



Crop Report

21-Nov-2016

Toni Nugent: Graham Centre Field Site

Crop: Wheat

Cultivar: Gregory

Sowing details: 155 plants/m² on 14-May

Expected maturity date: 20-Nov

Paddock Details

Initial conditions date: 2-Mar

Soil: Red Kandosol (No498-Generic)
1500 mm max rooting depth

Stubble: 0 kg/ha of Wheat
No till

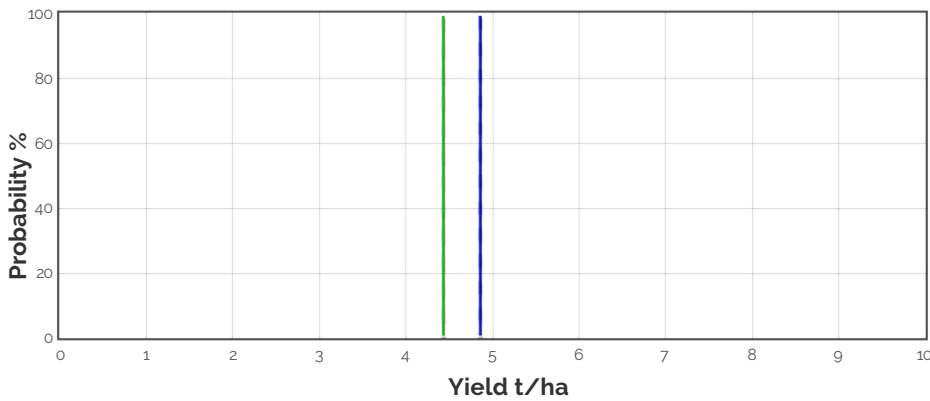
Weather Details

Rainfall since 2-Mar: 643.1mm

Rainfall records used: Wagga Wagga AMO
Weather station

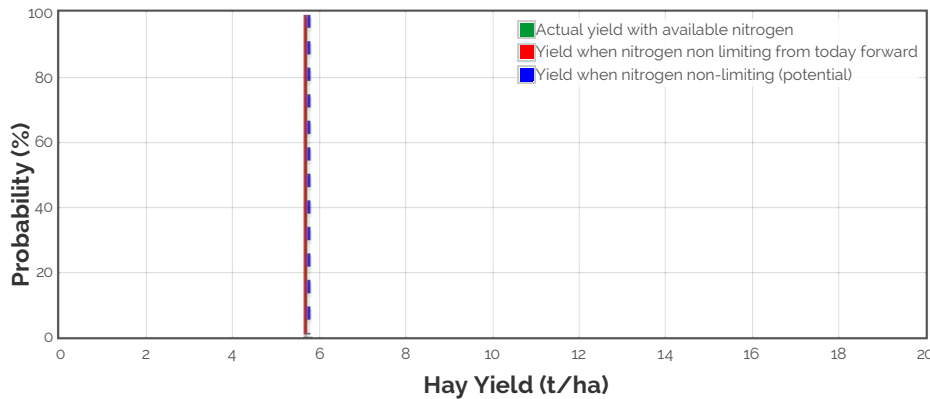
Grain Yield Outcome

- Nitrogen limited Yield
- Nitrogen limited Yield with Frost and heat Effects
- Water limited Yield
- Water limited Yield with Frost and heat Effects



This graph shows the probability of exceeding a range of yield outcomes this season. It takes into account your pre-season soil moisture, the weather conditions so far, soil N and agronomic inputs. The long term record from your nominated weather station is then used to simulate what would have happened from this date on in each year of the climate record. The yield results are used to produce this graph.

