

# Crop Report

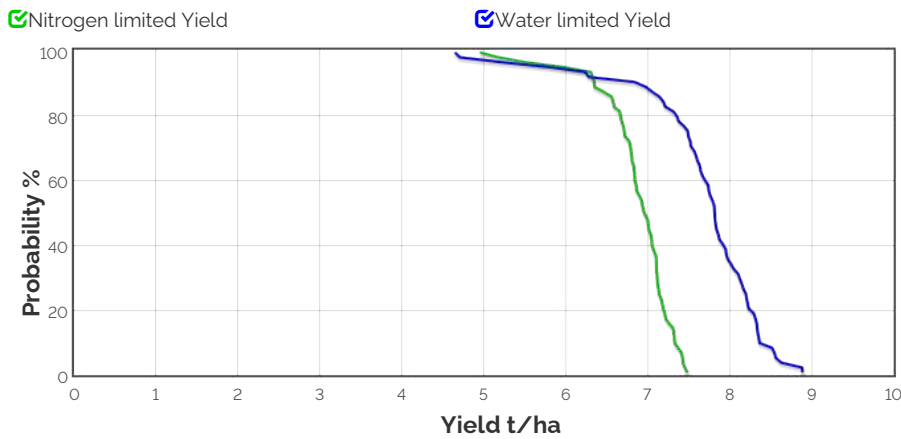
12-Aug-2022

Resilient EP Soil  
Moisture Probe Network:  
Wangary

Crop: Barley  
Cultivar: Spartacus  
Sowing details: 175 plants/m<sup>2</sup> on 9-Jun  
Expected maturity date: 30-Oct

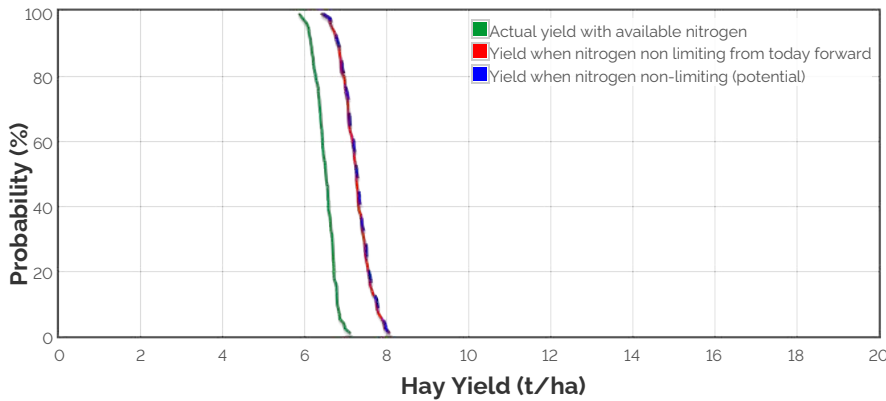
**Paddock Details**  
Initial conditions date: 18-Mar  
Soil: ResEP-Mt Dutton Loam  
900 mm max rooting depth  
Stubble: 4070 kg/ha of Wheat  
No till

## Grain Yield Outcome



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.

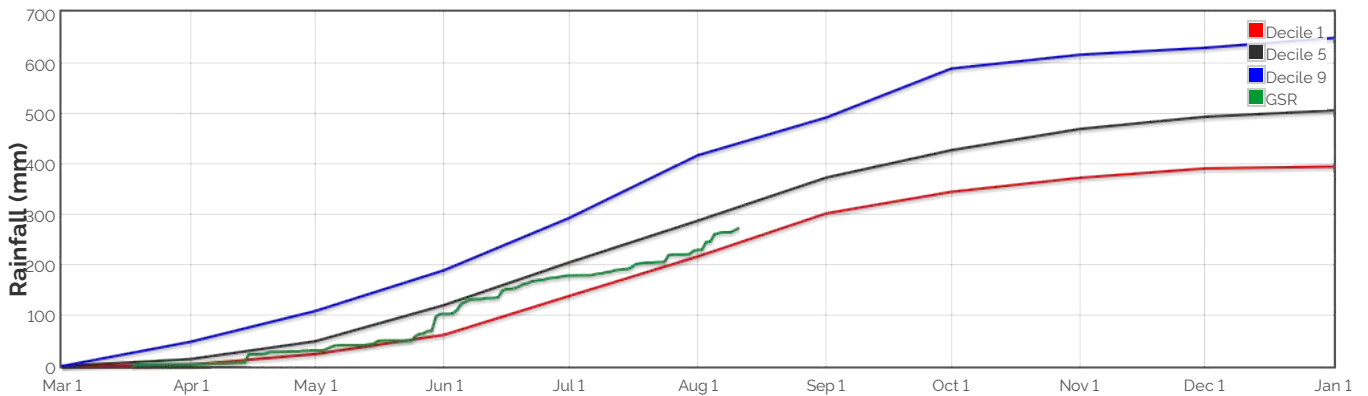
## Hay Yield Outcome



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: 3342.2kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



