

# Crop Report

11-Aug-2017

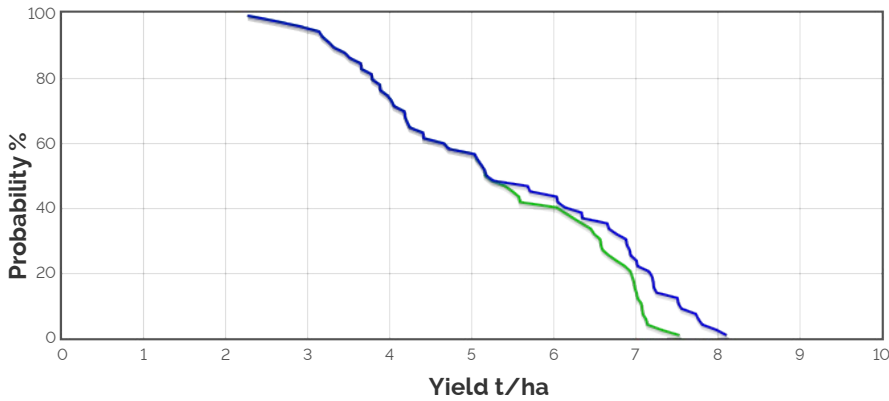
UpperNorthFS:  
Berryman

**Crop: Wheat**  
**Cultivar: Sceptre**  
 Sowing details: 150 plants/m<sup>2</sup> on 28-Apr  
 Expected maturity date: 5-Nov

**Paddock Details**  
 Initial conditions date: 24-May  
 Soil: Red Cracking Clay (Pirie)(CU022)  
 1000 mm max rooting depth  
 Stubble: 0 kg/ha of Wheat  
 No till

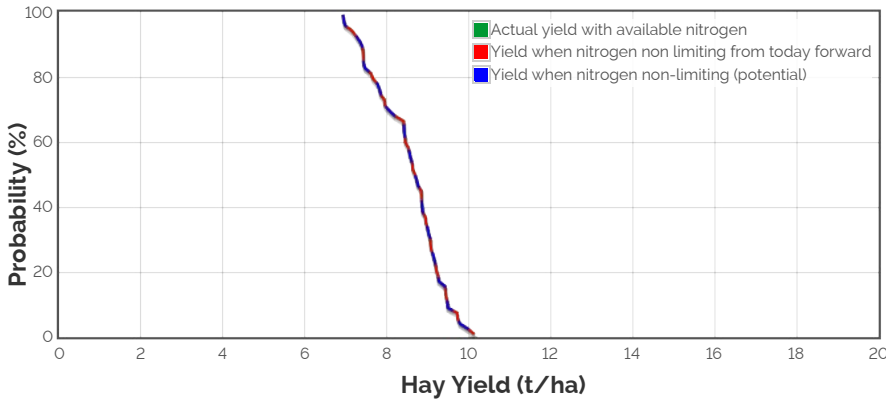
## Grain Yield Outcome

- 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.

