



Crop Report

17-Aug-2016

Toni Nugent: Graham Centre Field Site

Crop: Wheat

Cultivar: Gregory

Sowing details: 155 plants/m² on 14-May

Expected maturity date: 19-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

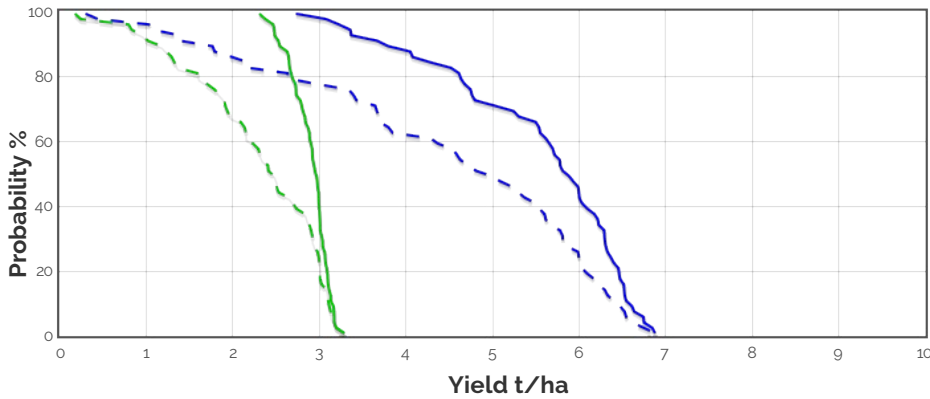
Weather Details

Rainfall since 2-Mar: 351.6mm

Rainfall records used: Wagga Wagga AMO
Weather station

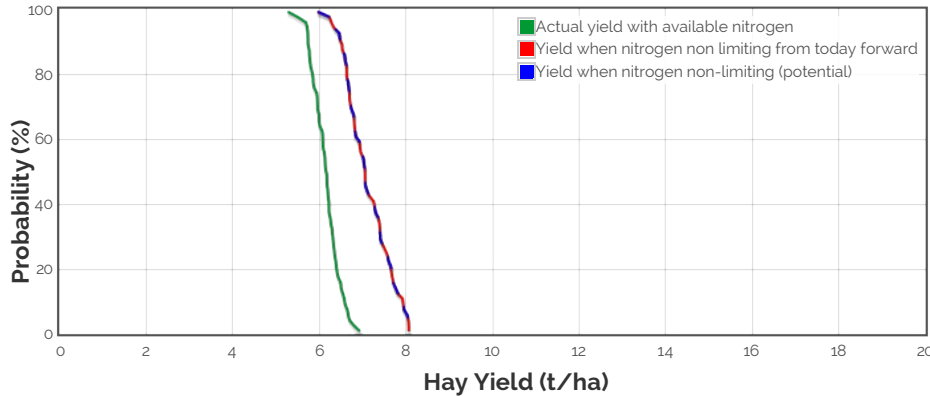
Grain Yield Outcome

- 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.

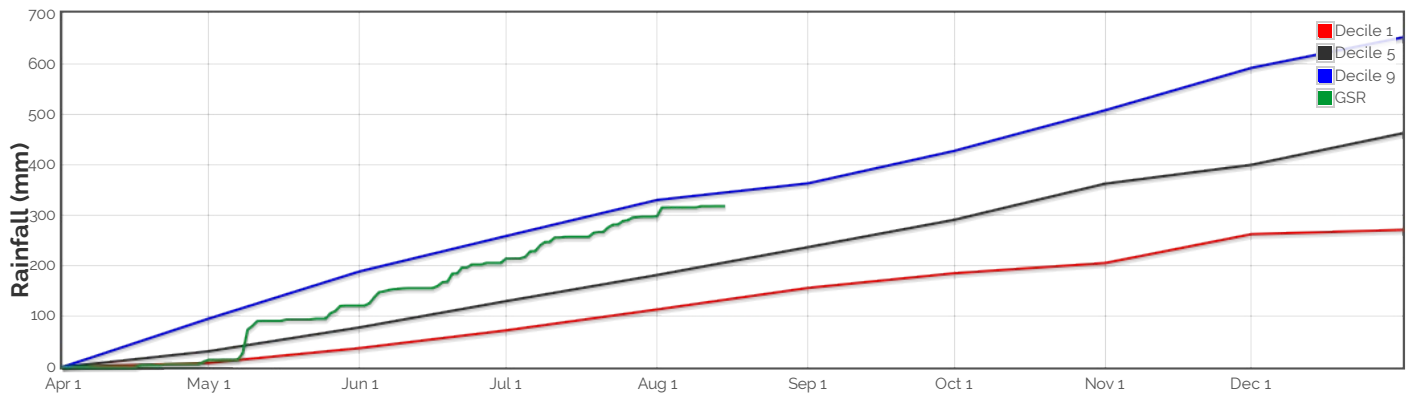
Hay Yield Outcome



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: 1471.6kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage



Predicted







	24-May	12-Jun	23-Jun	6-Jul	16-Jul	24-Jul
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



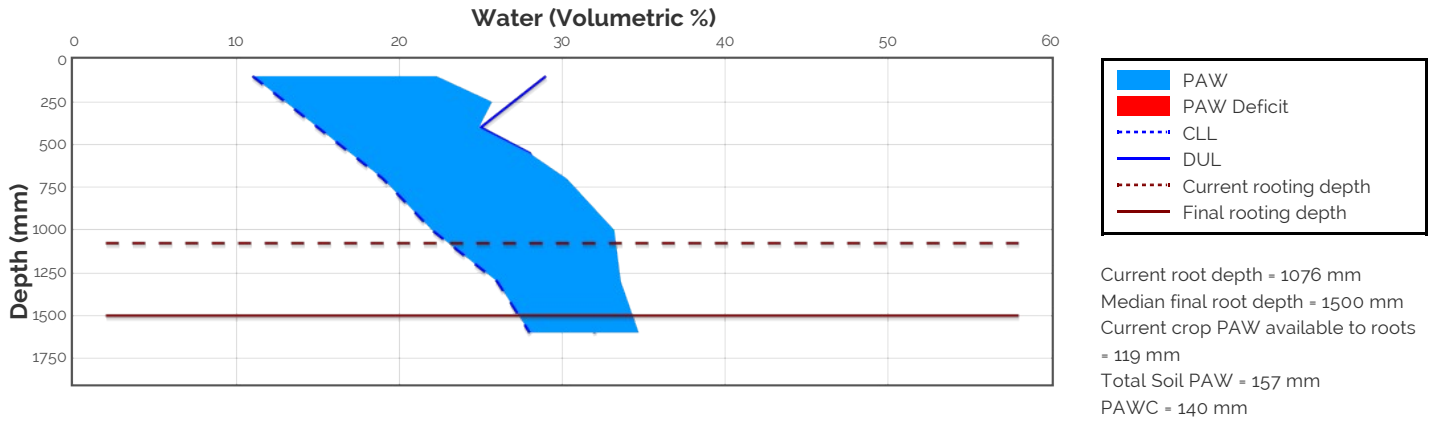
Predicted

	12-Aug	17-Aug	20-Aug	30-Aug	3-Sep	12-Sep	23-Sep	2-Oct	17-Oct
Earliest	12-Aug	17-Aug	20-Aug	30-Aug	3-Sep	12-Sep	23-Sep	2-Oct	17-Oct
Median	12-Aug	17-Aug	22-Aug	4-Sep	9-Sep	18-Sep	29-Sep	9-Oct	26-Oct
Latest	12-Aug	17-Aug	23-Aug	8-Sep	13-Sep	23-Sep	5-Oct	16-Oct	6-Nov

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		73%	0	mild 32 to 34°C		26%	0
moderate 0 to -2°C during flowering & early grain fill		20%	0	moderate 34 to 36°C		20%	0
severe Less than -2°C during flowering & grain fill		1%	0	severe Above 36°C		1%	0

Current Distribution of PAW



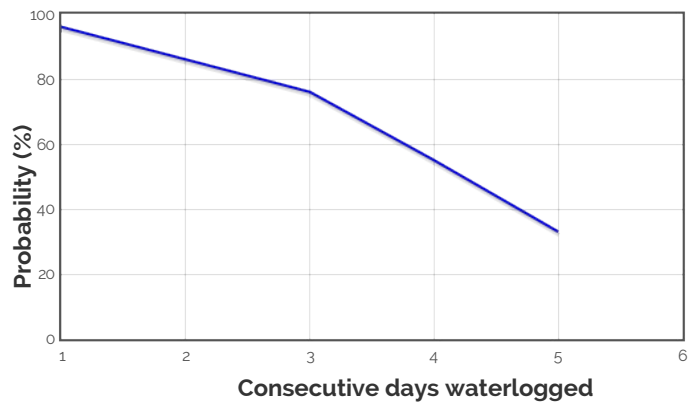
Water Budget

Initial PAW status @ 2-Mar
 Rainfall since 2-Mar
 Irrigations
 Evaporation since 2-Mar
 Transpiration since 2-Mar
 Deep drainage since 2-Mar
 Run-off since 2-Mar

