



# Crop Report

21-Jul-2022

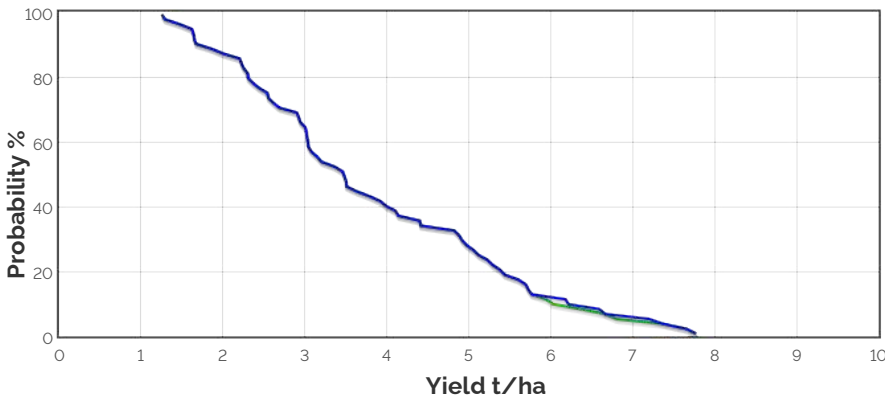
Resilient EP Soil  
Moisture Probe Network:  
Minnipa

Crop: Wheat  
Cultivar: Mace  
Sowing details: 180 plants/m<sup>2</sup> on 5-May  
Expected maturity date: 22-Oct

Paddock Details  
Initial conditions date: 15-Mar  
Soil: Red sandy clay loam (Minnipa No909)  
1100 mm max rooting depth  
Stubble: 1000 kg/ha of Canola  
No till

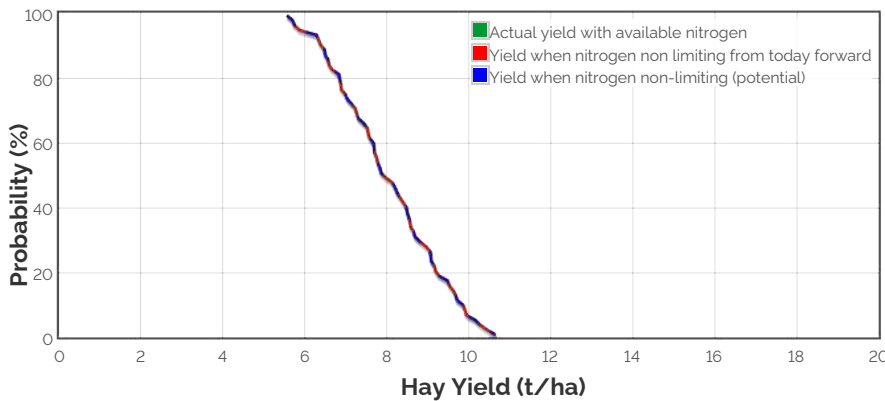
## Grain Yield Outcome

- 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.

