

Crop Report

21-Aug-2017

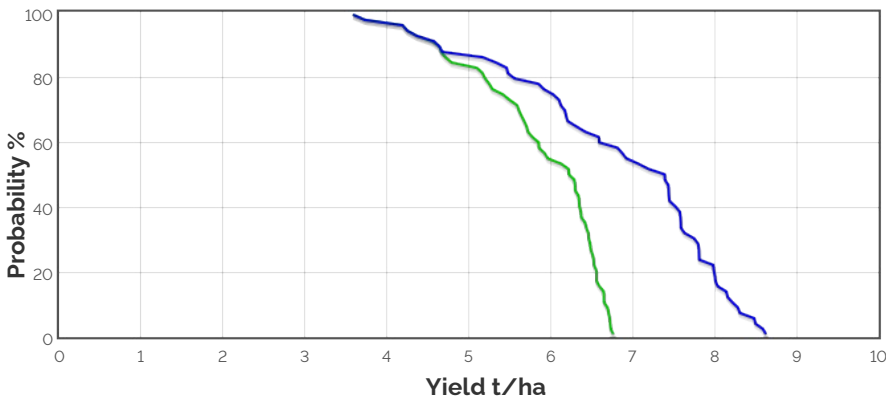
UpperNorthFS: Clark

Crop: Wheat
 Cultivar: Trojan
 Sowing details: 200 plants/m² on 3-May
 Expected maturity date: 13-Nov

Paddock Details
 Initial conditions date: 24-May
 Soil: Loam over clay loam over sandy clay loam (Morchar Hill No604)
 1000 mm max rooting depth
 Stubble: 1000 kg/ha of Canola
 No till

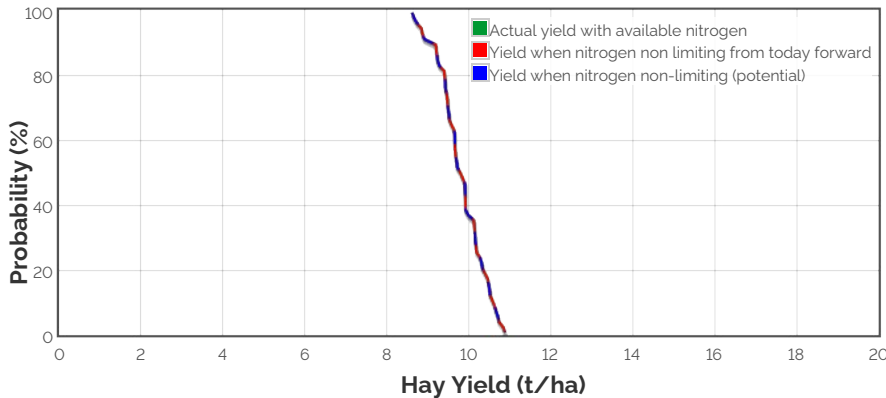
Grain Yield Outcome

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

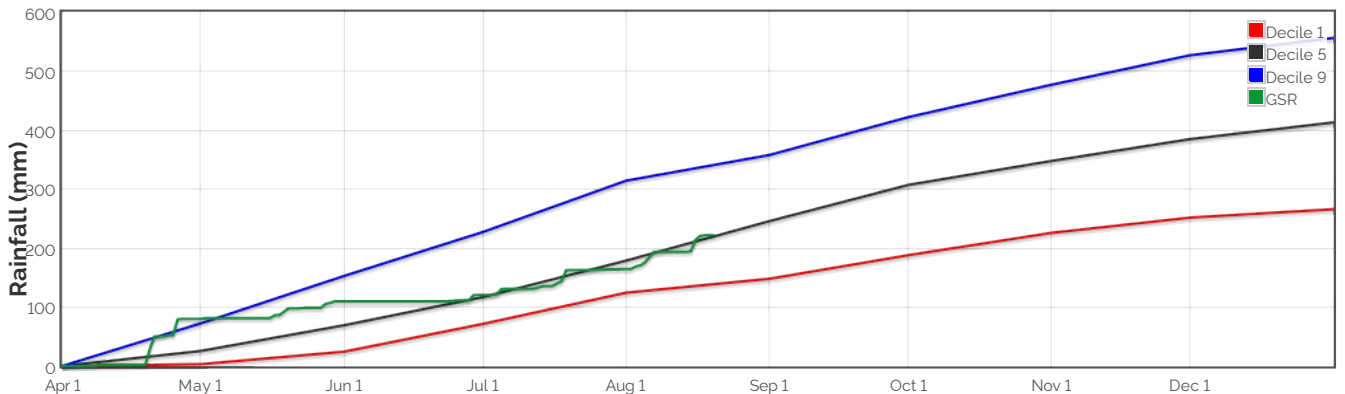
Hay Yield Outcome



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: 5190.7kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage



