

Crop Report

25-Jul-2017

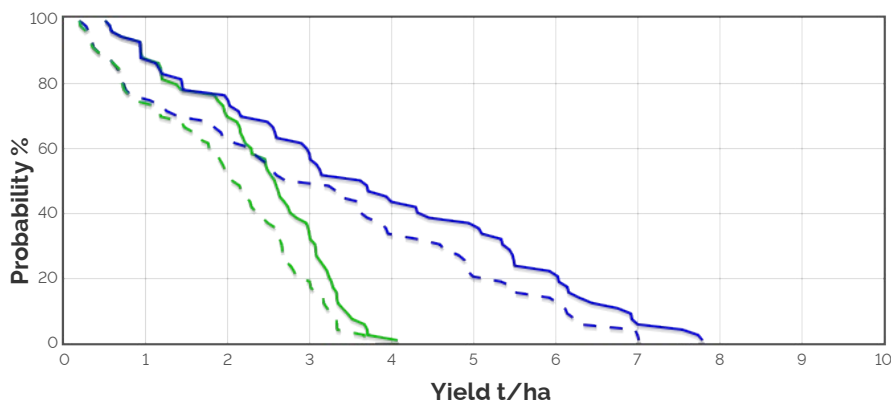
Toni Nugent: Graham
Centre Field Site

Crop: Wheat
Cultivar: Gregory
 Sowing details: 150 plants/m² on 22-May
 Expected maturity date: 27-Nov

Paddock Details
 Initial conditions date: 1-May
 Soil: Red Kandosol (No498-Generic)
 1500 mm max rooting depth
 Stubble: 0 kg/ha of Wheat
 No till

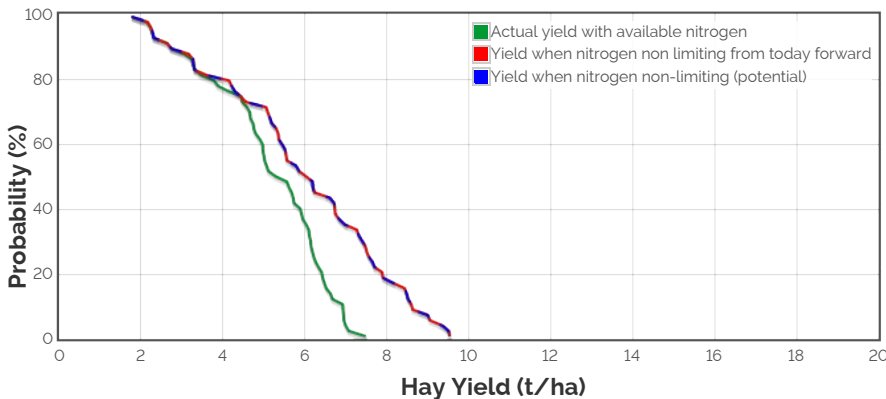
Grain Yield Outcome

- 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.