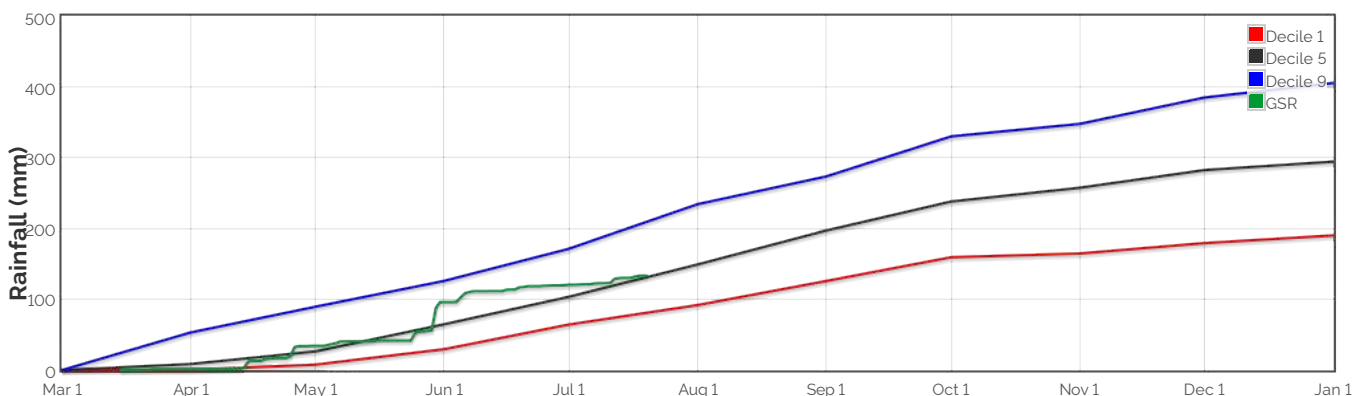
## Hay Yield Outcome



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: 5086.6kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



## Predicted

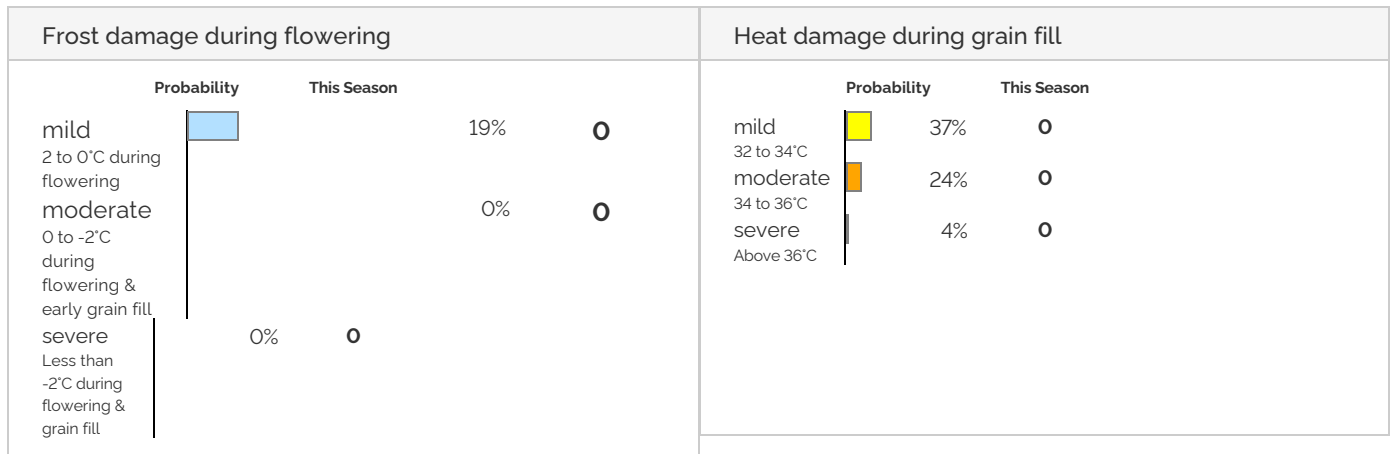
Earliest	15-May	24-May	31-May	8-Jun	16-Jun	23-Jun
Median	15-May	24-May	31-May	8-Jun	16-Jun	23-Jun
Latest	15-May	24-May	31-May	8-Jun	16-Jun	23-Jun