**Predicted**

Earliest	20-Jun	28-Jun	4-Jul	11-Jul	18-Jul	25-Jul
Median	20-Jun	28-Jun	4-Jul	11-Jul	18-Jul	25-Jul
Latest	20-Jun	28-Jun	4-Jul	11-Jul	18-Jul	25-Jul



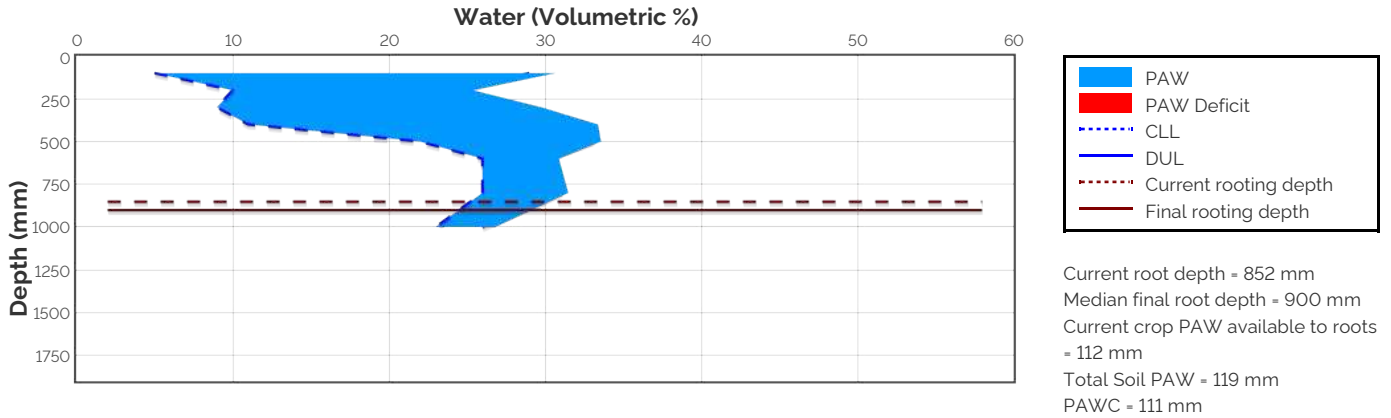
**Predicted**

Earliest	21-Aug	23-Aug	27-Aug	30-Aug	1-Sep	3-Sep	8-Sep	12-Sep	29-Sep
Median	22-Aug	25-Aug	29-Aug	2-Sep	4-Sep	7-Sep	11-Sep	16-Sep	4-Oct
Latest	24-Aug	27-Aug	1-Sep	5-Sep	7-Sep	11-Sep	15-Sep	20-Sep	10-Oct

## Probability and Incidence of Frost and Heat Shock

Frost damage during flowering				Heat damage during grain fill			
	Probability	This Season			Probability	This Season	
mild 2 to 0°C during flowering		1%	<b>0</b>	mild 32 to 34°C		12%	<b>0</b>
moderate 0 to -2°C during flowering & early grain fill		0%	<b>0</b>	moderate 34 to 36°C		1%	<b>0</b>
severe Less than -2°C during flowering & grain fill		0%	<b>0</b>	severe Above 36°C		0%	<b>0</b>

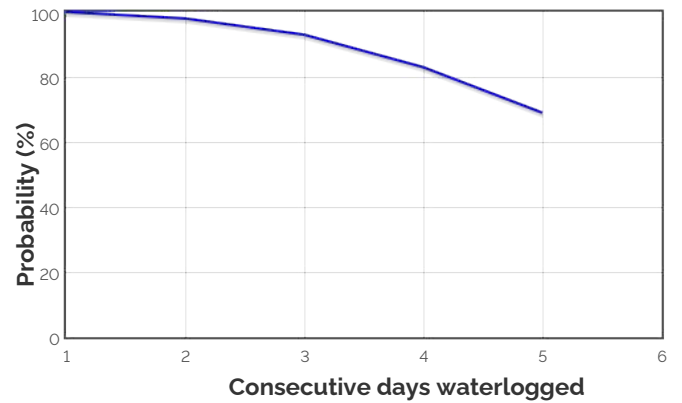
## Current Distribution of PAW



## Water Budget

Initial PAW status @ 18-Mar	44 mm
Rainfall since 18-Mar	273.4 mm
Irrigations	
Evaporation since 18-Mar	137 mm
Transpiration since 18-Mar	29 mm
Deep drainage since 18-Mar	28 mm
Run-off since 18-Mar	0 mm
<b>Current PAW status:</b>	<b>119 mm</b>