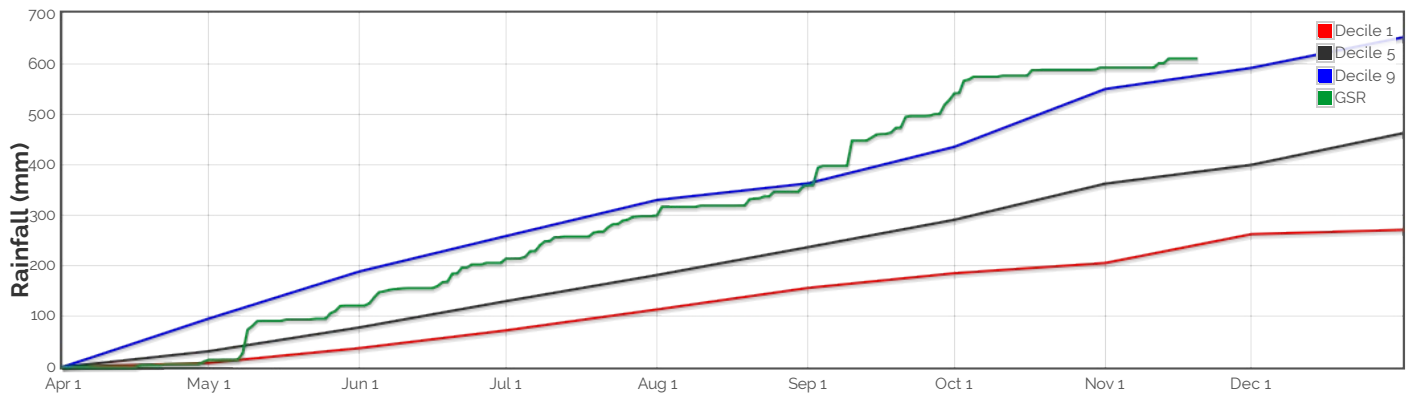
Hay Yield Outcome



This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is between 2 and 12t/ha, hay yield is assumed to be between 70 and 75% of dry matter (sliding scale). When dry matter is above 12t/ha, hay yield is assumed to be between 75 and 80% (sliding scale).

Current dry matter: 11275.1kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage



Predicted

Earliest	24-May	12-Jun	23-Jun	6-Jul	16-Jul	24-Jul
Median	24-May	12-Jun	23-Jun	6-Jul	16-Jul	24-Jul
Latest	24-May	12-Jun	23-Jun	6-Jul	16-Jul	24-Jul