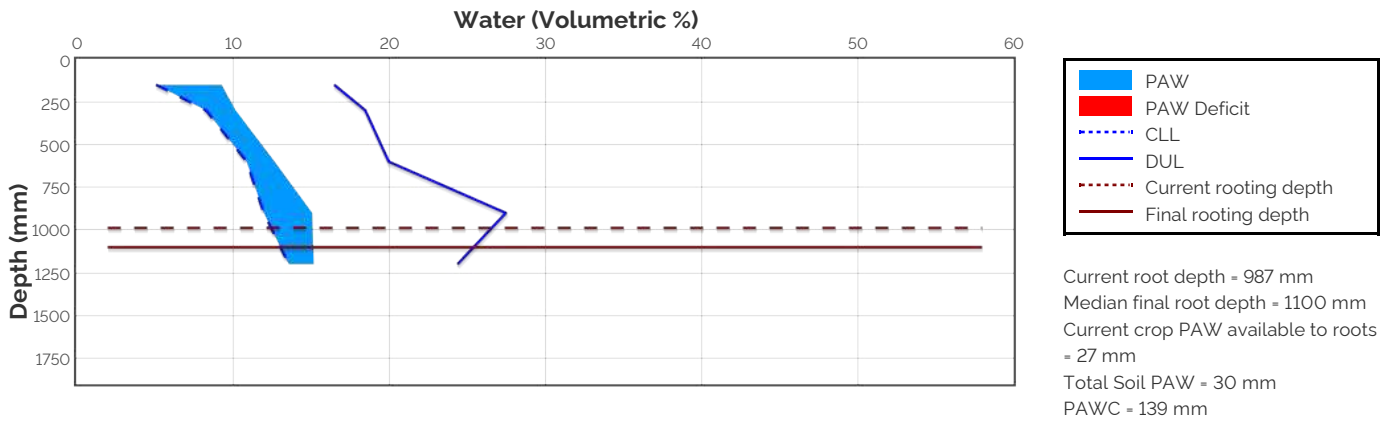
## Predicted

Earliest	17-Jul	21-Jul	25-Jul	2-Aug	7-Aug	15-Aug	25-Aug	1-Sep	19-Sep
Median	17-Jul	21-Jul	26-Jul	6-Aug	10-Aug	19-Aug	29-Aug	8-Sep	26-Sep
Latest	17-Jul	21-Jul	27-Jul	8-Aug	15-Aug	24-Aug	5-Sep	16-Sep	6-Oct

# Probability and Incidence of Frost and Heat Shock



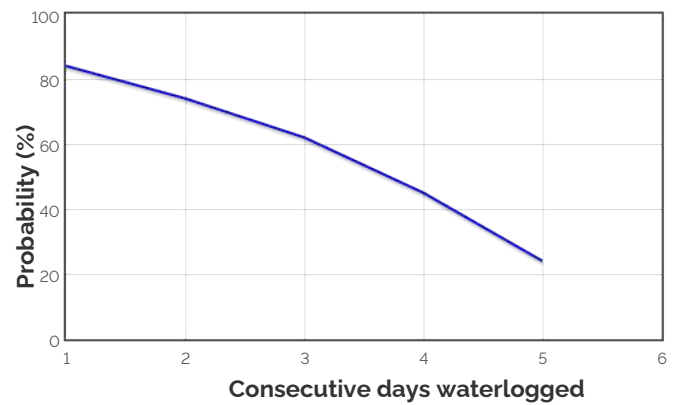
## Current Distribution of PAW



## Water Budget

Initial PAW status @ 15-Mar	42 mm
Rainfall since 15-Mar	133.3 mm
Irrigations	
Evaporation since 15-Mar	90 mm
Transpiration since 15-Mar	54 mm
Deep drainage since 15-Mar	0 mm
Run-off since 15-Mar	2 mm
<b>Current PAW status:</b>	<b>30 mm</b>

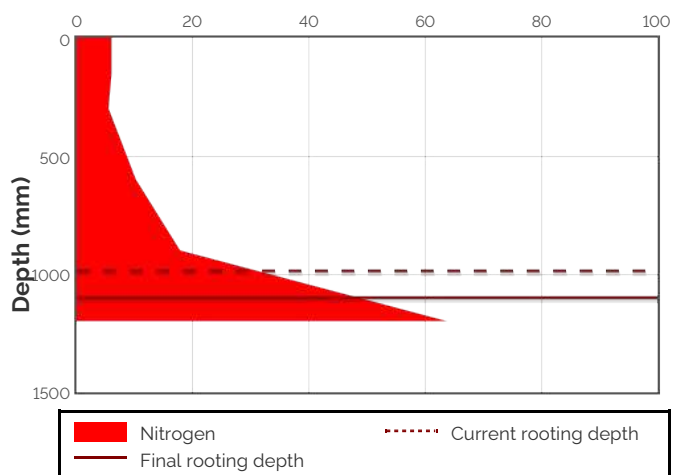
## Probability of Future Waterlogging Events



