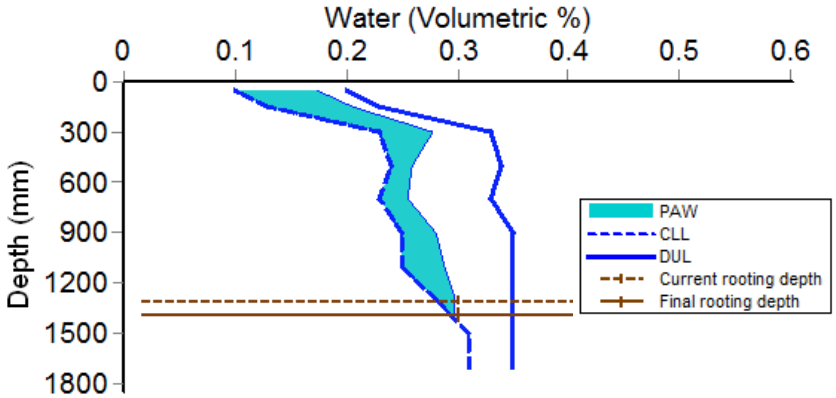
Grain Yield Probabilities *



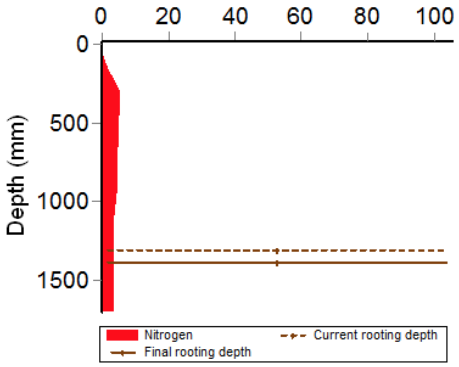
* given weather, soil N and agronomic inputs to date, and historical climate data (100 years) to simulate remainder of season. Does not account for disease, insect or weed pressure or extreme climatic events.

** 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.

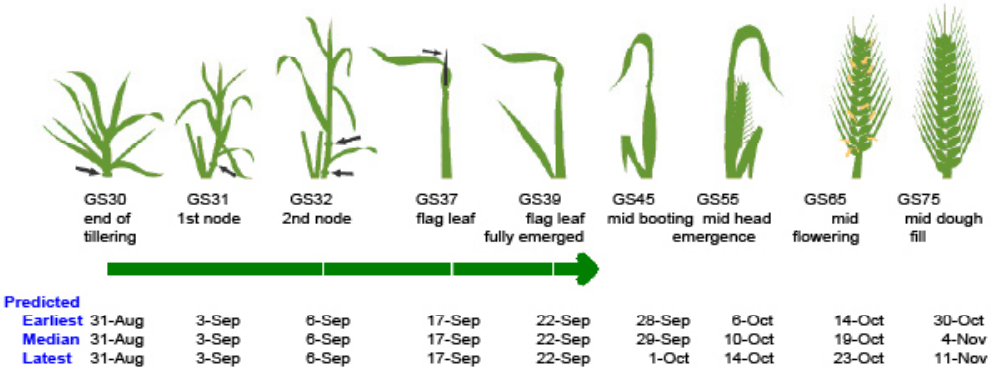
Water Availability **



Soil Nitrogen



Zadok's Growth Stages



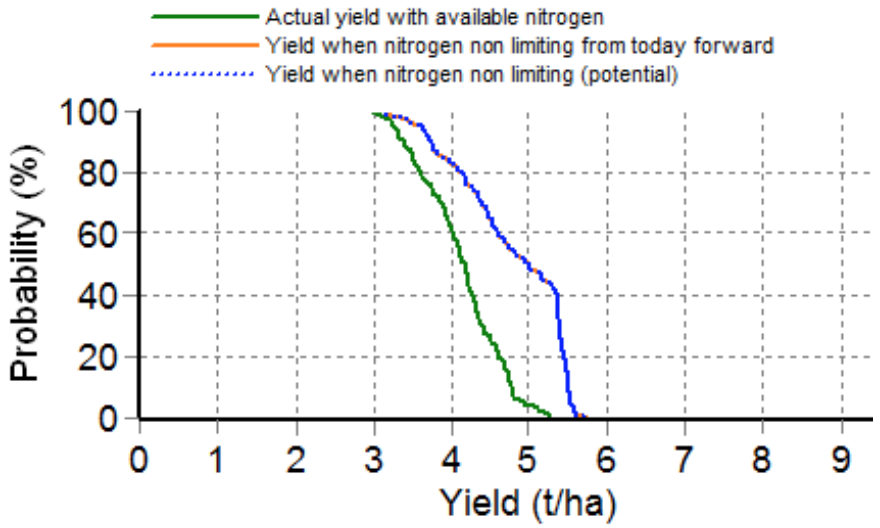
Predicted	GS30	GS31	GS32	GS37	GS39	GS45	GS55	GS65	GS75
Earliest	31-Aug	3-Sep	6-Sep	17-Sep	22-Sep	28-Sep	6-Oct	14-Oct	30-Oct
Median	31-Aug	3-Sep	6-Sep	17-Sep	22-Sep	29-Sep	10-Oct	19-Oct	4-Nov
Latest	31-Aug	3-Sep	6-Sep	17-Sep	22-Sep	1-Oct	14-Oct	23-Oct	11-Nov