Predicted

Earliest	15-May	27-May	7-Jun	17-Jun	28-Jun	9-Jul
Median	15-May	27-May	7-Jun	17-Jun	28-Jun	9-Jul
Latest	15-May	27-May	7-Jun	17-Jun	28-Jun	9-Jul



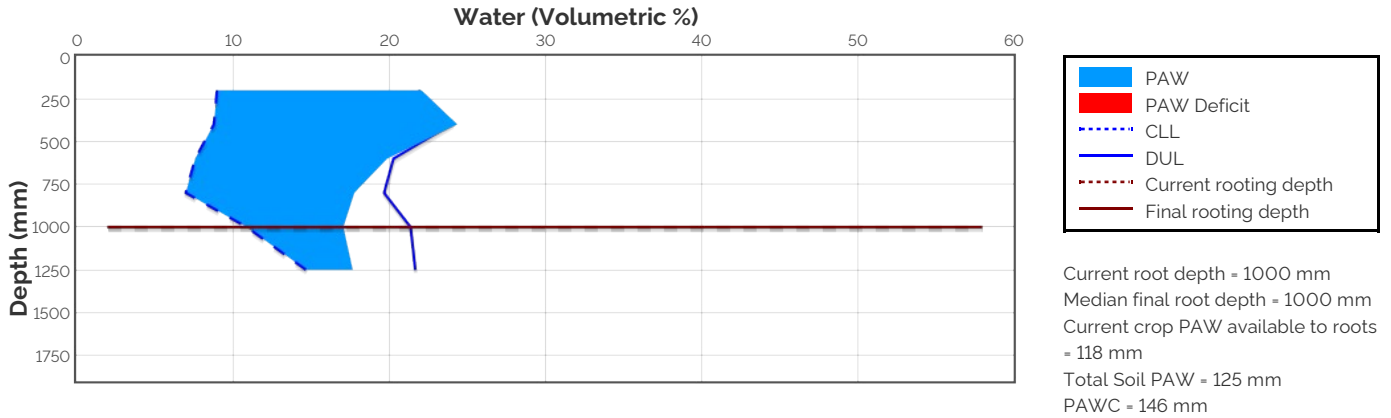
Predicted

Earliest	4-Aug	8-Aug	12-Aug	24-Aug	27-Aug	3-Sep	14-Sep	24-Sep	10-Oct
Median	4-Aug	8-Aug	12-Aug	25-Aug	30-Aug	9-Sep	20-Sep	30-Sep	19-Oct
Latest	4-Aug	8-Aug	12-Aug	26-Aug	2-Sep	12-Sep	26-Sep	7-Oct	28-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	72%	0		mild 32 to 34°C	34%	0	
moderate 0 to -2°C during flowering & early grain fill	26%	0		moderate 34 to 36°C	16%	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 @ 24-May
 Rainfall since 24-May
 Irrigations
 Evaporation since 24-May
 Transpiration since 24-May
 Deep drainage since 24-May
 Run-off since 24-May

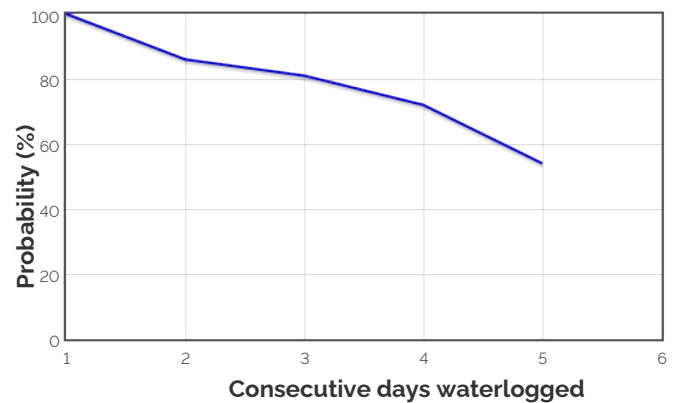
108 mm
 123.3 mm

 42 mm
 65 mm
 0 mm
 0 mm

125 mm

Current PAW status:

