

# Crop Report

5-Oct-2017

UpperNorthFS:  
Kuerschner

Crop: Wheat

Cultivar: Mace

Sowing details: 150 plants/m<sup>2</sup> on 25-Apr

Expected maturity date: 2-Nov

### Paddock Details

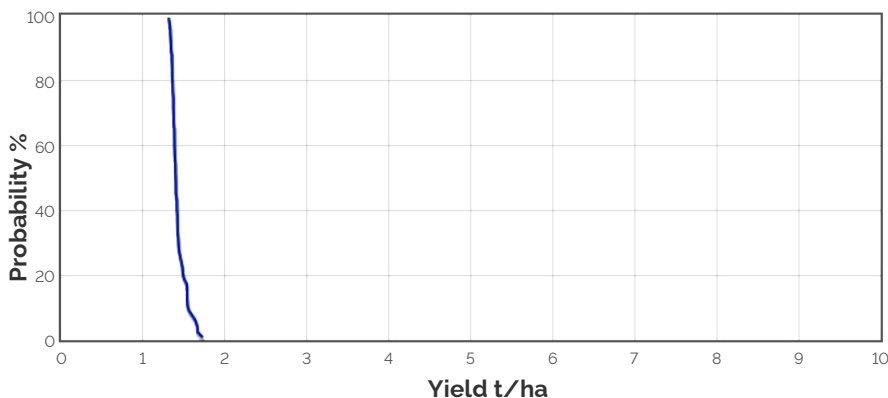
Initial conditions date: 23-May

Soil: Loam over clay loam over sandy clay loam (Morchar Hill No604)  
700 mm max rooting depth

Stubble: 1000 kg/ha of Medic  
No till

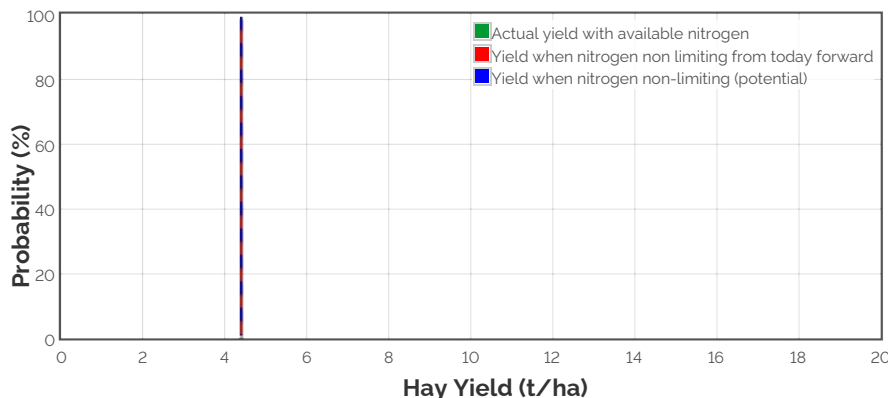
## Grain Yield Outcome

- 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.

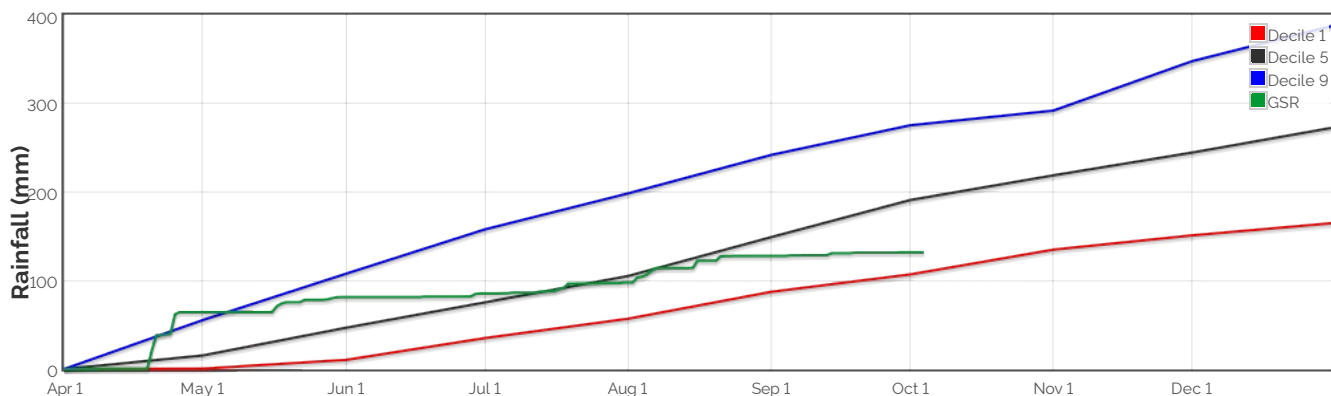
## Hay Yield Outcome



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: 5480.2kg/ha

## The Season So Far - Growing Season Rainfall Deciles



## Simulated and Predicted Crop Growth Stage



### Predicted






Earliest	7-May	16-May	24-May	3-Jun	14-Jun	24-Jun
Median	7-May	16-May	24-May	3-Jun	14-Jun	24-Jun
Latest	7-May	16-May	24-May	3-Jun	14-Jun	24-Jun



