



Crop Report

7-Sep-2016

Toni Nugent: Graham Centre Field Site

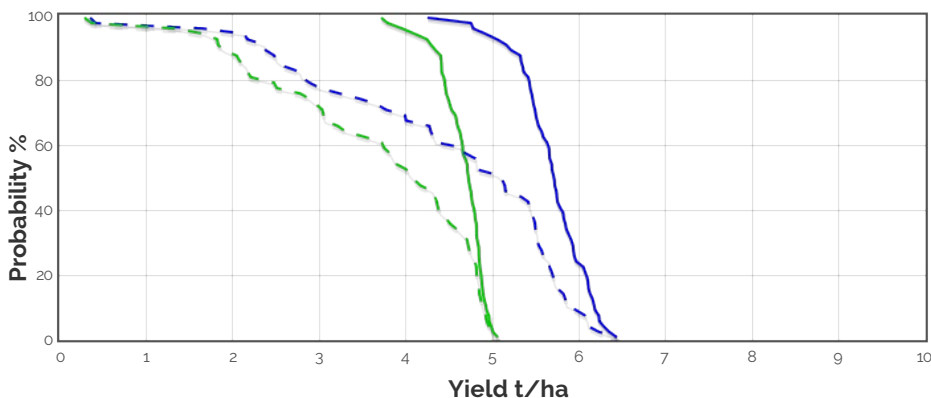
Crop: Wheat
 Cultivar: Gregory
 Sowing details: 155 plants/m² on 14-May
 Expected maturity date: 19-Nov

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: 428.9mm
 Rainfall records used: Wagga Wagga AMO
 Weather station

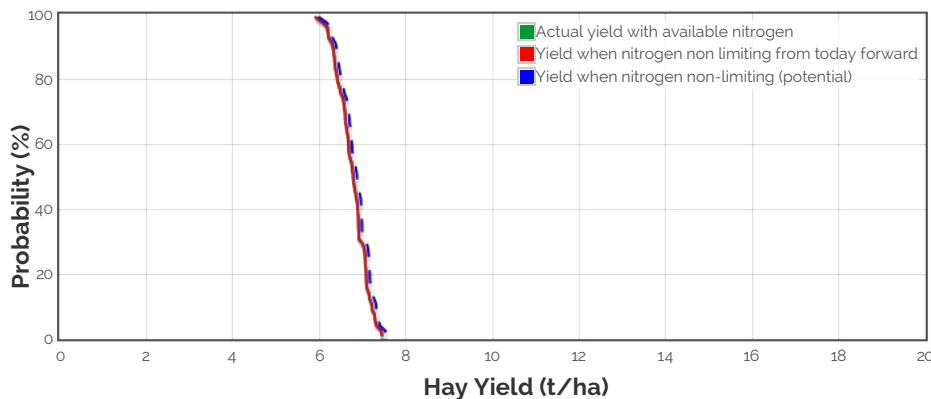
Grain Yield Outcome

- 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.

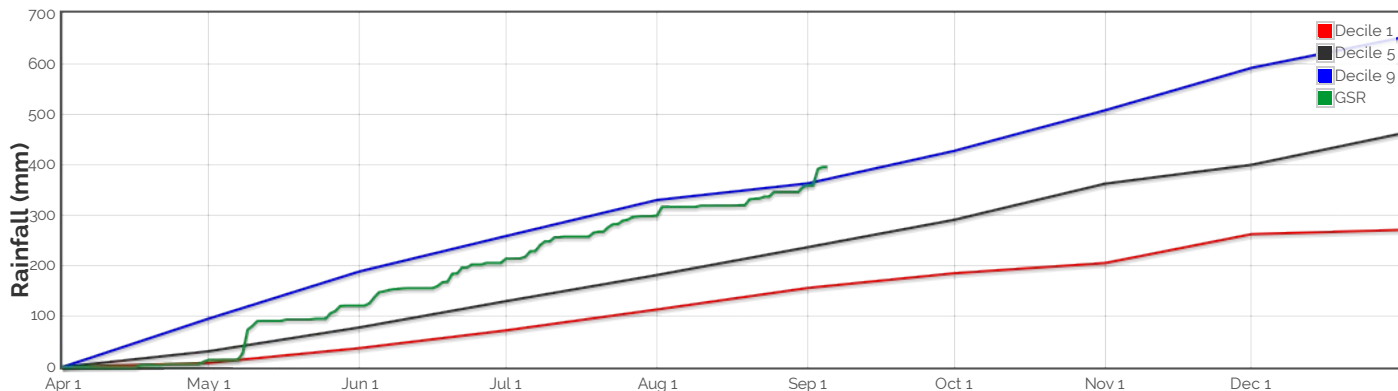
Hay Yield Outcome



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: 3392.5kg/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