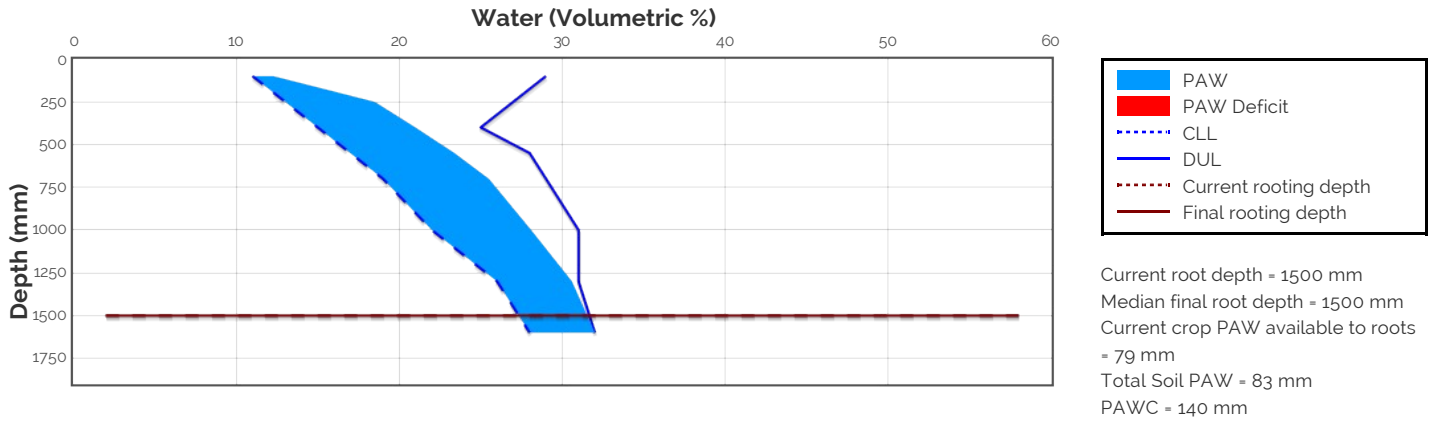
Predicted

Earliest	12-Aug	17-Aug	20-Aug	2-Sep	8-Sep	15-Sep	26-Sep	7-Oct	27-Oct
Median	12-Aug	17-Aug	20-Aug	2-Sep	8-Sep	15-Sep	26-Sep	7-Oct	27-Oct
Latest	12-Aug	17-Aug	20-Aug	2-Sep	8-Sep	15-Sep	26-Sep	7-Oct	27-Oct

Probability and Incidence of Frost and Heat Shock

Frost damage during flowering				Heat damage during grain fill			
Severity	Probability	This Season		Severity	Probability	This Season	
mild 2 to 0°C during flowering	75%	0		mild 32 to 34°C	31%	0	
moderate 0 to -2°C during flowering & early grain fill	18%	0		moderate 34 to 36°C	21%	0	
severe Less than -2°C during flowering & grain fill	1%	0		severe Above 36°C	1%	0	

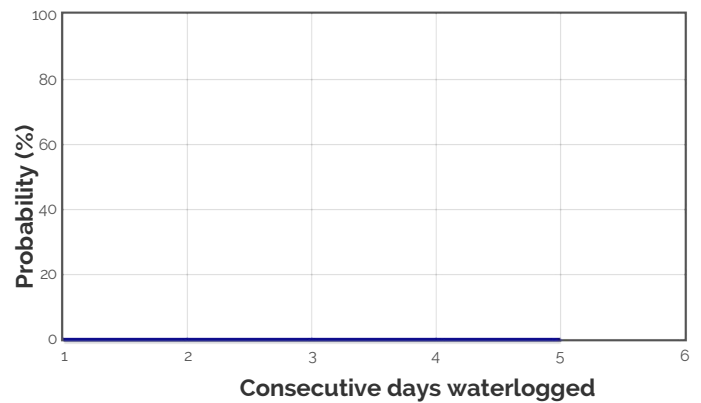
Current Distribution of PAW



Water Budget

Initial PAW status @ 2-Mar	15 mm
Rainfall since 2-Mar	643.1 mm
Irrigations	
Evaporation since 2-Mar	192 mm
Transpiration since 2-Mar	159 mm
Deep drainage since 2-Mar	161 mm
Run-off since 2-Mar	57 mm
Current PAW status:	83 mm

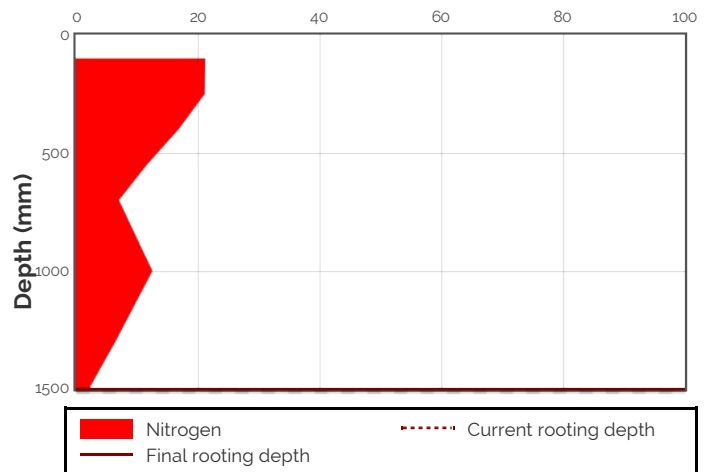
Probability of Future Waterlogging Events