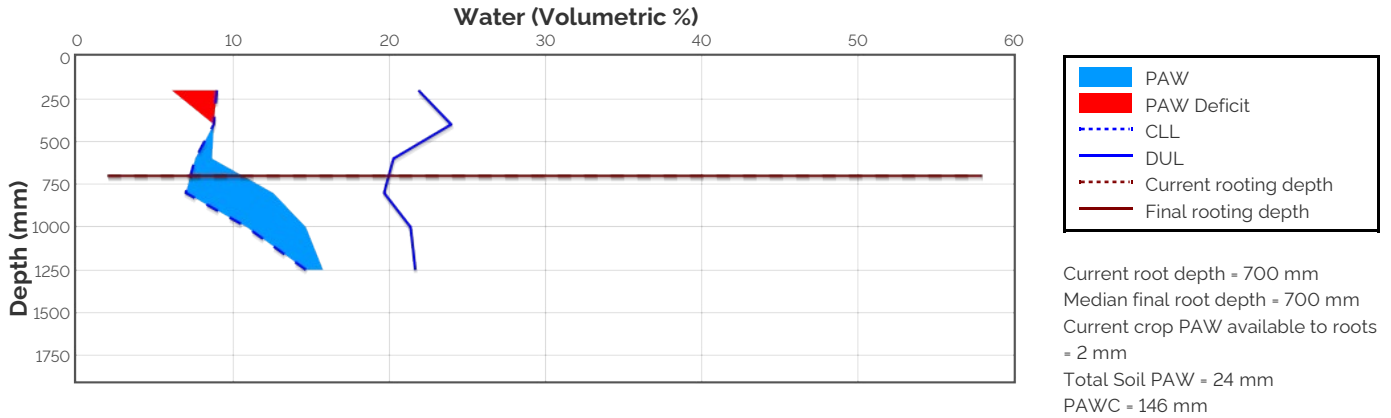
### Predicted

Earliest	20-Jul	24-Jul	29-Jul	12-Aug	16-Aug	26-Aug	8-Sep	19-Sep	6-Oct
Median	20-Jul	24-Jul	29-Jul	12-Aug	16-Aug	26-Aug	8-Sep	19-Sep	6-Oct
Latest	20-Jul	24-Jul	29-Jul	12-Aug	16-Aug	26-Aug	8-Sep	19-Sep	6-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	 86%	2		mild 32 to 34°C	 39%	0	
moderate 0 to -2°C during flowering & early grain fill	 37%	0		moderate 34 to 36°C	 6%	0	
severe Less than -2°C during flowering & grain fill	0%	0		severe Above 36°C	 4%	0	

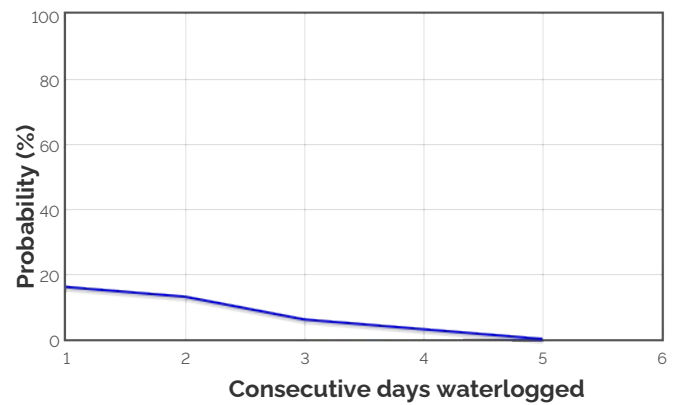
## Current Distribution of PAW



## Water Budget

Initial PAW status @ 23-May	81 mm
Rainfall since 23-May	53.7 mm
Irrigations	
Evaporation since 23-May	46 mm
Transpiration since 23-May	71 mm
Deep drainage since 23-May	0 mm
Run-off since 23-May	0 mm
<b>Current PAW status:</b>	<b>24 mm</b>