LOCKHART ~ WHEAT

VARIETY Ellison **SOWING DATE** 7/5/2013
N APPLIED 44kg/ha
SOIL TYPE Brown Sodosol
SOWING DENSITY 87 plants/m^2
GROWING SEASON RAINFALL 243mm
CURRENT ROOTING DEPTH 1536mm
PREDICTED FINAL ROOTING DEPTH 1629mm

CURRENT CROP PAW 48mm
SOIL PAW 49mm
PAWC 173mm
DAILY WATER USE 2.0mm
INITIAL N 110 kg/ha **N PROFILE** 32 kg/ha
N AVAILABLE TO ROOTS 30kg/ha
CURRENTLY USING 0.2kg 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.

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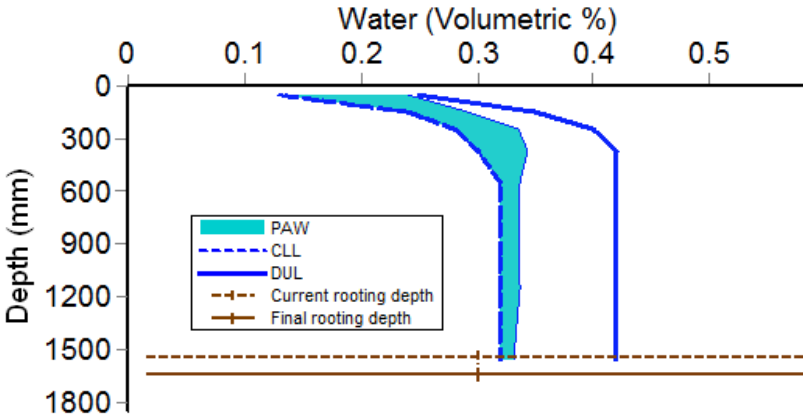
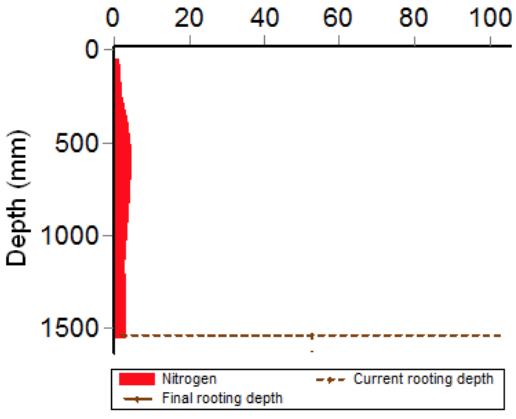
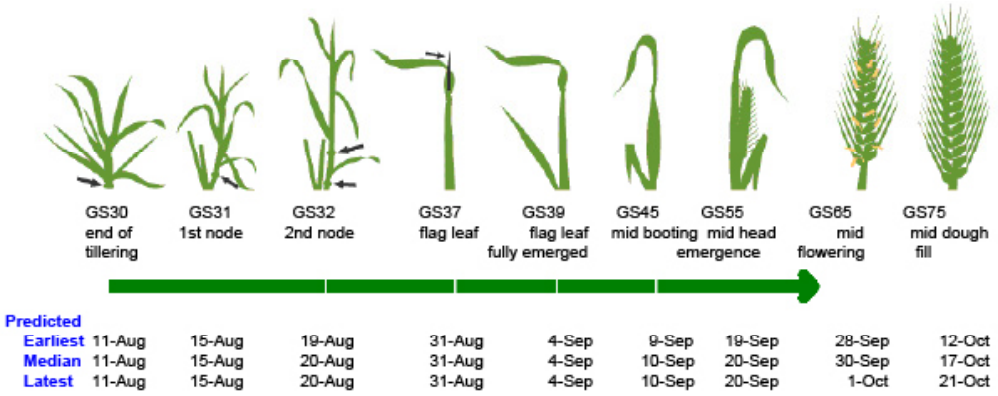
Water Availability **