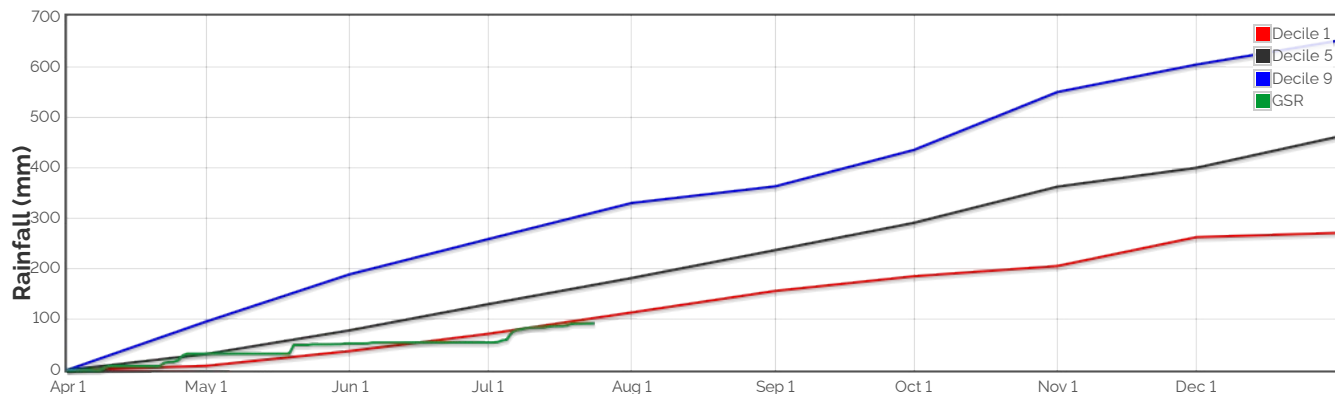
Hay Yield Outcome



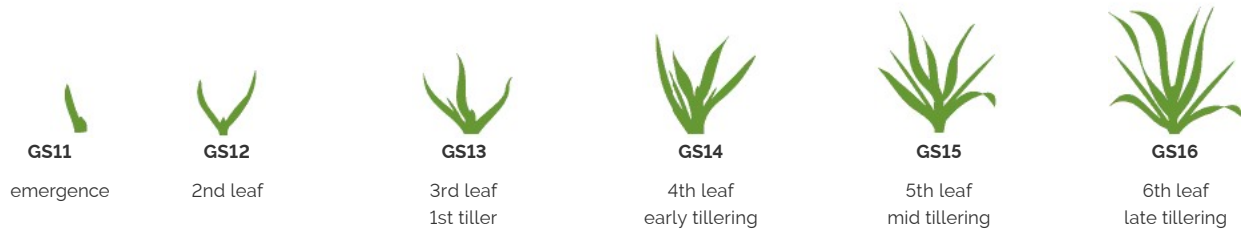
This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 298.6kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage



Predicted

Earliest	5-Jun	21-Jun	5-Jul	16-Jul	27-Jul	4-Aug
Median	5-Jun	21-Jun	5-Jul	16-Jul	28-Jul	8-Aug
Latest	5-Jun	21-Jun	5-Jul	16-Jul	30-Jul	11-Aug



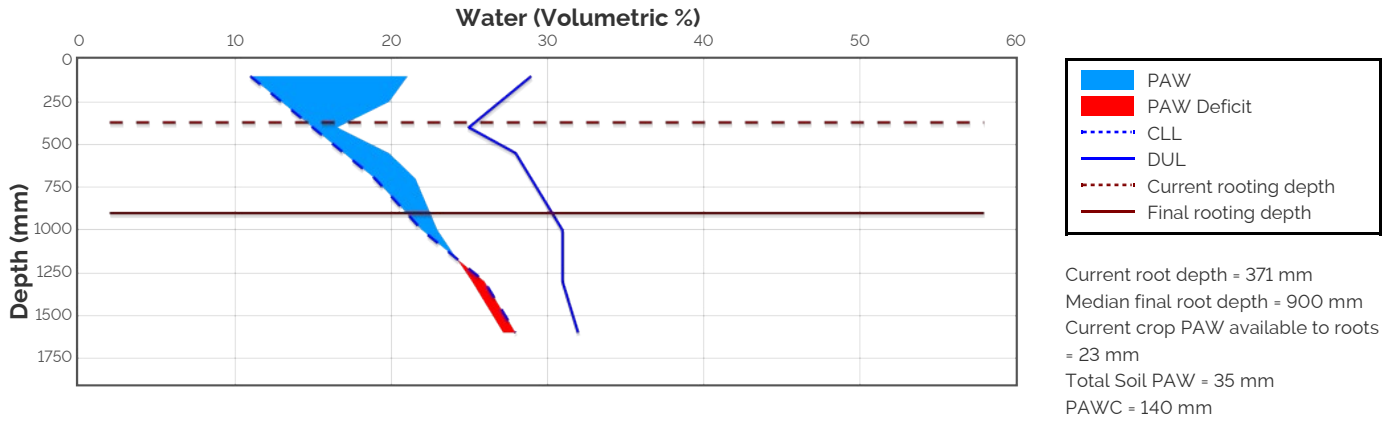
Predicted

Earliest	24-Aug	27-Aug	31-Aug	10-Sep	15-Sep	23-Sep	2-Oct	11-Oct	27-Oct
Median	28-Aug	31-Aug	5-Sep	17-Sep	22-Sep	29-Sep	9-Oct	18-Oct	3-Nov
Latest	2-Sep	6-Sep	10-Sep	23-Sep	28-Sep	7-Oct	18-Oct	28-Oct	18-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		55%	0	mild 32 to 34°C		42%	0
moderate 0 to -2°C during flowering & early grain fill		6%	0	moderate 34 to 36°C		27%	0
severe Less than -2°C during flowering & grain fill		0%	0	severe Above 36°C		6%	0

