

# Crop Report

18-Aug-2022

Resilient EP Soil  
Moisture Probe Network:  
Pinkawillinie

Crop: Wheat

Cultivar: GrenadeCLPlus

Sowing details: 150 plants/m<sup>2</sup> on 12-May

Expected maturity date: 27-Oct

Paddock Details

Initial conditions date: 16-Mar

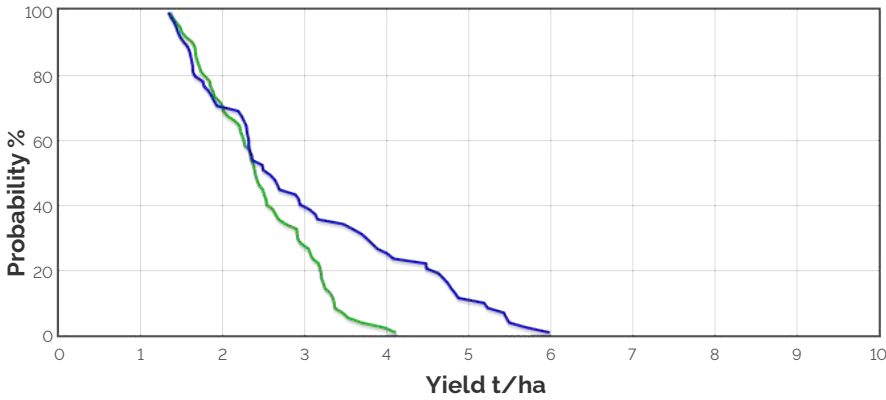
Soil: ResEP-Buckleboo Sandy Loam over Clay Loam

800 mm max rooting depth

Stubble: 1500 kg/ha of Barley  
No till

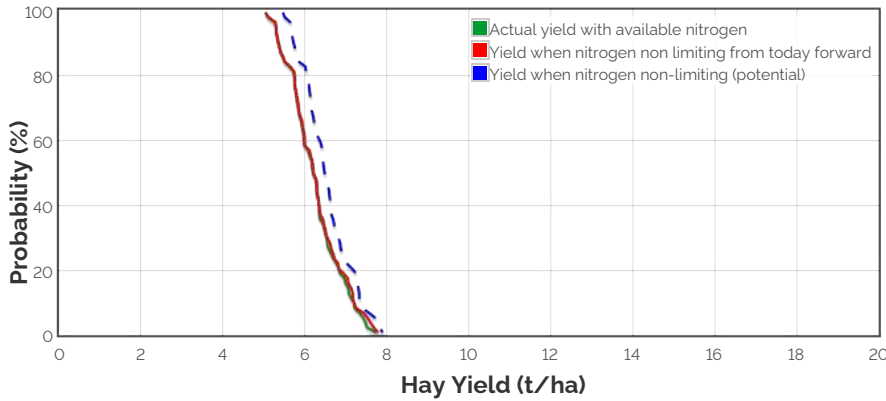
## Grain Yield Outcome

- 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.