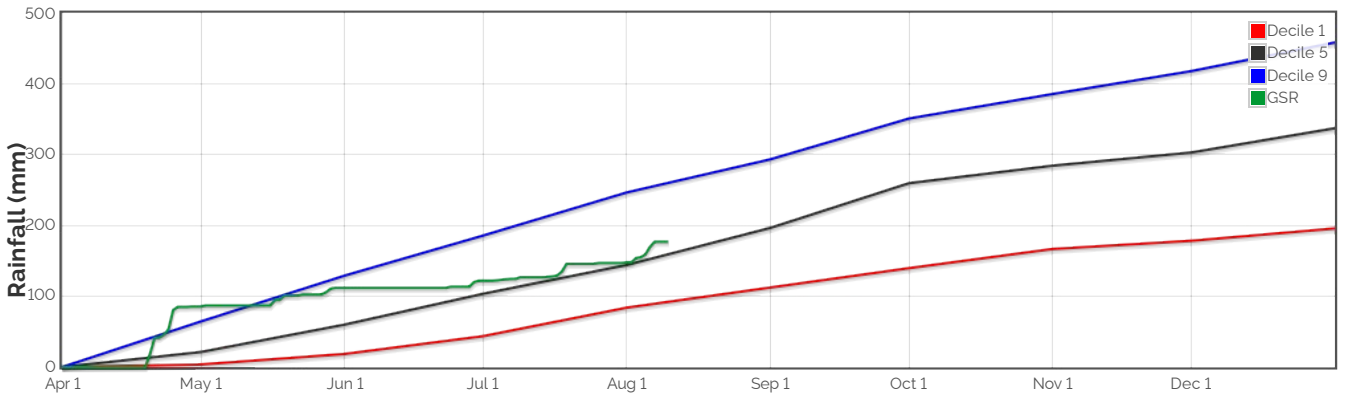
## Hay Yield Outcome



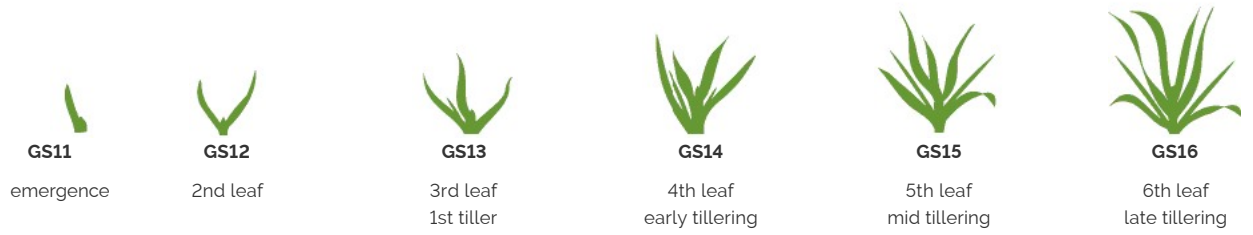
This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 4621.8kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



## Predicted

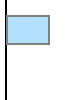
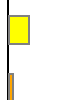
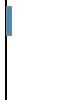
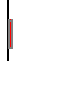

Earliest	10-May	20-May	28-May	8-Jun	19-Jun	29-Jun
Median	10-May	20-May	28-May	8-Jun	19-Jun	29-Jun
Latest	10-May	20-May	28-May	8-Jun	19-Jun	29-Jun



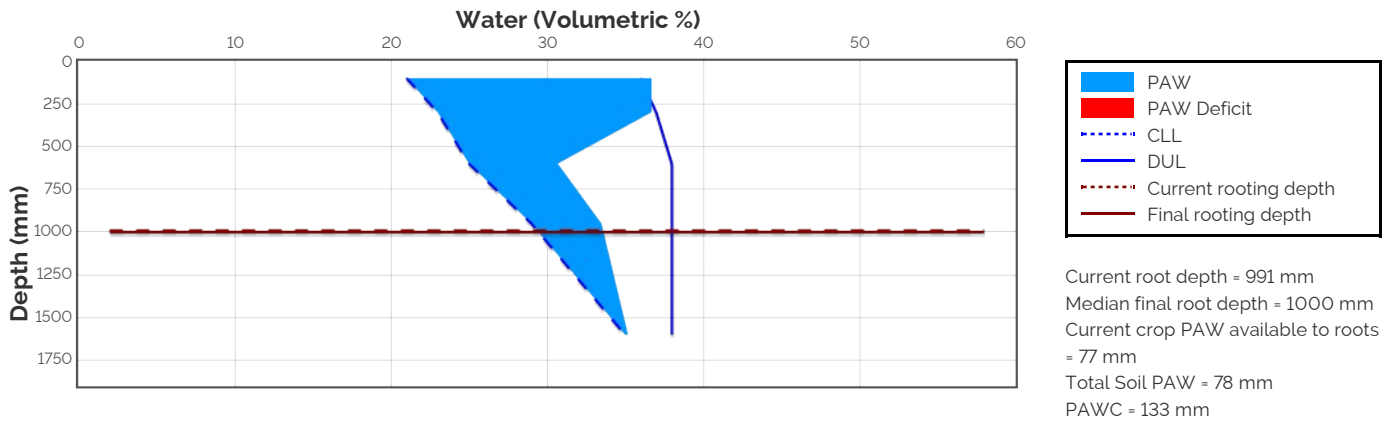
## Predicted

Earliest	24-Jul	28-Jul	1-Aug	15-Aug	19-Aug	26-Aug	5-Sep	15-Sep	3-Oct
Median	24-Jul	28-Jul	1-Aug	16-Aug	21-Aug	30-Aug	11-Sep	22-Sep	10-Oct
Latest	24-Jul	28-Jul	1-Aug	17-Aug	25-Aug	4-Sep	16-Sep	28-Sep	18-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	 62%	0		mild 32 to 34°C	 32%	0	
moderate 0 to -2°C during flowering & early grain fill	 8%	0		moderate 34 to 36°C	 8%	0	
severe Less than -2°C during flowering & grain fill	0%	0		severe Above 36°C	 6%	0	