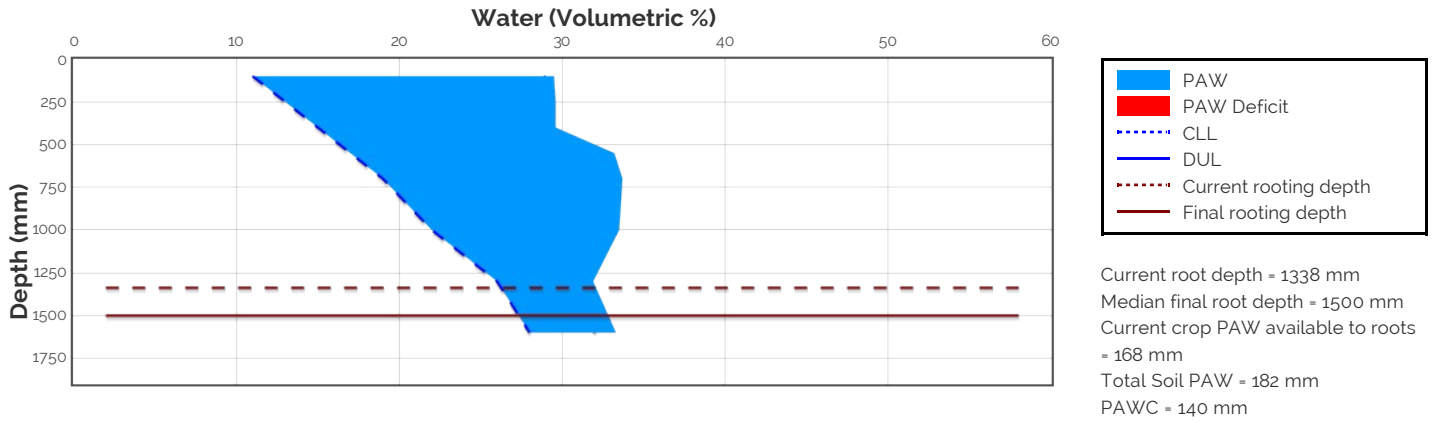
Predicted

Earliest	12-Aug	17-Aug	20-Aug	2-Sep	7-Sep	14-Sep	23-Sep	3-Oct	19-Oct
Median	12-Aug	17-Aug	20-Aug	2-Sep	8-Sep	16-Sep	28-Sep	8-Oct	26-Oct
Latest	12-Aug	17-Aug	20-Aug	2-Sep	9-Sep	21-Sep	4-Oct	14-Oct	1-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	0	mild 32 to 34°C	26%	0	0
moderate 0 to -2°C during flowering & early grain fill	18%	0	0	moderate 34 to 36°C	20%	0	0
severe Less than -2°C during flowering & grain fill	1%	0	0	severe Above 36°C	1%	0	0

Current Distribution of PAW



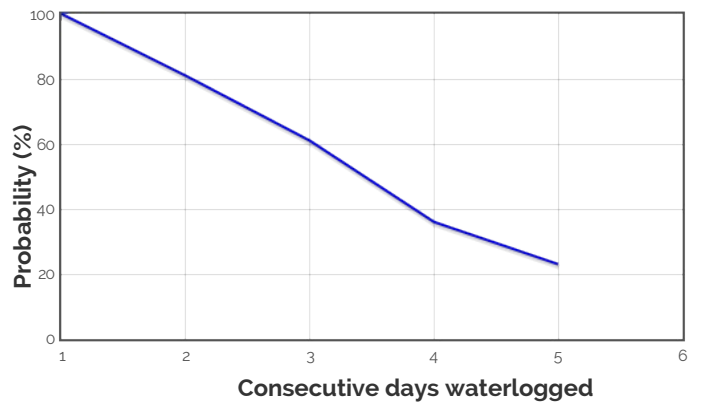
Water Budget

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
 428.9 mm
 131 mm
 37 mm
 49 mm
 40 mm
182 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