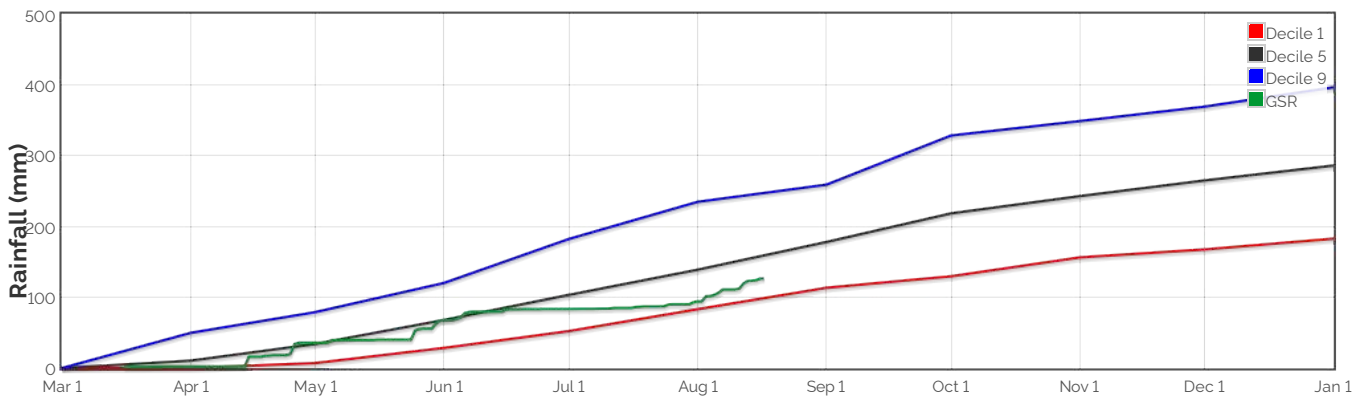
## Hay Yield Outcome



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: 5355.6kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



## Predicted

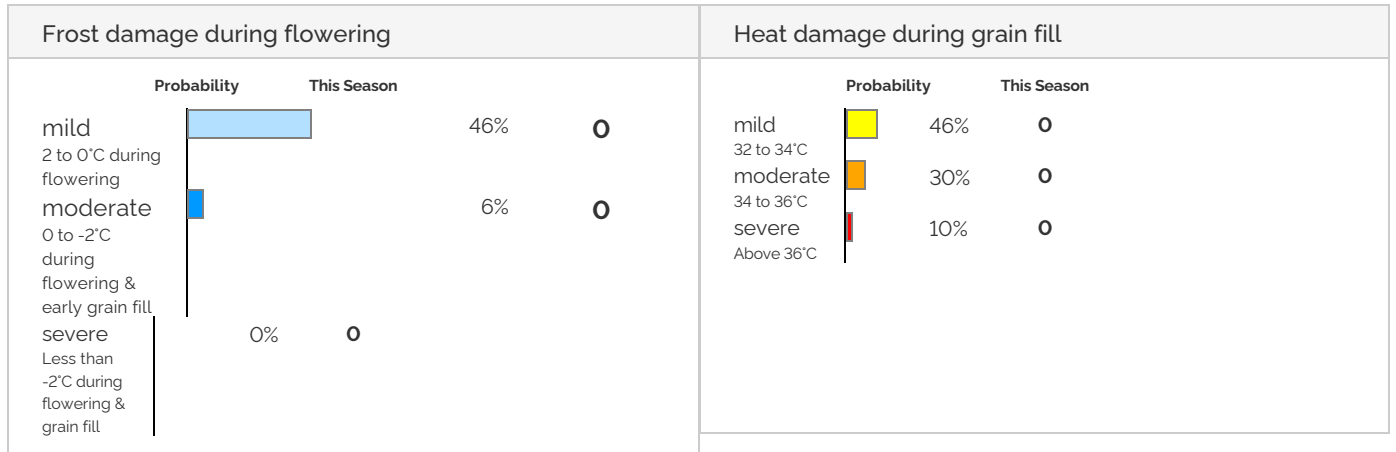
Earliest	22-May	31-May	9-Jun	18-Jun	25-Jun	5-Jul
Median	22-May	31-May	9-Jun	18-Jun	25-Jun	5-Jul
Latest	22-May	31-May	9-Jun	18-Jun	25-Jun	5-Jul