Nitrogen Budget

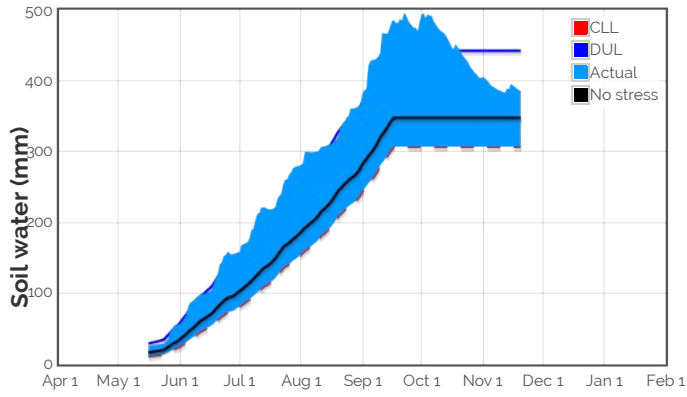
Initial N status @ 2-Mar	89 kg/ha
N mineralisation since 2-Mar	7 kg/ha
N tie up since 2-Mar	3 kg/ha
N applications	
14-May : 12 kg/ha	
23-Aug : 70 kg/ha	
Total N in plant	129 kg/ha
De-nitrification since 2-Mar	21 kg/ha
Leaching	6 kg/ha
Current N status:	15 kg/ha
Median N mineralisation to maturity = 0.014 kg/ha	
Median N tie up to maturity = 0 kg/ha	

Current distribution of soil nitrogen (kg/ha)

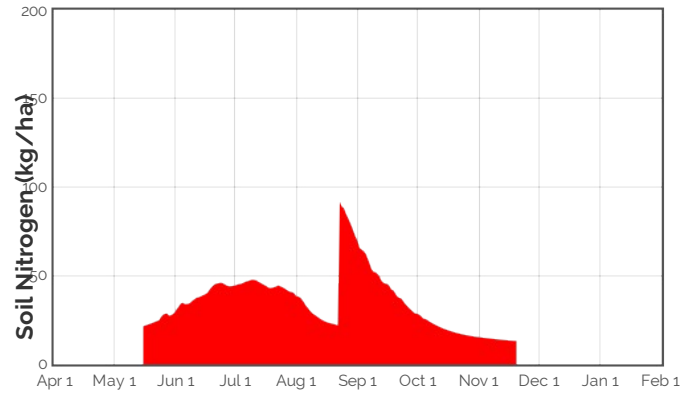


Current Crop Available N = 13 kg/ha
 Total Soil N = 15 kg/ha

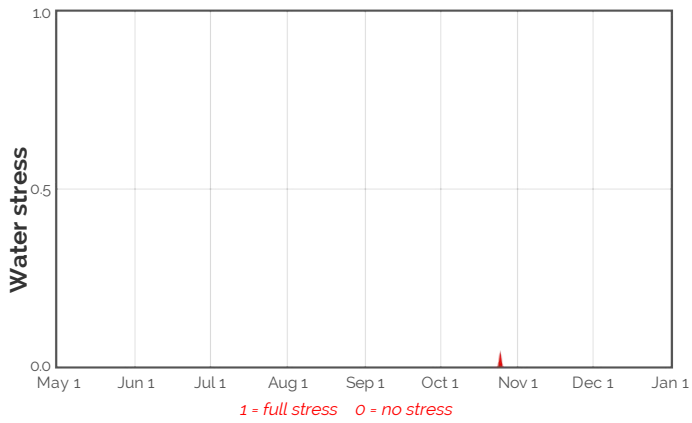
Availability of Water to Growing Roots



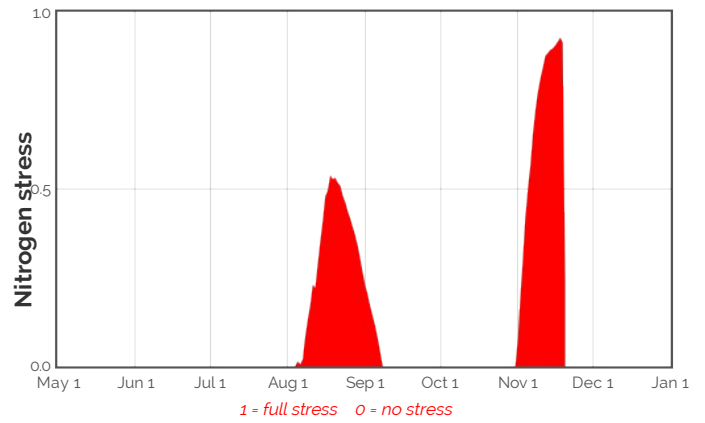
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