15 mm
 351.6 mm
 122 mm
 15 mm
 33 mm
 34 mm
157 mm

Current PAW status:

Probability of Future Waterlogging Events



Nitrogen Budget

Initial N status @ 2-Mar
 N mineralisation since 2-Mar
 N tie up since 2-Mar
 N applications

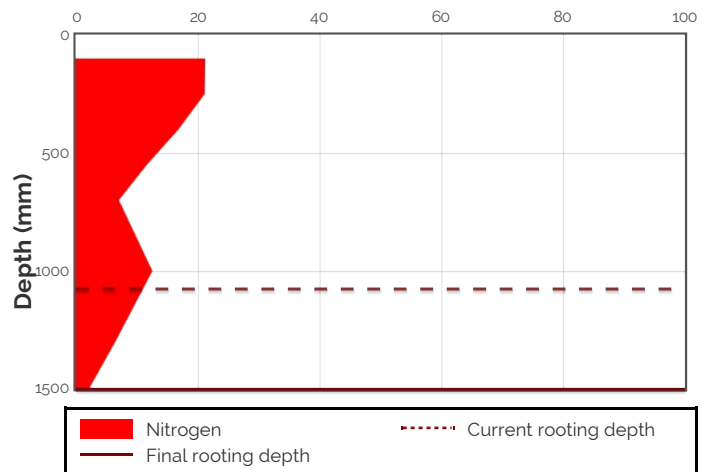
89 kg/ha
 5 kg/ha
 2 kg/ha
 14-May : 12 kg/ha
 49 kg/ha
 14 kg/ha
 1 kg/ha
38 kg/ha

Total N in plant
 De-nitrification since 2-Mar
 Leaching

Current N status:

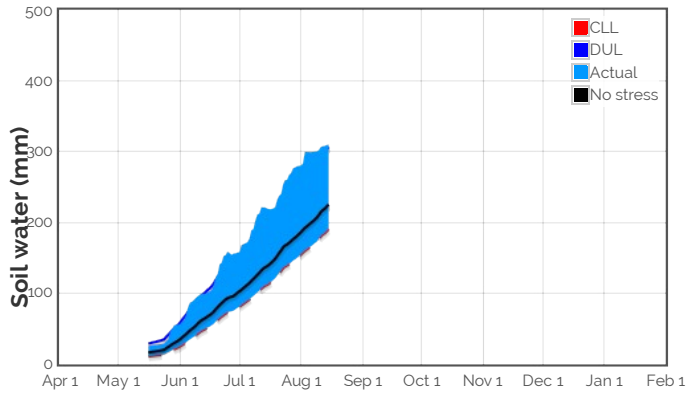
Median N mineralisation to maturity = 0.0335 kg/ha
 Median N tie up to maturity = 0 kg/ha

Current distribution of soil nitrogen (kg/ha)