Probability of Future Waterlogging Events



Nitrogen Budget

Initial N status @ 24-May
 N mineralisation since 24-May
 N tie up since 24-May
 N applications

153 kg/ha
 0 kg/ha
 7 kg/ha

25-May : 19.6 kg/ha
 13-Jul : 46 kg/ha
 6-Aug : 23 kg/ha

Total N in plant
 De-nitrification since 24-May
 Leaching since 24-May

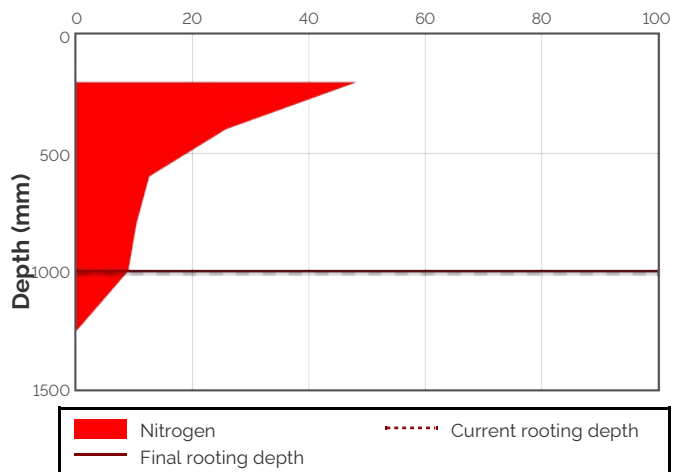
174 kg/ha
 0 kg/ha
 0 kg/ha

Current N status:

63 kg/ha

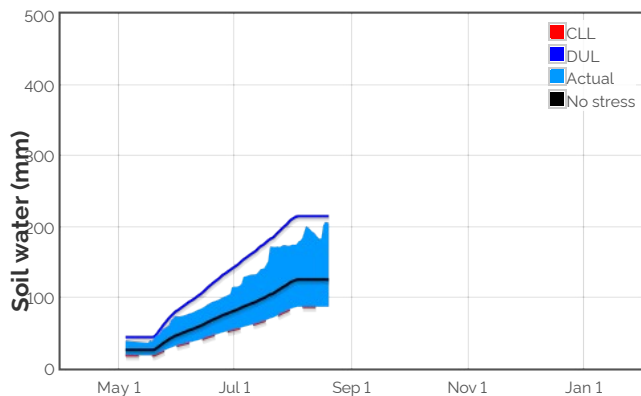
Median N mineralisation to maturity = 0.016 kg/ha
 Median N tie up to maturity = 5.076 kg/ha

Current distribution of soil nitrogen (kg/ha)