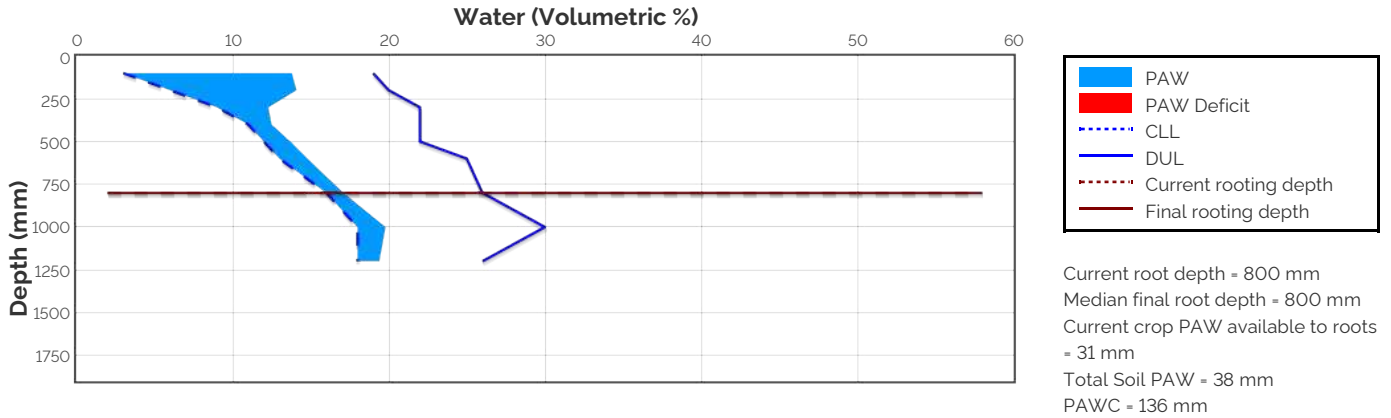
## Predicted

Earliest	24-Jul	27-Jul	1-Aug	12-Aug	18-Aug	23-Aug	31-Aug	10-Sep	26-Sep
Median	24-Jul	27-Jul	1-Aug	12-Aug	18-Aug	26-Aug	5-Sep	15-Sep	2-Oct
Latest	24-Jul	27-Jul	1-Aug	12-Aug	18-Aug	28-Aug	10-Sep	20-Sep	10-Oct

# Probability and Incidence of Frost and Heat Shock



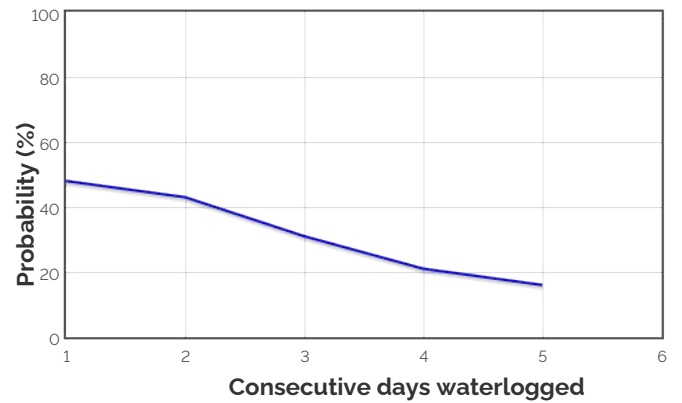
## Current Distribution of PAW



## Water Budget

Initial PAW status @ 16-Mar	70 mm
Rainfall since 16-Mar	125.3 mm
Irrigations	
Evaporation since 16-Mar	93 mm
Transpiration since 16-Mar	65 mm
Deep drainage since 16-Mar	0 mm
Run-off since 16-Mar	0 mm
<b>Current PAW status:</b>	<b>38 mm</b>

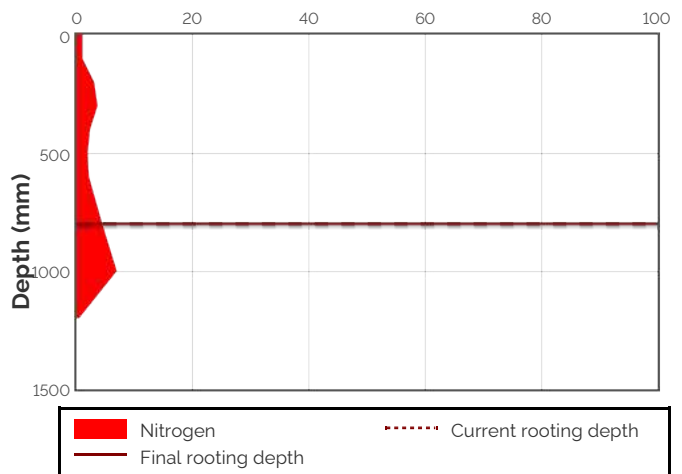
## Probability of Future Waterlogging Events