Current Distribution of PAW



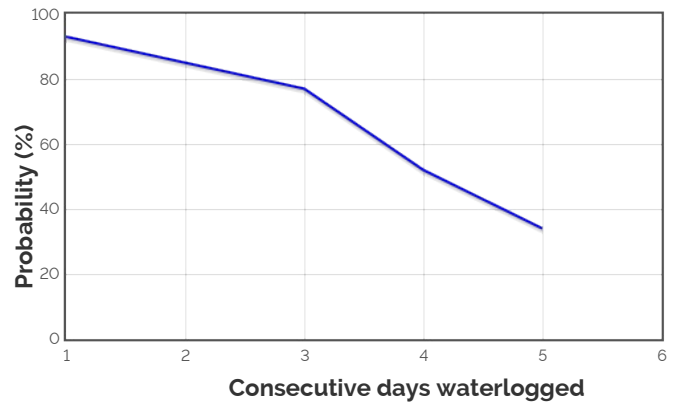
Water Budget

Initial PAW status @ 1-May
 Rainfall since 1-May
 Irrigations
 Evaporation since 1-May
 Transpiration since 1-May
 Deep drainage since 1-May
 Run-off since 1-May

15 mm
 60.2 mm
 35 mm
 3 mm
 0 mm
 0 mm
35 mm

Current PAW status:

Probability of Future Waterlogging Events



Nitrogen Budget

Initial N status @ 1-May
 N mineralisation since 1-May
 N tie up since 1-May
 N applications

89 kg/ha
 0 kg/ha
 2 kg/ha

Total N in plant
 De-nitrification since 1-May
 Leaching since 1-May

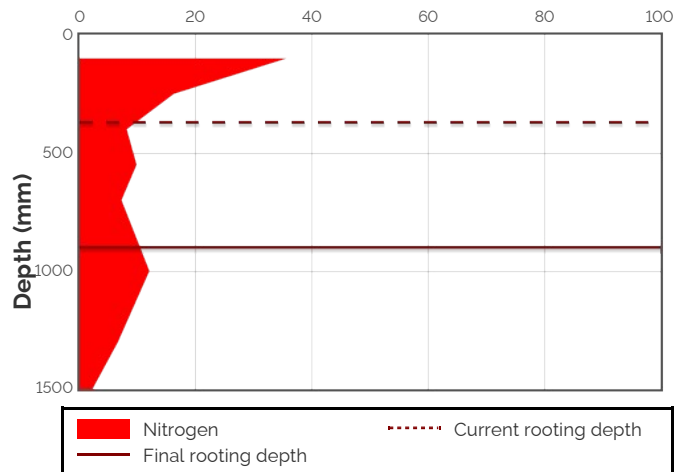
22-May : 12.6 kg/ha
 17 kg/ha
 0 kg/ha
 0 kg/ha

Current N status:

Median N mineralisation to maturity = 2.109 kg/ha
 Median N tie up to maturity = 0 kg/ha

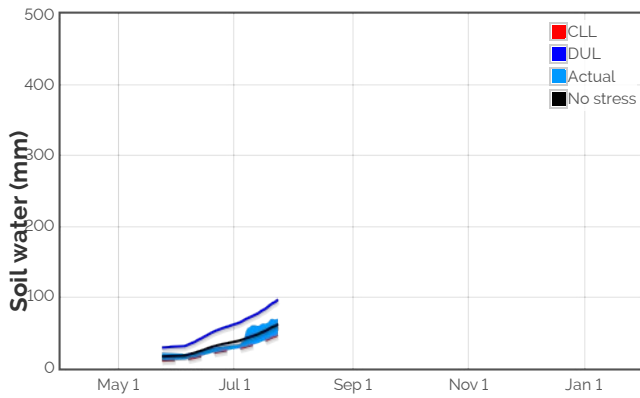
83 kg/ha

Current distribution of soil nitrogen (kg/ha)

