



Crop Report

14-Sep-2016

Toni Nugent: Graham Centre Field Site

Crop: Wheat

Cultivar: Gregory

Sowing details: 155 plants/m² on 14-May

Expected maturity date: 18-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

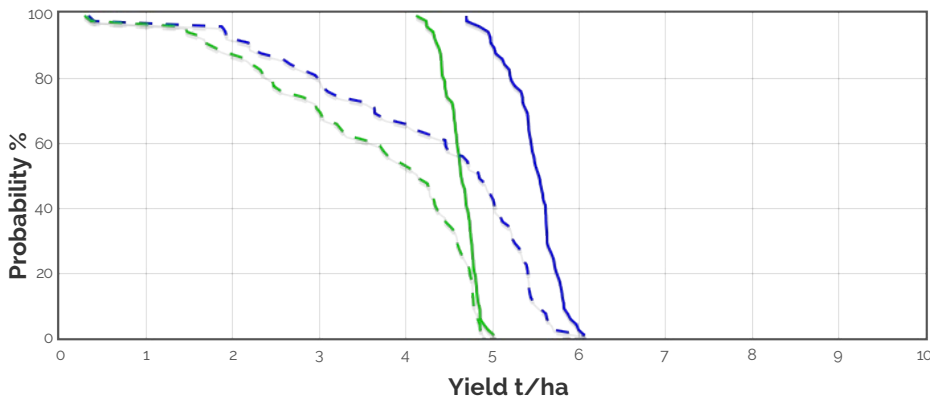
Weather Details

Rainfall since 2-Mar: 478.6mm

Rainfall records used: Wagga Wagga AMO
Weather station

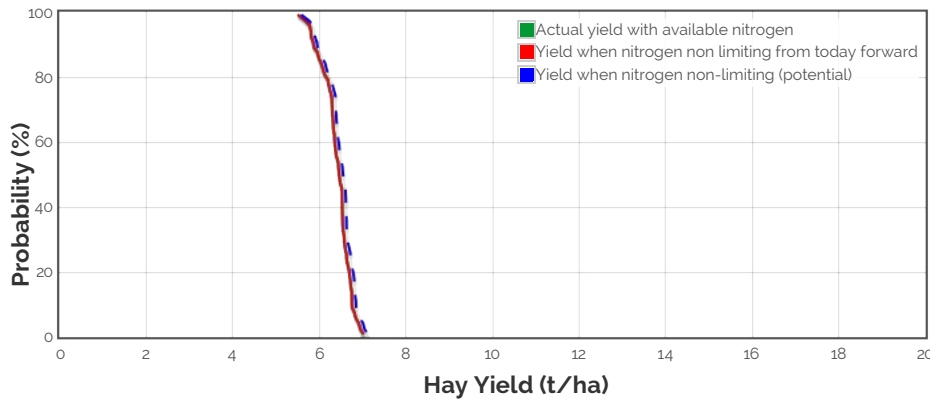
Grain Yield Outcome

- 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.

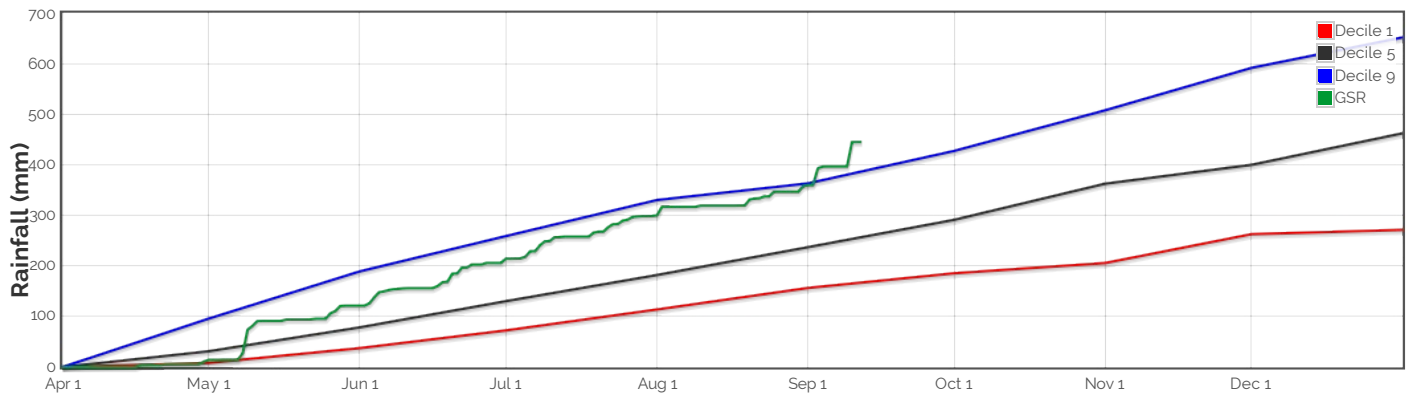
Hay Yield Outcome



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: 4100.2kg/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