## Current Distribution of PAW



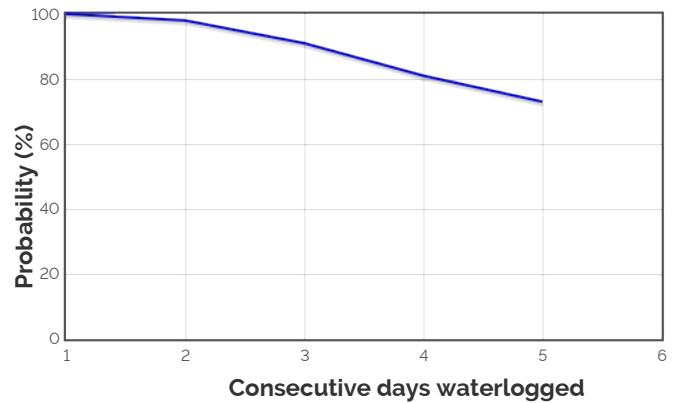
## Water Budget

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

101 mm  
 74.5 mm  
  
 37 mm  
 60 mm  
 0 mm  
 0 mm  
  
**78 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

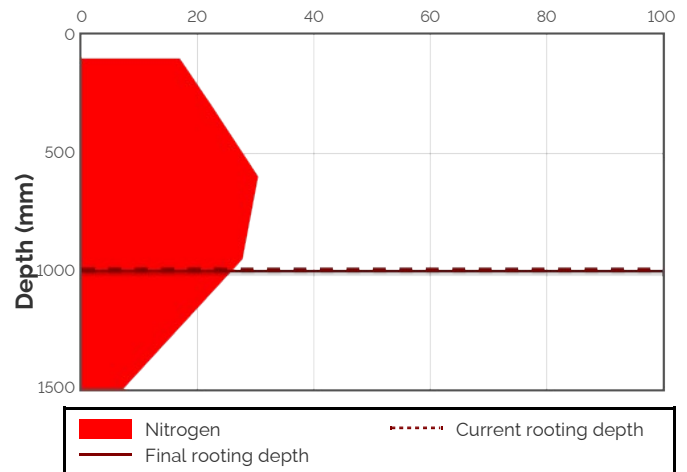
161 kg/ha  
 0 kg/ha  
 3 kg/ha  
  
 25-May : 15 kg/ha  
 17-Jul : 35 kg/ha  
 1-Aug : 46 kg/ha  
 155 kg/ha  
 1 kg/ha  
 0 kg/ha  
  
**101 kg/ha**

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

**Current N status:**

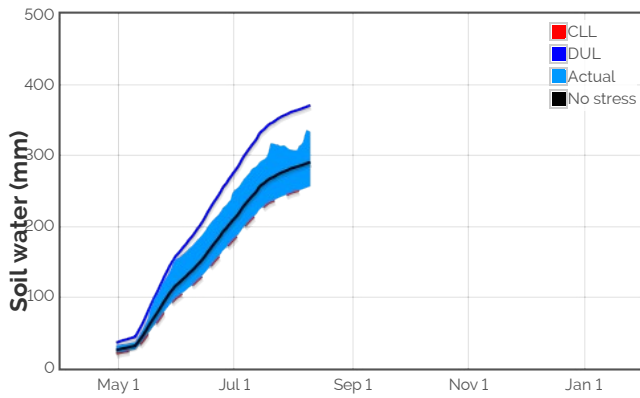
Median N mineralisation to maturity = 0 kg/ha  
 Median N tie up to maturity = 1.864 kg/ha

## Current distribution of soil nitrogen (kg/ha)

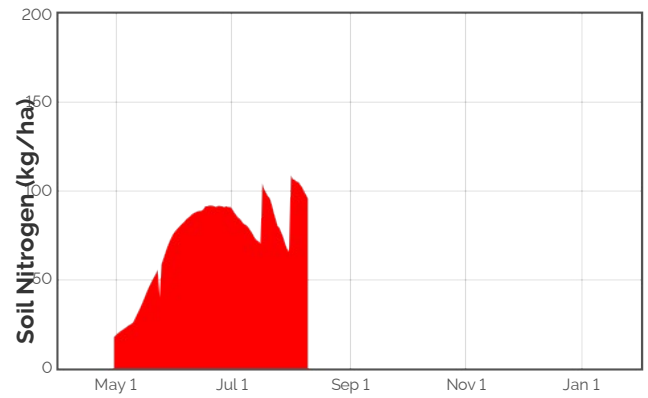


Current Crop Available N = 96 kg/ha  
 Total Soil N = 101 kg/ha

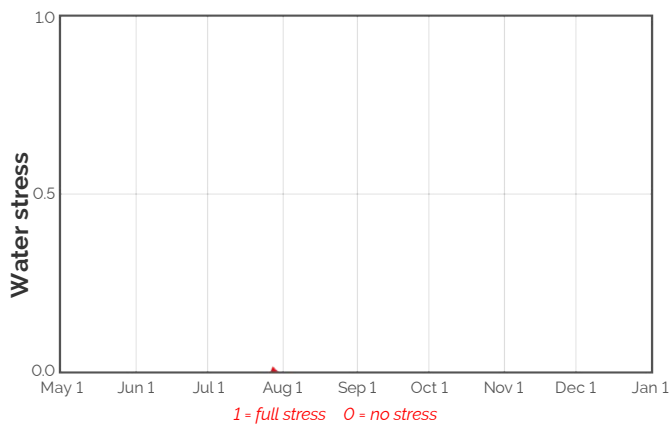
## Availability of Water to Growing Roots