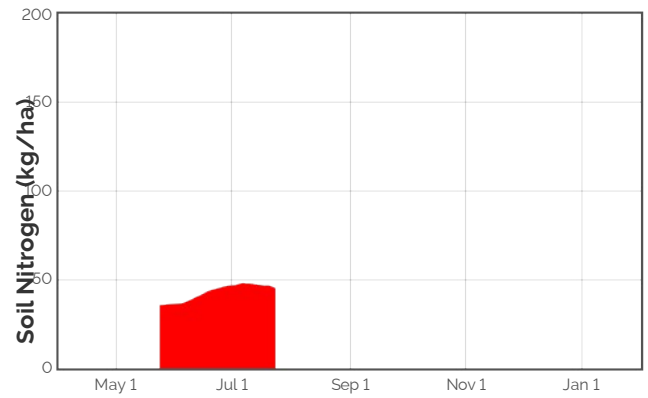


Current Crop Available N = 45 kg/ha
 Total Soil N = 83 kg/ha

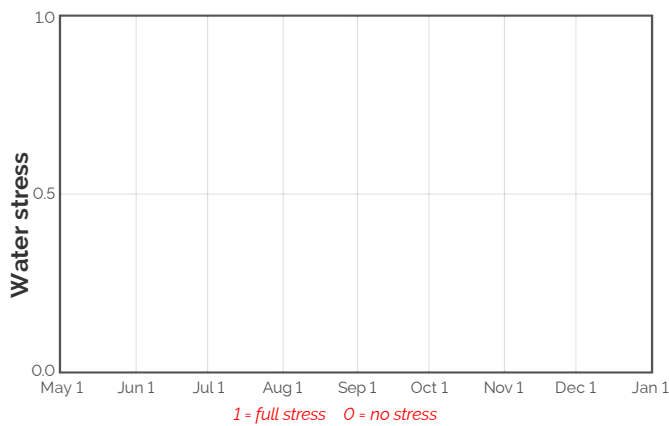
Availability of Water to Growing Roots



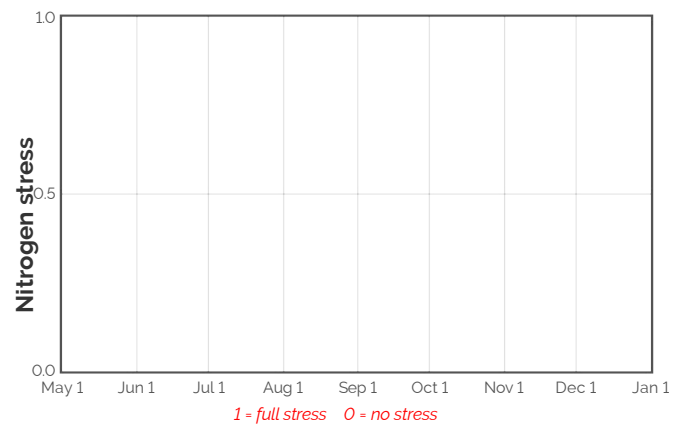
Availability of Soil Nitrogen to Growing Roots



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)
25-Jul	14.9	0.5	0.2	1.0	6.3	21.9	44.0	0.0	0.0
26-Jul	15.0	0.4	0.2	1.0	5.6	21.5	43.7	0.0	0.0
27-Jul	15.1	0.4	0.2	1.2	4.9	21.1	43.2	0.0	0.0
28-Jul	15.2	0.4	0.2	1.1	4.3	20.8	42.7	0.0	0.0
29-Jul	15.2	0.3	0.2	1.2	3.7	20.4	42.3	0.0	0.0
30-Jul	15.3	0.3	0.2	1.2	3.1	20.2	41.6	0.0	0.0
31-Jul	15.4	0.3	0.2	1.4	2.5	19.9	40.8	0.0	0.0
1-Aug	15.5	0.3	0.2	1.3	1.9	19.6	40.5	0.0	0.0
2-Aug	15.6	0.3	0.3	1.5	1.3	19.2	39.4	0.0	0.0
3-Aug	15.7	0.3	0.3	1.5	0.6	18.9	38.3	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.

Bureau of Meteorology Seasonal and Monthly Outlooks