## Nitrogen Budget

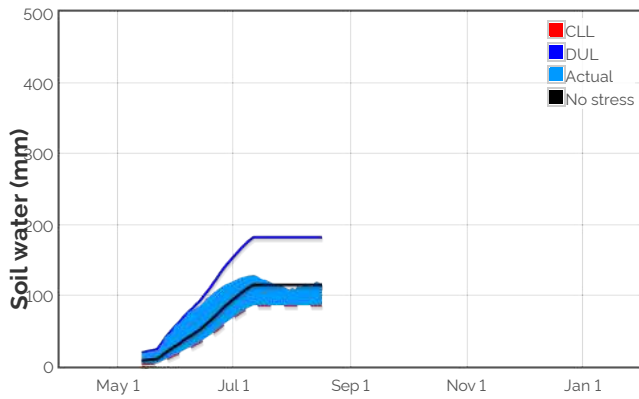
Initial N status @ 16-Mar	81 kg/ha
N mineralisation since 16-Mar	9 kg/ha
N tie up since 16-Mar	11 kg/ha
N applications	
	12-May : 25.4 kg/ha
	11-Jul : 18.4 kg/ha
Total N in plant	94 kg/ha
De-nitrification since 16-Mar	0 kg/ha
Leaching since 16-Mar	0 kg/ha
<b>Current N status:</b>	<b>26 kg/ha</b>
Median N mineralisation to maturity = 0.199 kg/ha	
Median N tie up to maturity = 1.4115 kg/ha	

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

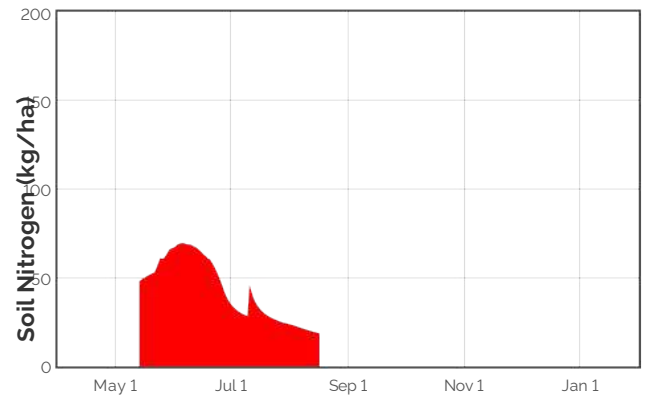


Current Crop Available N = 18 kg/ha  
 Total Soil N = 26 kg/ha

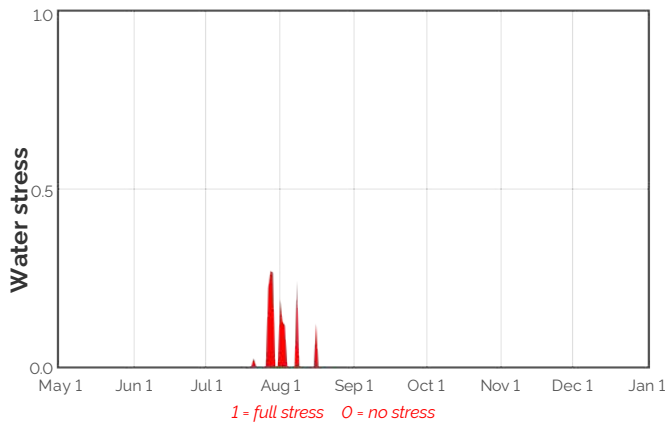
## Availability of Water to Growing Roots



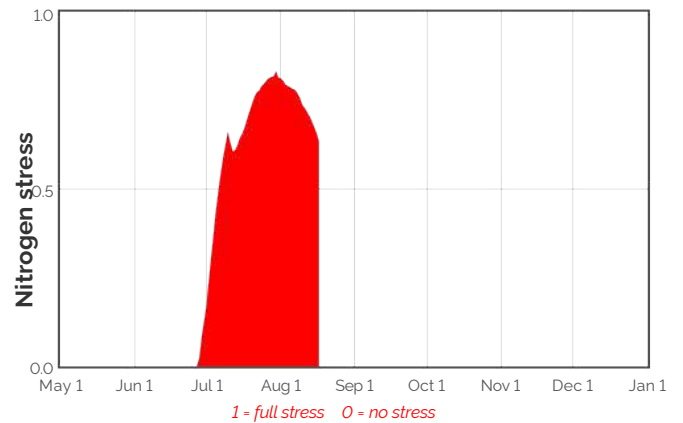
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