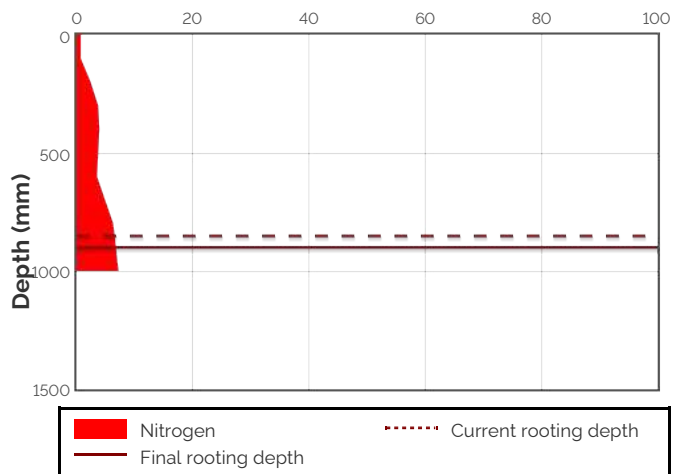
## Probability of Future Waterlogging Events



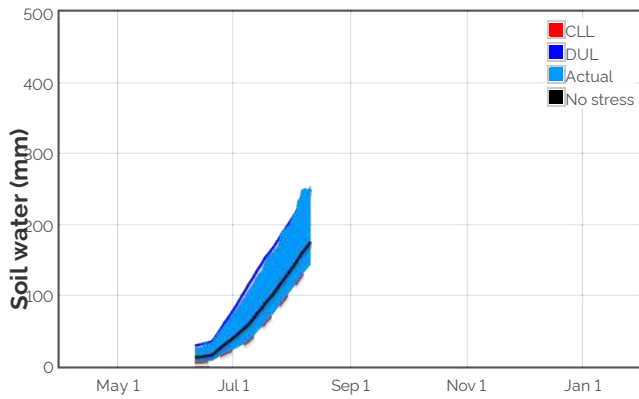
## Nitrogen Budget

Initial N status @ 18-Mar	151 kg/ha
N mineralisation since 18-Mar	2 kg/ha
N tie up since 18-Mar	37 kg/ha
N applications	
6-Apr : 47.3 kg/ha	
9-Jun : 14.4 kg/ha	
Total N in plant	134 kg/ha
De-nitrification since 18-Mar	5 kg/ha
Leaching since 18-Mar	4 kg/ha
<b>Current N status:</b>	<b>34 kg/ha</b>
Median N mineralisation to maturity = 2.264 kg/ha	
Median N tie up to maturity = 0.313 kg/ha	

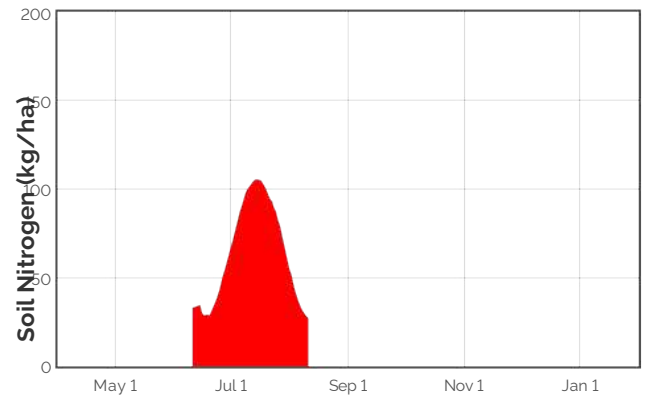
## Current distribution of soil nitrogen (kg/ha)



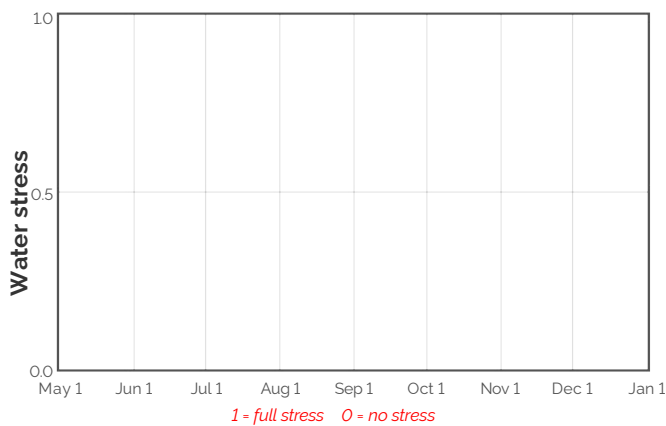
## Availability of Water to Growing Roots