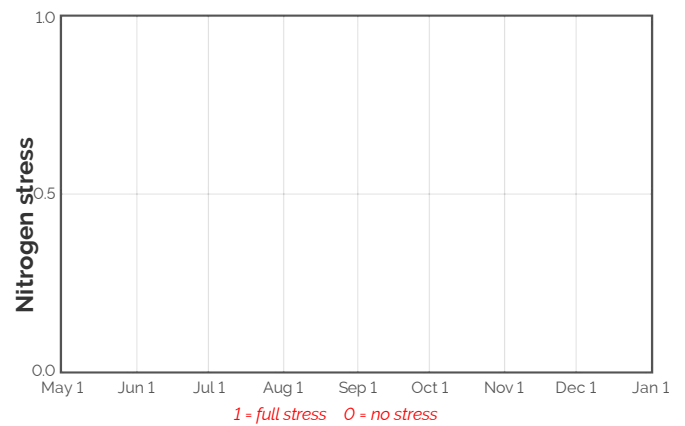
## Availability of Soil Nitrogen to Growing Roots



## 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.

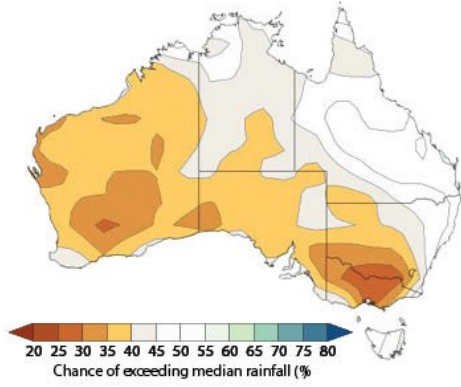
## Median projected crop performance and requirements for the next 10 days assuming no rain and no added fertiliser

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)
11-Aug	35.8	0.4	1.2	1.8	39.9	74.4	92.2	0.0	0.0
12-Aug	36.2	0.4	1.1	2.0	38.3	72.8	90.3	0.0	0.0
13-Aug	36.5	0.4	1.2	1.8	36.4	70.9	88.7	0.0	0.0
14-Aug	36.9	0.4	1.3	2.0	34.4	68.9	86.8	0.0	0.0
15-Aug	37.2	0.4	1.1	1.8	32.5	67.0	84.9	0.0	0.0
16-Aug	37.6	0.5	1.3	1.9	30.7	65.2	82.9	0.0	0.0
17-Aug	37.9	0.4	1.3	1.9	28.5	63.0	81.1	0.0	0.0
18-Aug	38.3	0.5	1.5	2.0	26.1	60.6	79.3	0.0	0.0
19-Aug	38.6	0.5	1.7	1.9	24.0	58.5	77.7	0.0	0.0
20-Aug	39.0	0.5	1.5	1.9	21.8	56.3	75.6	0.0	0.0

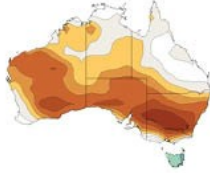
The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

# Bureau of Meteorology Seasonal and Monthly Outlooks

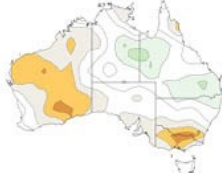
### 3 MONTH CLIMATE OUTLOOK FROM AUGUST TO OCTOBER



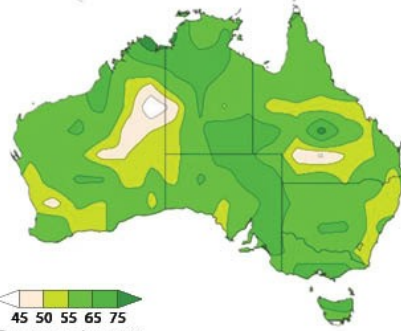
### AUGUST CLIMATE OUTLOOK



### SEPTEMBER CLIMATE OUTLOOK



### PAST ACCURACY FROM AUGUST TO OCTOBER



### PAST ACCURACY FOR AUGUST



### PAST ACCURACY FOR SEPTEMBER



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