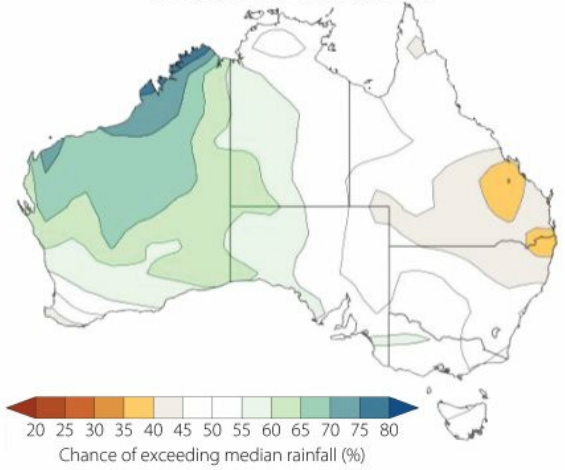
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

Median projected crop performance and requirements for the next 10 days assuming no rain and no added fertiliser

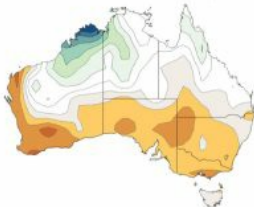
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
20-Nov	100.0	0.8	0.0	0.0	36.3	76.9	13.3	0.0	0.0
21-Nov	9.0	0.8	0.0	0.0	-5.7	0.0	1.2	0.0	0.2
22-Nov	9.0	0.7	0.0	0.0	-6.3	0.0	1.2	0.0	0.1
23-Nov	9.0	0.6	0.0	0.0	-6.9	0.0	1.2	0.0	0.1
24-Nov	9.0	0.6	0.0	0.0	-7.5	0.0	1.2	0.0	0.0
25-Nov	9.0	0.6	0.0	0.0	-8.0	0.0	1.2	0.1	0.0
26-Nov	9.0	0.5	0.0	0.0	-8.5	0.0	1.2	0.1	0.0
27-Nov	9.0	0.5	0.0	0.0	-8.9	0.0	1.2	0.1	0.0
28-Nov	9.0	0.5	0.0	0.0	-9.4	0.0	1.2	0.1	0.0
29-Nov	9.0	0.5	0.0	0.0	-9.8	0.0	1.2	0.1	0.0

The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

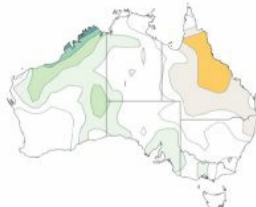
3 MONTH CLIMATE OUTLOOK FROM NOVEMBER TO JANUARY



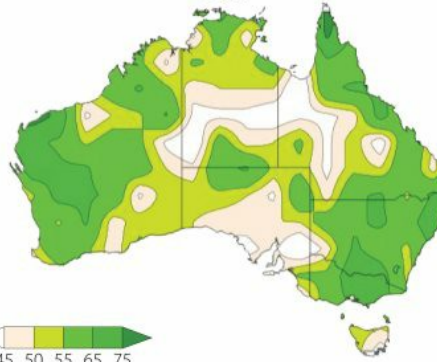
NOVEMBER CLIMATE OUTLOOK



DECEMBER CLIMATE OUTLOOK



PAST ACCURACY FROM NOVEMBER TO JANUARY



45 50 55 65 75
Percent consistent (%)

PAST ACCURACY FOR NOVEMBER



PAST ACCURACY FOR DECEMBER