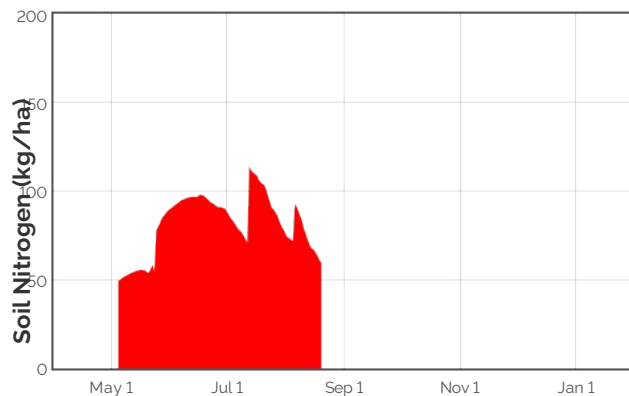


Current Crop Available N = 59 kg/ha
 Total Soil N = 63 kg/ha

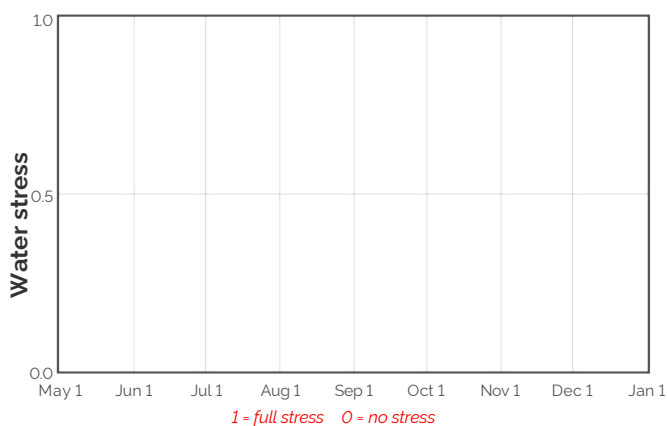
Availability of Water to Growing Roots



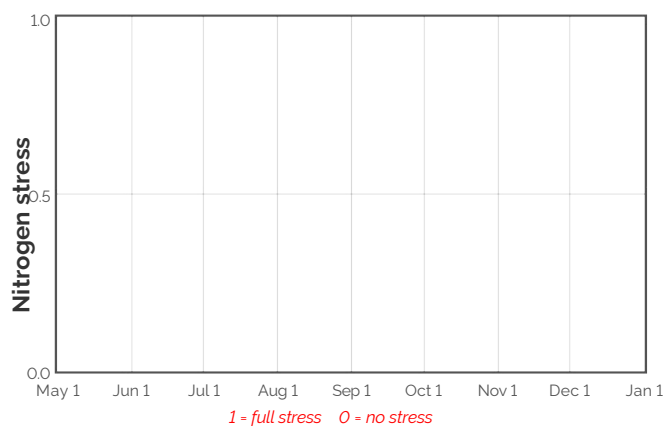
Availability of Soil Nitrogen to Growing Roots



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.

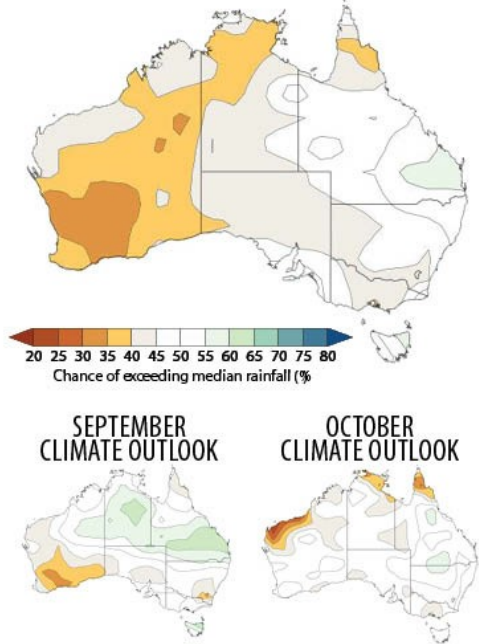
Median projected crop performance and requirements for the next 10 days assuming no rain and no added fertiliser

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)
21-Aug	36.2	0.5	1.7	2.2	75.4	113.8	55.2	0.0	0.1
22-Aug	36.6	0.4	1.6	2.0	73.4	111.8	53.1	0.0	0.1
23-Aug	36.9	0.4	1.5	2.2	71.2	109.6	51.1	0.0	0.1
24-Aug	37.3	0.4	1.4	2.1	69.3	107.7	49.3	0.0	0.1
25-Aug	37.6	0.5	1.8	2.1	68.0	106.4	47.0	0.0	0.1
26-Aug	38.0	0.5	1.9	1.9	65.6	104.0	45.0	0.0	0.1
27-Aug	38.4	0.5	1.8	1.9	62.5	100.9	43.1	0.0	0.1
28-Aug	38.7	0.4	2.2	1.6	60.0	98.4	41.4	0.0	0.1
29-Aug	39.0	0.5	1.9	1.6	58.1	96.5	39.8	0.0	0.1
30-Aug	39.4	0.5	1.9	1.4	56.0	94.4	38.3	0.0	0.1

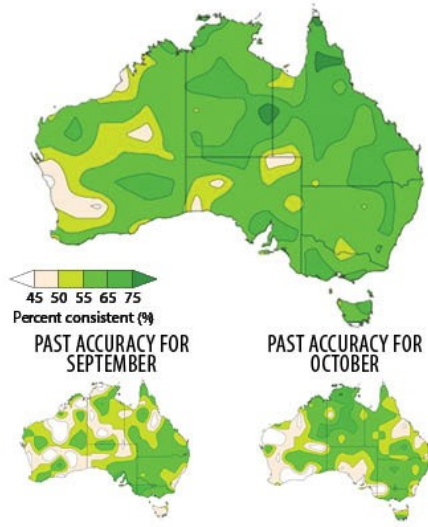
The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

Bureau of Meteorology Seasonal and Monthly Outlooks

3 MONTH CLIMATE OUTLOOK FROM SEPTEMBER TO NOVEMBER



PAST ACCURACY FROM SEPTEMBER TO NOVEMBER



 Australian Government
Bureau of Meteorology

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