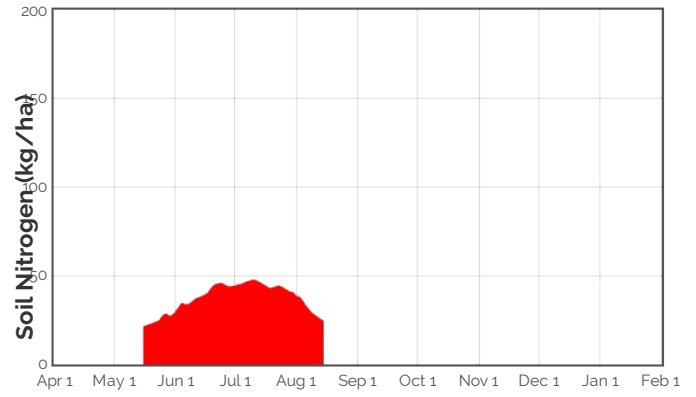


Current Crop Available N = 25 kg/ha
 Total Soil N = 38 kg/ha

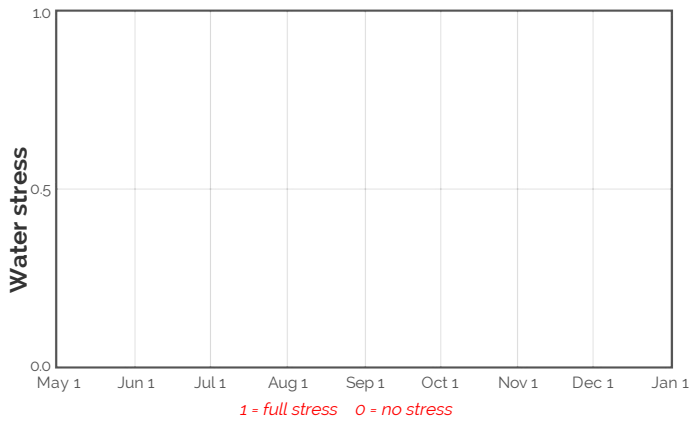
Availability of Water to Growing Roots



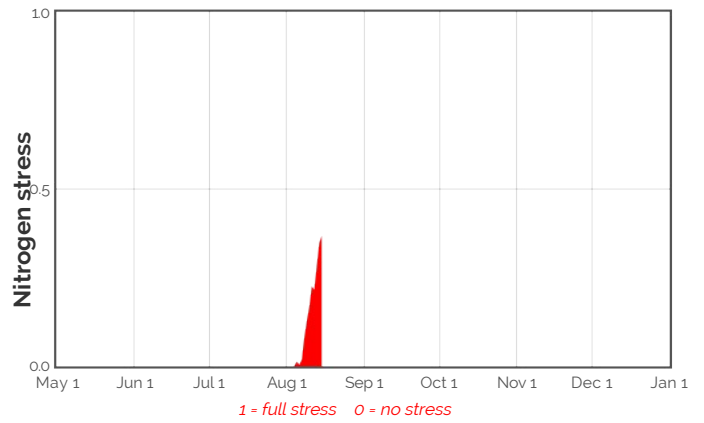
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



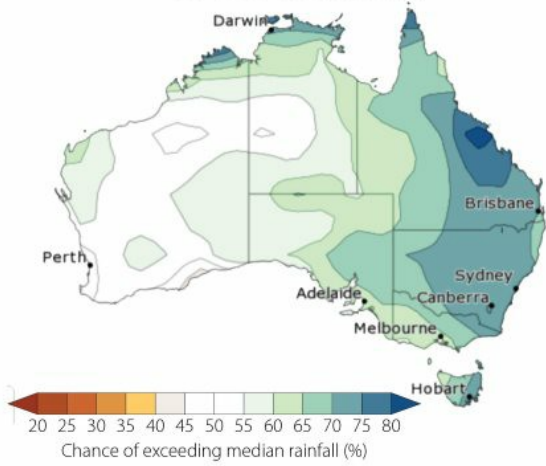
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

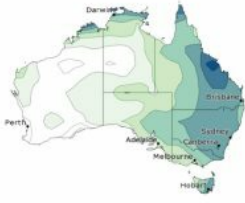
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
17-Aug	31.4	0.4	0.8	0.9	80.6	115.8	22.9	0.0	0.0
18-Aug	31.7	0.3	1.0	0.9	79.4	114.6	22.5	0.0	0.0
19-Aug	32.0	0.3	1.0	0.8	78.2	113.8	22.1	0.0	0.0
20-Aug	32.0	0.3	1.2	0.8	77.0	112.6	21.8	0.0	0.0
21-Aug	32.5	0.3	1.0	0.7	75.8	111.6	21.4	0.0	0.0
22-Aug	32.9	0.3	0.8	0.7	75.0	111.0	21.1	0.0	0.0
23-Aug	33.3	0.3	1.0	0.6	74.2	110.4	20.9	0.0	0.0
24-Aug	33.6	0.3	1.1	0.6	73.0	109.5	20.6	0.0	0.0
25-Aug	34.0	0.2	1.0	0.5	72.0	108.6	20.4	0.0	0.0
26-Aug	34.3	0.2	1.2	0.5	71.2	107.9	20.2	0.0	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.

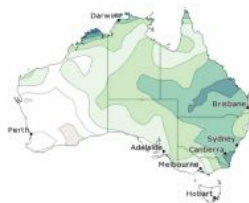
3 MONTH CLIMATE OUTLOOK FROM AUGUST TO OCTOBER



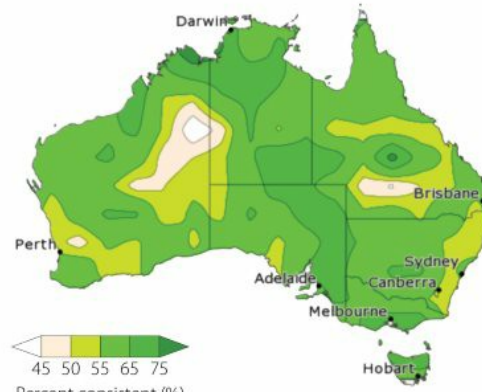
AUGUST CLIMATE OUTLOOK



SEPTEMBER CLIMATE OUTLOOK



PAST ACCURACY FROM AUGUST TO OCTOBER



PAST ACCURACY FOR AUGUST



PAST ACCURACY FOR SEPTEMBER