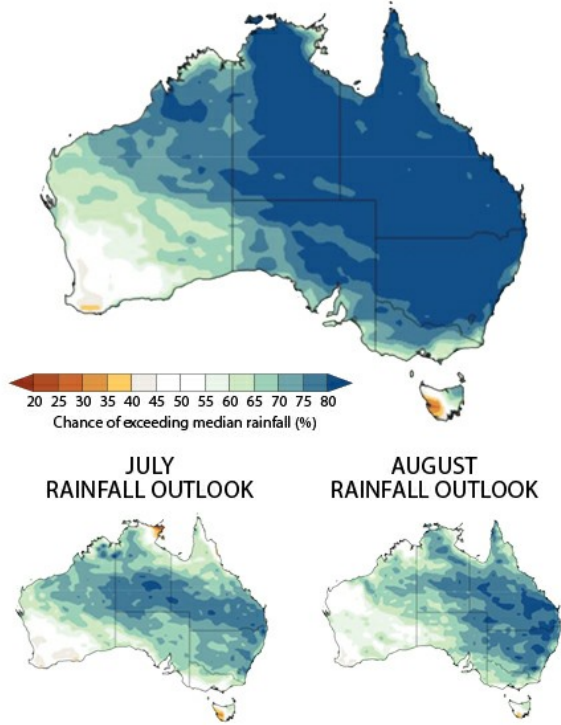
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

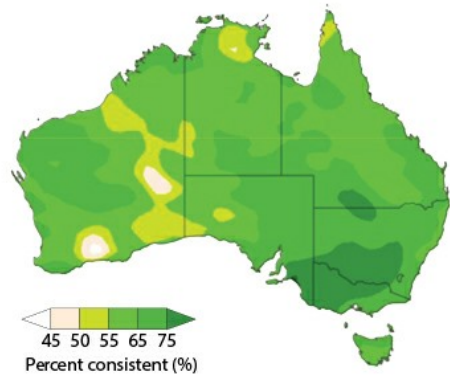
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
19-Aug	40.5	0.4	1.4	0.2	-2.9	25.9	17.8	0.0	0.1
20-Aug	41.4	0.4	1.3	0.1	-4.4	24.4	17.6	0.0	0.1
21-Aug	42.2	0.5	1.2	0.1	-5.8	23.0	17.4	0.0	0.1
22-Aug	43.2	0.5	1.2	0.1	-7.4	21.4	17.2	0.0	0.1
23-Aug	44.0	0.5	1.1	0.1	-8.8	20.0	17.1	0.0	0.0
24-Aug	44.8	0.5	1.0	0.1	-10.2	18.6	16.9	0.0	0.0
25-Aug	45.7	0.5	1.0	0.1	-11.6	17.2	16.8	0.0	0.1
26-Aug	46.6	0.5	0.9	0.1	-12.8	16.0	16.6	0.0	0.1
27-Aug	47.5	0.6	0.8	0.1	-14.2	14.6	16.5	0.0	0.1
28-Aug	48.4	0.5	0.7	0.1	-15.4	13.4	16.4	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.

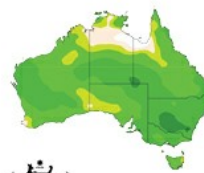
3 MONTH RAINFALL OUTLOOK FOR JULY TO SEPTEMBER



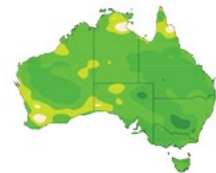
PAST ACCURACY FOR JULY TO SEPTEMBER



PAST ACCURACY FOR JULY



PAST ACCURACY FOR AUGUST



Australian Government  
Bureau of Meteorology

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