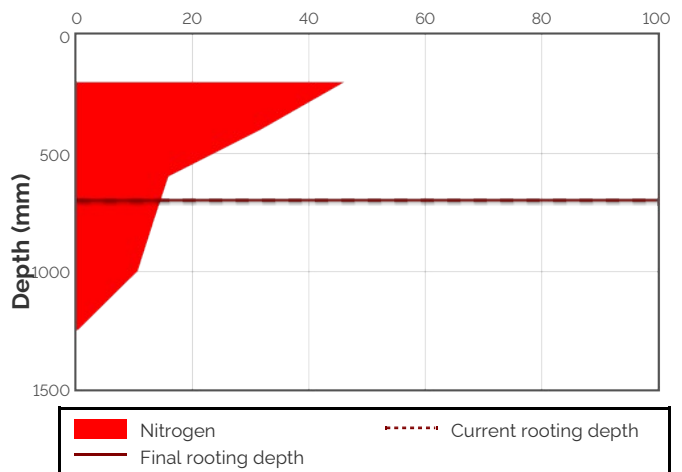
## Probability of Future Waterlogging Events



## Nitrogen Budget

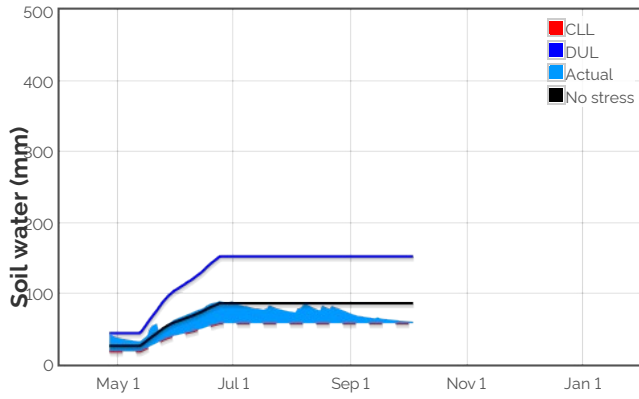
Initial N status @ 23-May	135 kg/ha
N mineralisation since 23-May	0 kg/ha
N tie up since 23-May	8 kg/ha
N applications	
25-May : 11.5 kg/ha	
Total N in plant	103 kg/ha
De-nitrification since 23-May	0 kg/ha
Leaching since 23-May	0 kg/ha
<b>Current N status:</b>	<b>39 kg/ha</b>
Median N mineralisation to maturity = 0 kg/ha	
Median N tie up to maturity = 1.266 kg/ha	

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

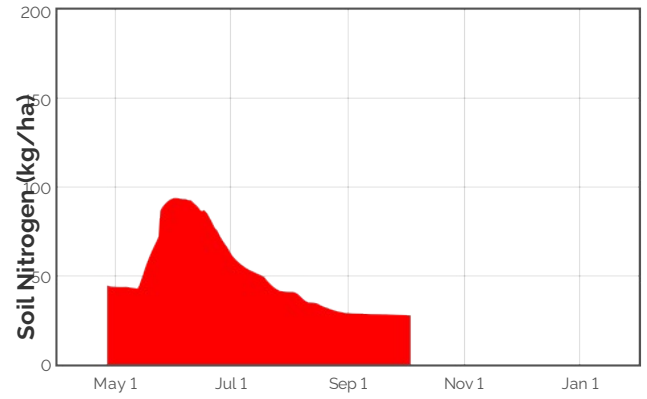


Current Crop Available N = 28 kg/ha  
 Total Soil N = 39 kg/ha

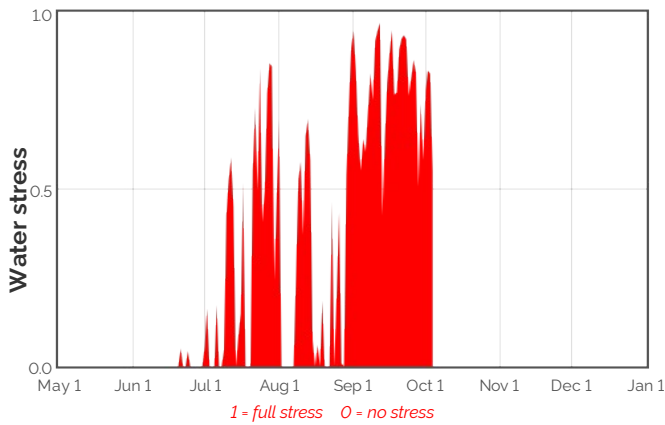
## Availability of Water to Growing Roots