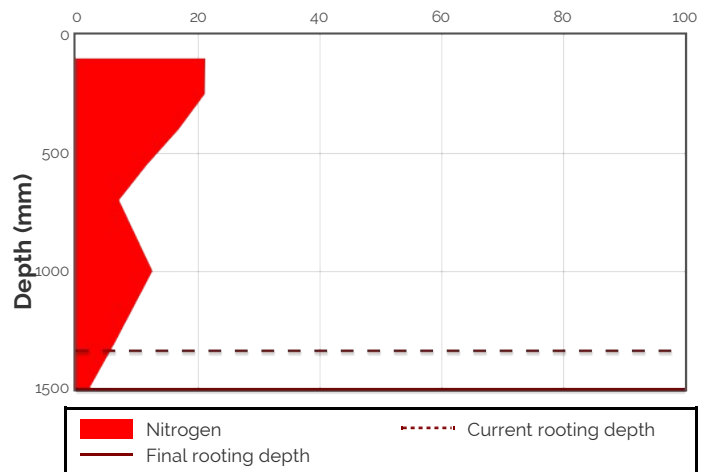
89 kg/ha
 5 kg/ha
 2 kg/ha
 14-May : 12 kg/ha
 23-Aug : 70 kg/ha
 88 kg/ha
 17 kg/ha
 2 kg/ha
67 kg/ha

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

Current N status:

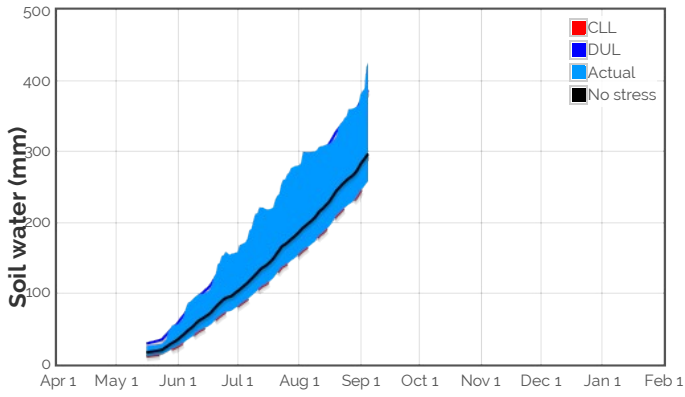
Median N mineralisation to maturity = 0.022 kg/ha
 Median N tie up to maturity = 0 kg/ha

Current distribution of soil nitrogen (kg/ha)