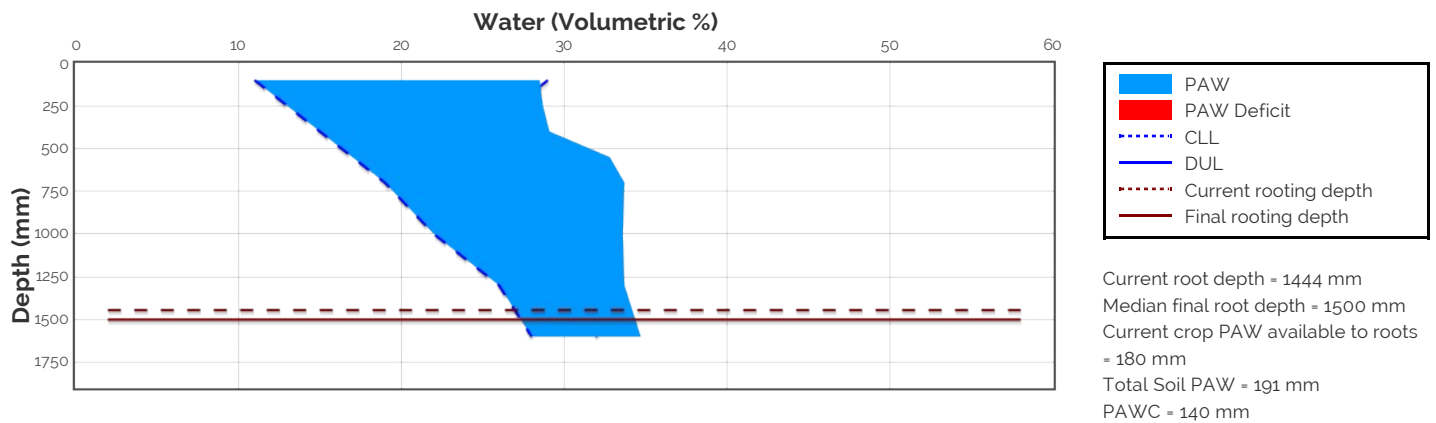
Predicted

Earliest	12-Aug	17-Aug	20-Aug	2-Sep	8-Sep	14-Sep	24-Sep	3-Oct	18-Oct
Median	12-Aug	17-Aug	20-Aug	2-Sep	8-Sep	15-Sep	27-Sep	6-Oct	25-Oct
Latest	12-Aug	17-Aug	20-Aug	2-Sep	8-Sep	17-Sep	2-Oct	12-Oct	30-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	73%	0	0	mild 32 to 34°C	26%	0	0
moderate 0 to -2°C during flowering & early grain fill	21%	0	0	moderate 34 to 36°C	16%	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



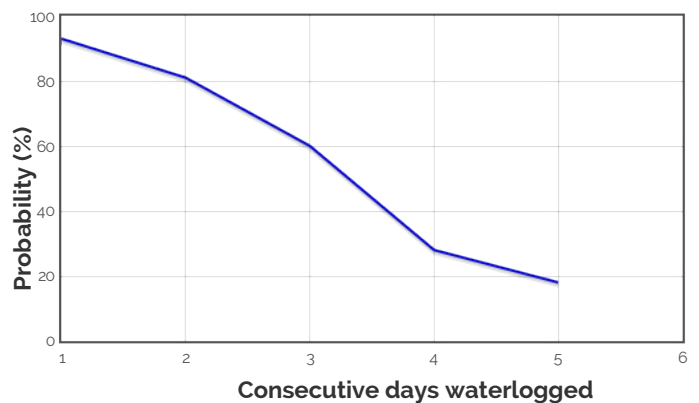
Water Budget

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
 478.6 mm
 134 mm
 47 mm
 68 mm
 51 mm
191 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