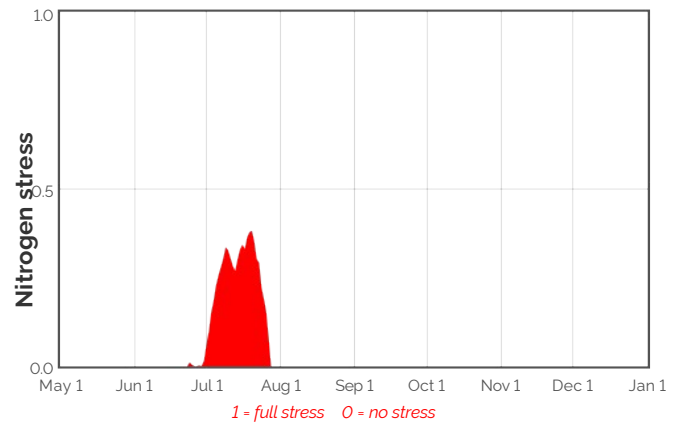
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



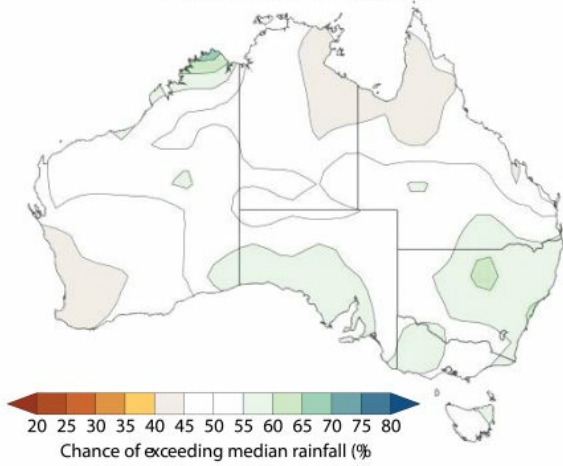
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

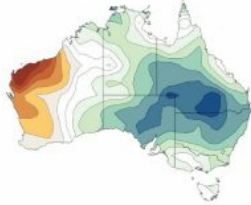
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
4-Oct	75.2	0.2	0.2	0.0	-26.6	17	27.6	0.0	0.0
5-Oct	75.7	0.2	0.2	0.0	-26.8	15	27.6	0.0	0.0
6-Oct	76.1	0.2	0.2	0.0	-27.0	13	27.6	0.0	0.0
7-Oct	76.5	0.2	0.2	0.0	-27.2	11	27.6	0.0	0.0
8-Oct	77.0	0.2	0.2	0.0	-27.4	0.9	27.5	0.0	0.0
9-Oct	77.4	0.2	0.2	0.0	-27.6	0.7	27.5	0.0	0.0
10-Oct	77.8	0.2	0.2	0.0	-27.8	0.5	27.5	0.0	0.0
11-Oct	78.3	0.2	0.2	0.0	-28.0	0.3	27.5	0.0	0.0
12-Oct	78.7	0.2	0.2	0.0	-28.2	0.1	27.5	0.0	0.0
13-Oct	79.1	0.2	0.2	0.0	-28.4	0.0	27.5	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.

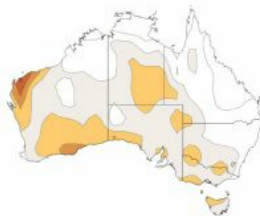
### 3 MONTH CLIMATE OUTLOOK FROM OCTOBER TO DECEMBER



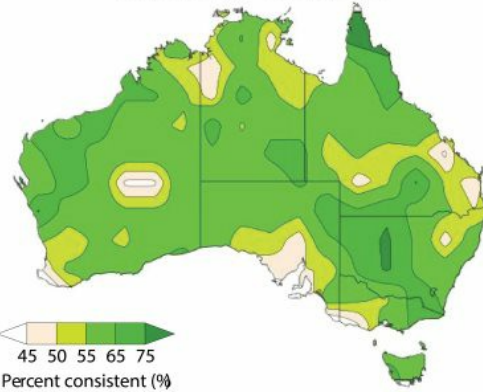
#### OCTOBER CLIMATE OUTLOOK



#### NOVEMBER CLIMATE OUTLOOK



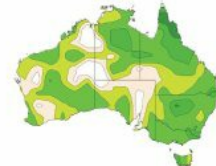
### PAST ACCURACY FROM OCTOBER TO DECEMBER



#### PAST ACCURACY FOR OCTOBER



#### PAST ACCURACY FOR NOVEMBER



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