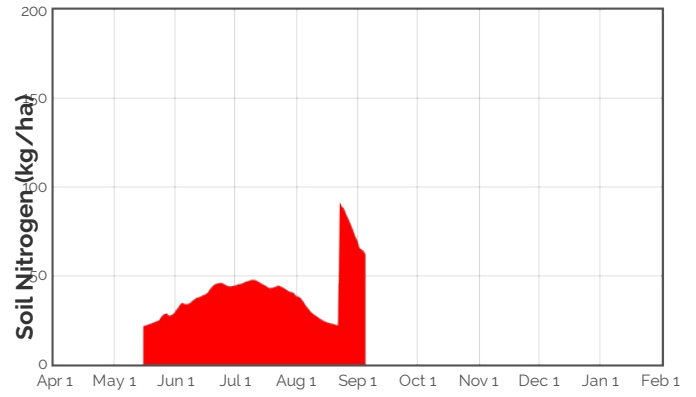


Current Crop Available N = 62 kg/ha
 Total Soil N = 67 kg/ha

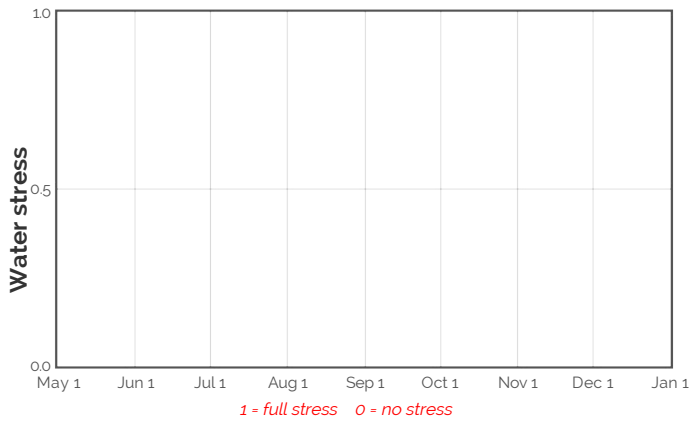
Availability of Water to Growing Roots



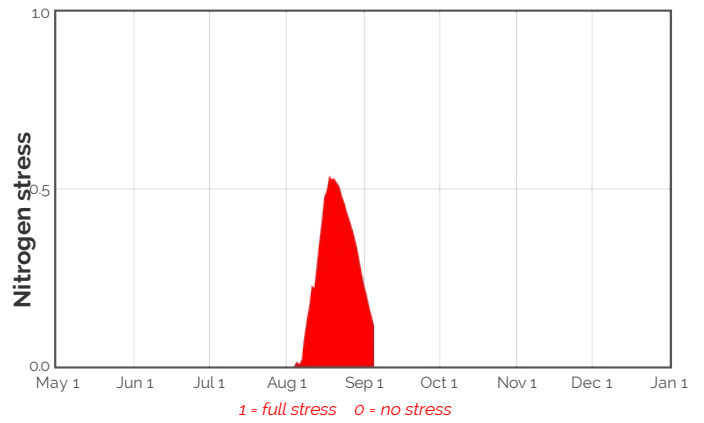
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



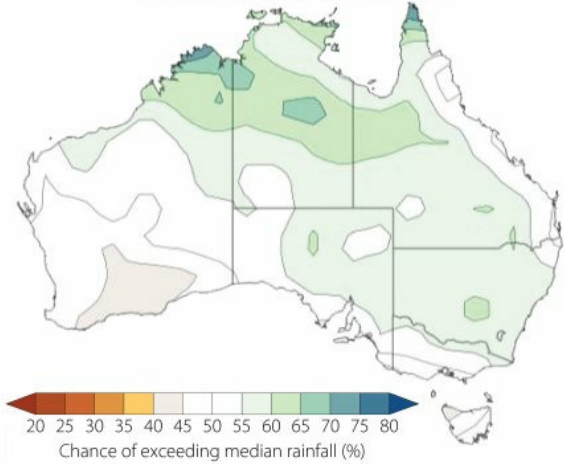
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

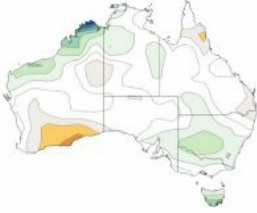
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
7-Sep	39.3	0.6	1.6	2.8	123.1	162.0	53.9	0.0	0.0
8-Sep	39.7	0.6	2.1	2.9	120.6	159.8	51.0	0.0	0.0
9-Sep	40.1	0.7	2.0	2.8	117.6	156.9	48.7	0.0	0.0
10-Sep	40.9	0.8	2.0	2.5	114.4	153.8	46.2	0.0	0.0
11-Sep	41.7	0.8	2.3	2.3	110.9	150.4	44.2	0.0	0.0
12-Sep	42.6	0.7	1.9	2.0	108.2	148.0	42.3	0.0	0.0
13-Sep	43.4	0.7	1.7	1.8	105.6	145.5	40.7	0.0	0.0
14-Sep	44.1	0.6	2.0	1.6	103.0	143.0	39.2	0.0	0.0
15-Sep	45.0	0.5	2.4	1.5	99.8	140.1	38.1	0.0	0.0
16-Sep	46.0	0.4	2.0	1.3	96.6	137.0	37.0	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.

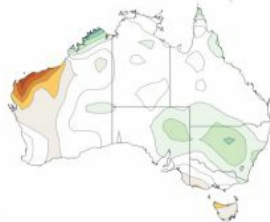
3 MONTH CLIMATE OUTLOOK FROM SEPTEMBER TO NOVEMBER



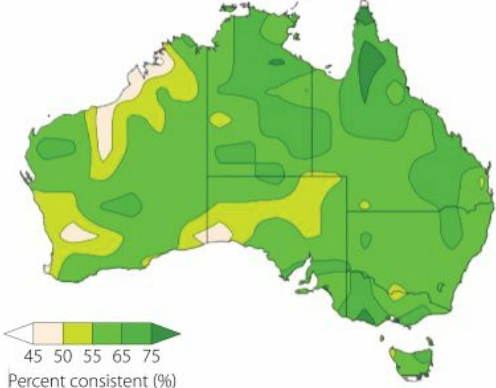
SEPTEMBER CLIMATE OUTLOOK



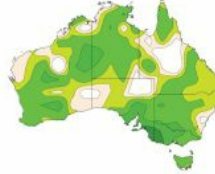
OCTOBER CLIMATE OUTLOOK



PAST ACCURACY FROM SEPTEMBER TO NOVEMBER



PAST ACCURACY FOR SEPTEMBER



PAST ACCURACY FOR OCTOBER