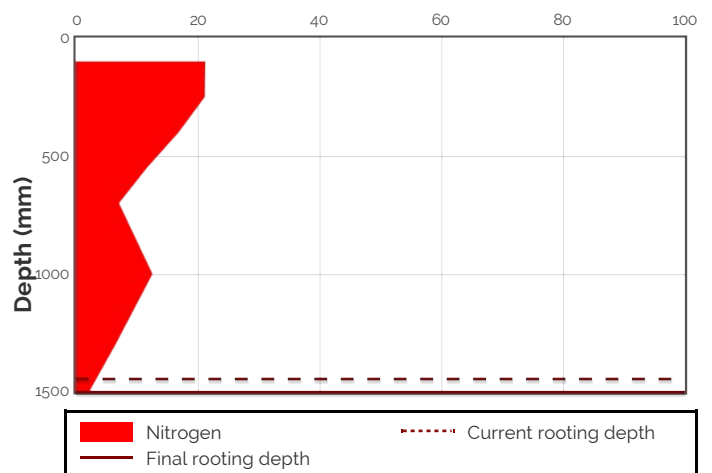
89 kg/ha
 6 kg/ha
 2 kg/ha
 14-May : 12 kg/ha
 23-Aug : 70 kg/ha
 100 kg/ha
 18 kg/ha
 2 kg/ha
53 kg/ha

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

Current N status:

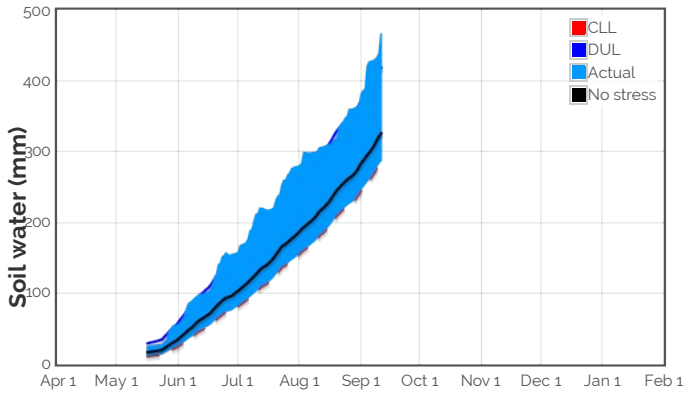
Median N mineralisation to maturity = 0.0255 kg/ha
 Median N tie up to maturity = 0 kg/ha

Current distribution of soil nitrogen (kg/ha)