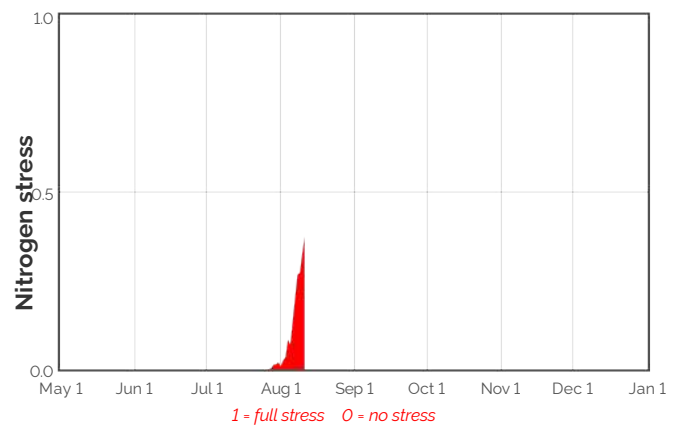
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



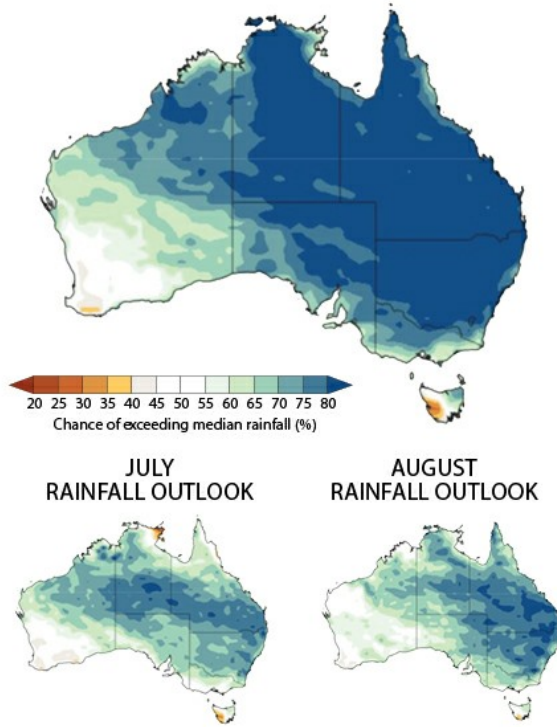
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

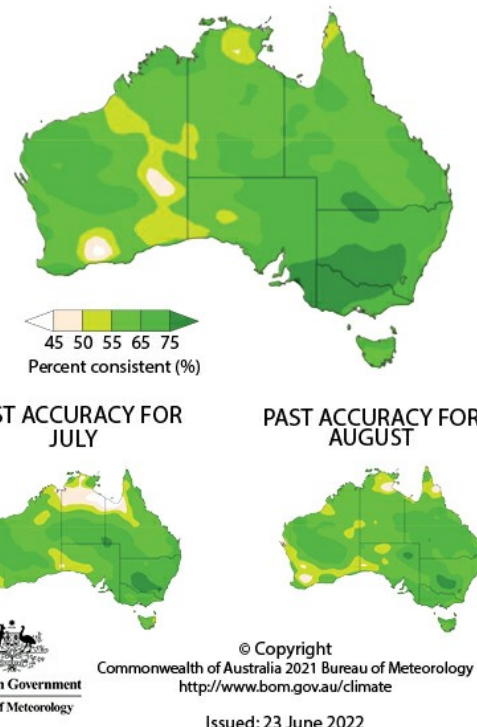
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
13-Aug	16.0	0.4	1.0	1.4	79.2	111.6	24.2	0.0	0.0
14-Aug	16.0	0.4	1.0	1.2	77.6	109.9	23.5	0.0	0.0
15-Aug	16.0	0.4	0.8	1.1	75.8	108.2	22.6	0.0	0.0
16-Aug	16.0	0.4	0.9	1.0	73.9	106.3	21.7	0.0	0.0
17-Aug	16.0	0.3	1.0	0.9	72.2	104.6	20.9	0.0	0.0
18-Aug	16.0	0.4	1.0	0.8	70.6	103.0	20.1	0.0	0.0
19-Aug	16.0	0.4	0.9	0.8	69.4	101.8	19.4	0.0	0.0
20-Aug	16.0	0.4	1.0	0.7	68.0	100.4	18.8	0.0	0.0
21-Aug	30.1	0.4	0.8	0.7	66.8	99.2	18.2	0.0	0.0
22-Aug	30.4	0.4	0.9	0.6	65.4	97.8	17.6	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 RAINFALL OUTLOOK FOR JULY TO SEPTEMBER



PAST ACCURACY FOR JULY TO SEPTEMBER



Australian Government  
Bureau of Meteorology

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<http://www.bom.gov.au/climate>

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