## Nitrogen Budget

Initial N status @ 15-Mar	250 kg/ha
N mineralisation since 15-Mar	17 kg/ha
N tie up since 15-Mar	1 kg/ha
N applications	
5-May : 31.5 kg/ha	
Total N in plant	193 kg/ha
De-nitrification since 15-Mar	1 kg/ha
Leaching since 15-Mar	0 kg/ha
<b>Current N status:</b>	<b>105 kg/ha</b>

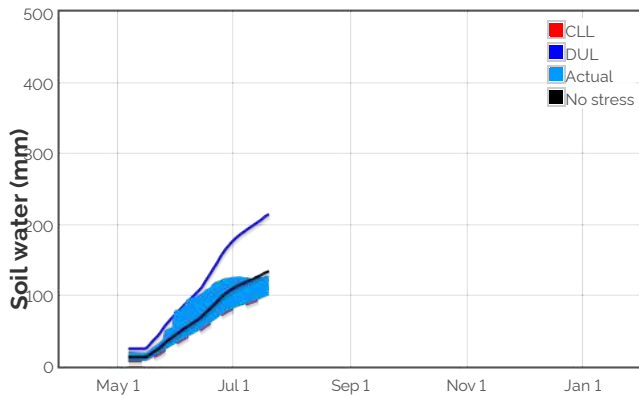
## Current distribution of soil nitrogen (kg/ha)



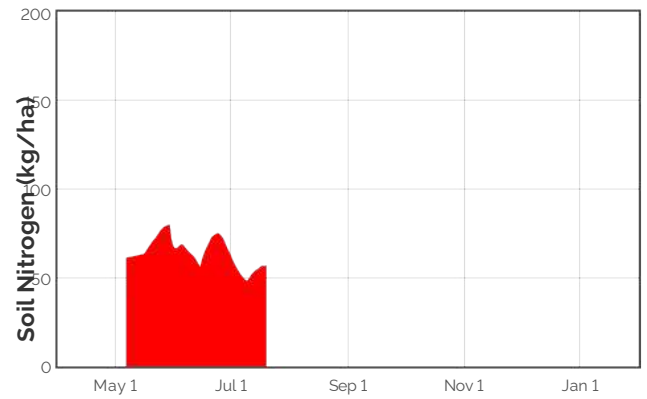
Current Crop Available N = 57 kg/ha  
 Total Soil N = 105 kg/ha

Median N mineralisation to maturity = 0.3115 kg/ha  
 Median N tie up to maturity = 1.6805 kg/ha

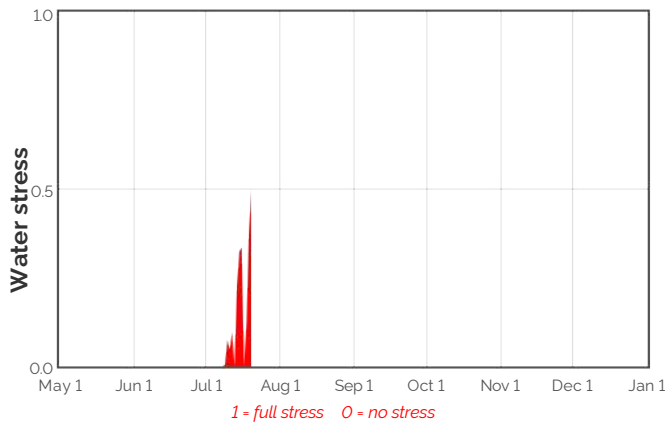
## Availability of Water to Growing Roots



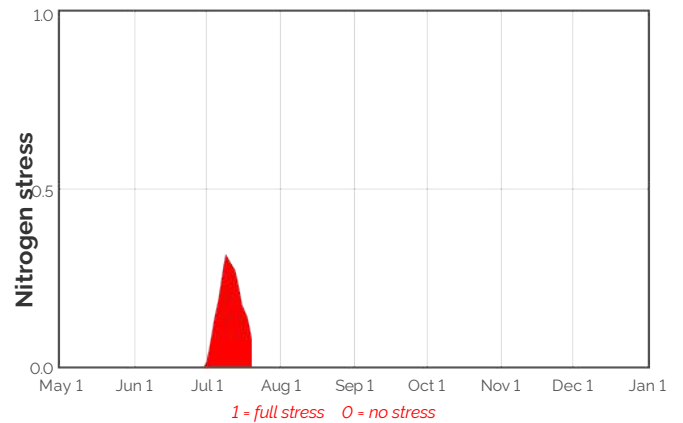
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