Soil Nitrogen



Zadok's Growth Stages

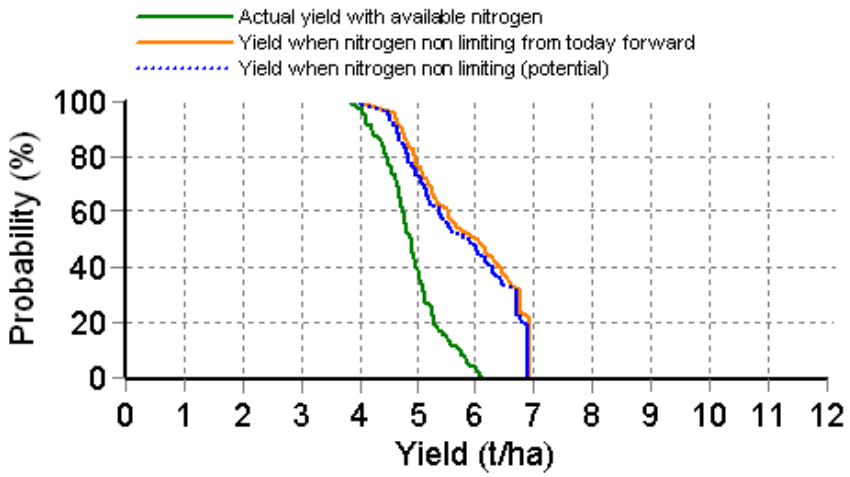


TEMORA WUE SITE ~ WHEAT

VARIETY Gauntlet **SOWING DATE** 23/4/2013
N APPLIED 128kg/ha
SOIL TYPE Red Chromosol
SOWING DENSITY 100 plants/m^2
GROWING SEASON RAINFALL 235mm
CURRENT ROOTING DEPTH 1340mm
PREDICTED FINAL ROOTING DEPTH 1343mm

CURRENT CROP PAW 44mm
SOIL PAW 44mm
PAWC 204mm
DAILY WATER USE 2.0mm
INITIAL N 85kg/ha **N PROFILE** 29kg/ha
N AVAILABLE TO ROOTS 23kg/ha
CURRENTLY USING 0.1kg of N/ha/day

Grain Yield Probabilities *



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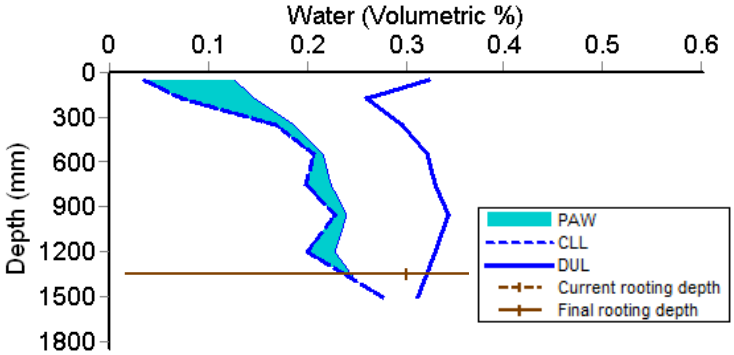
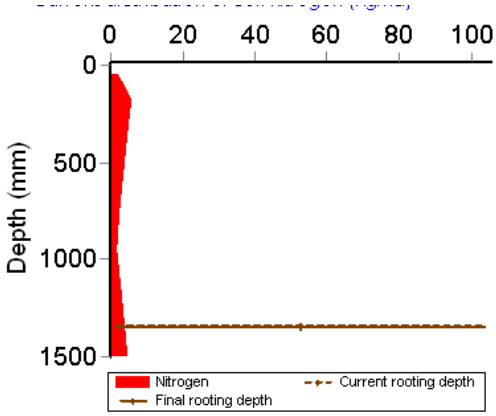
Water Availability **



Soil Nitrogen



Zadok's Growth Stages

	GS30	GS31	GS32	GS37	GS39	GS45	GS55	GS65	GS75
Predicted									
Earliest	4-Aug	7-Aug	12-Aug	26-Aug	31-Aug	7-Sep	17-Sep	27-Sep	12-Oct
Median	4-Aug	7-Aug	13-Aug	27-Aug	31-Aug	7-Sep	18-Sep	28-Sep	16-Oct
Latest	4-Aug	7-Aug	13-Aug	27-Aug	31-Aug	7-Sep	18-Sep	28-Sep	19-Oct

YIELD PROPHET PADDOCKS

ARDLETHAN Wheat 20 September

ARDLETHAN Canola 20 September

DIRNASEER Wheat 20 September

DIRNASEER Canola 20 September

GREENETHORPE Wheat 20 Sep 2013

GREENETHORPE Canola 20 Sep 2013

LOCKHART Wheat 20 September 2013

LOCKHART Canola 20 September

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