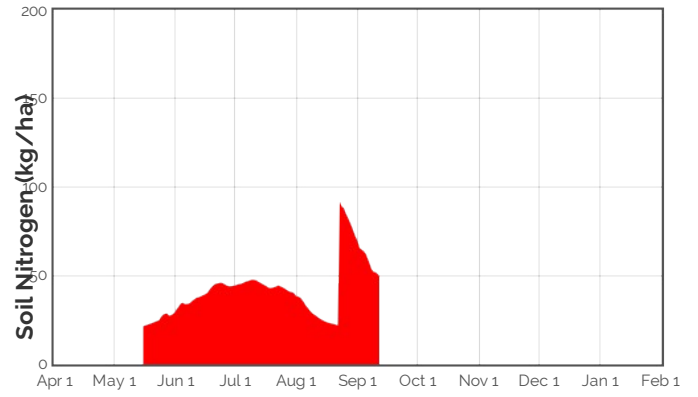


Current Crop Available N = 50 kg/ha
 Total Soil N = 53 kg/ha

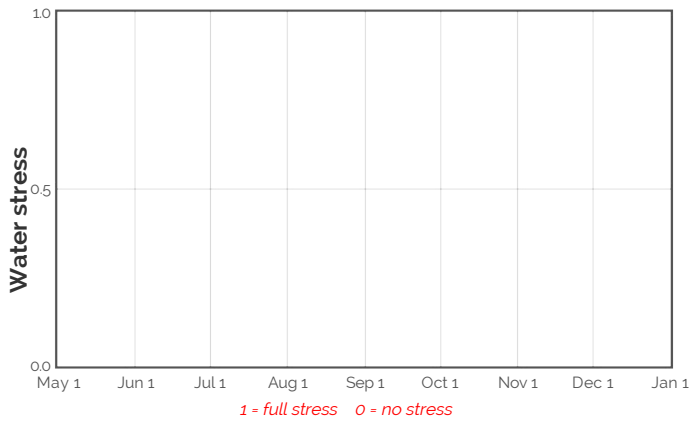
Availability of Water to Growing Roots



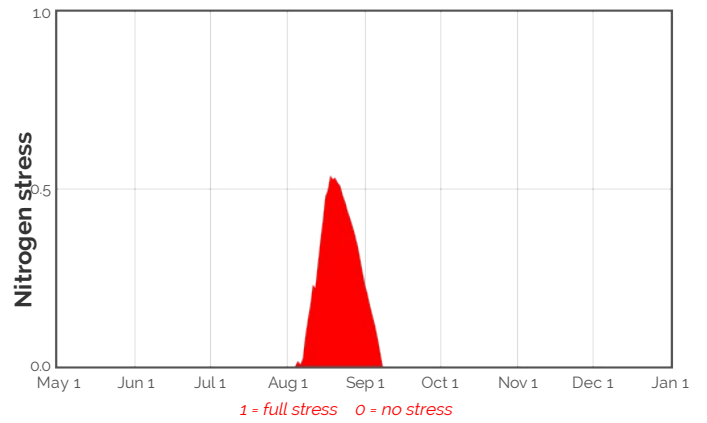
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



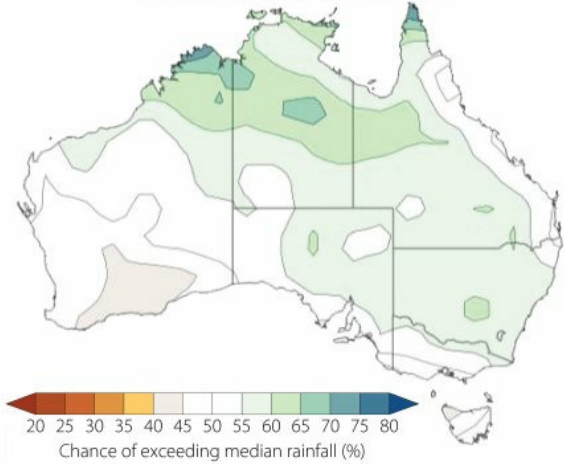
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

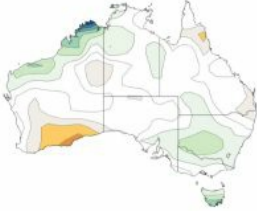
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
14-Sep	45.2	0.7	1.9	2.2	128.4	168.6	43.5	0.0	0.0
15-Sep	46.0	0.8	2.4	1.9	125.6	166.0	41.8	0.0	0.0
16-Sep	46.9	0.6	2.0	1.7	122.4	163.0	40.2	0.0	0.0
17-Sep	47.8	0.8	2.2	1.6	119.2	159.8	38.8	0.0	0.0
18-Sep	48.6	0.8	2.2	1.4	115.4	156.0	37.4	0.0	0.0
19-Sep	49.5	0.7	1.8	1.3	111.3	152.0	36.0	0.0	0.0
20-Sep	50.3	0.6	2.3	1.2	107.4	148.0	34.8	0.0	0.0
21-Sep	51.2	0.4	2.6	1.1	103.7	144.4	33.7	0.0	0.0
22-Sep	51.9	0.4	2.6	1.0	99.8	140.5	32.6	0.0	0.0
23-Sep	52.8	0.3	3.1	0.9	95.2	135.9	31.6	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.

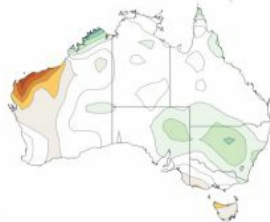
3 MONTH CLIMATE OUTLOOK FROM SEPTEMBER TO NOVEMBER



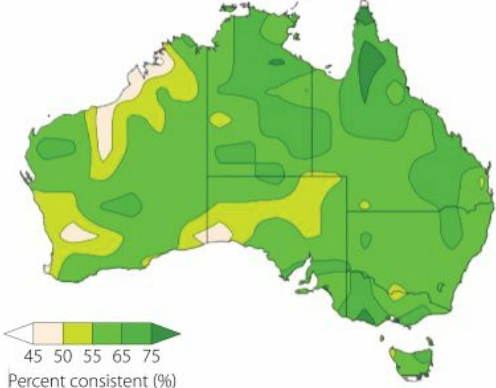
SEPTEMBER CLIMATE OUTLOOK



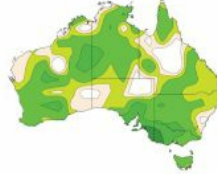
OCTOBER CLIMATE OUTLOOK



PAST ACCURACY FROM SEPTEMBER TO NOVEMBER



PAST ACCURACY FOR SEPTEMBER



PAST ACCURACY FOR OCTOBER