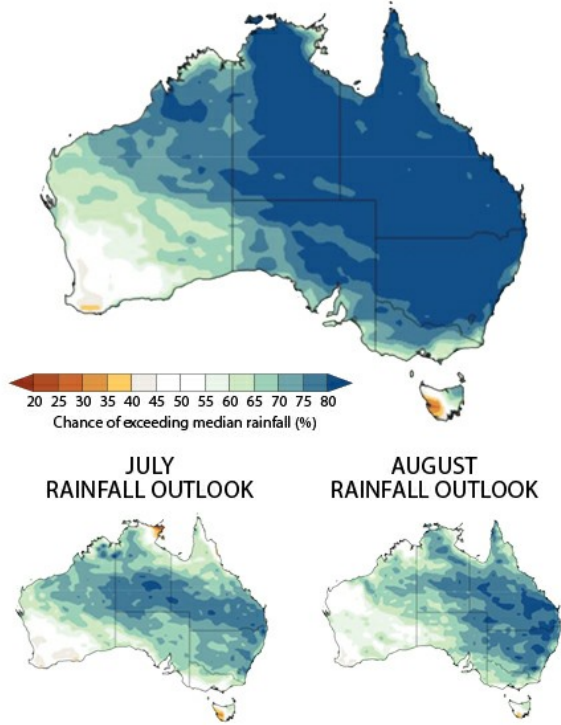
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

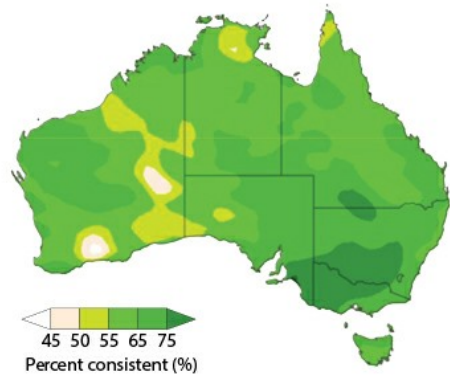
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
22-Jul	31.7	0.4	1.1	1.2	-12.1	23.1	60.0	0.0	0.0
23-Jul	32.0	0.3	1.0	1.6	-13.4	22.1	60.7	0.0	0.0
24-Jul	32.0	0.4	1.0	0.6	-14.8	20.8	61.8	0.0	0.0
25-Jul	32.6	0.3	0.9	0.4	-16.1	19.8	63.0	0.0	0.0
26-Jul	33.0	0.4	0.9	0.0	-17.4	18.7	64.4	0.0	0.0
27-Jul	33.5	0.3	0.8	0.0	-18.7	17.7	66.0	0.0	0.0
28-Jul	33.9	0.4	0.8	0.0	-19.8	16.9	67.4	0.0	0.0
29-Jul	34.3	0.4	0.7	0.0	-20.9	16.0	68.6	0.0	0.0
30-Jul	34.7	0.3	0.7	0.0	-22.0	15.0	69.8	0.0	0.0
31-Jul	35.2	0.4	0.6	0.0	-23.1	14.3	71.0	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.

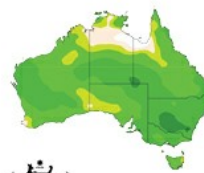
3 MONTH RAINFALL OUTLOOK FOR JULY TO SEPTEMBER



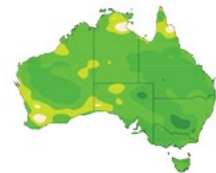
PAST ACCURACY FOR JULY TO SEPTEMBER



PAST ACCURACY FOR JULY



PAST ACCURACY FOR AUGUST



Australian Government  
Bureau of Meteorology

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