

# Crop Report

26-Jul-2023

Andrew H Ware:  
Matthews Cootra

Crop: Wheat

Cultivar: Scepter

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

Expected maturity date: 2-Nov

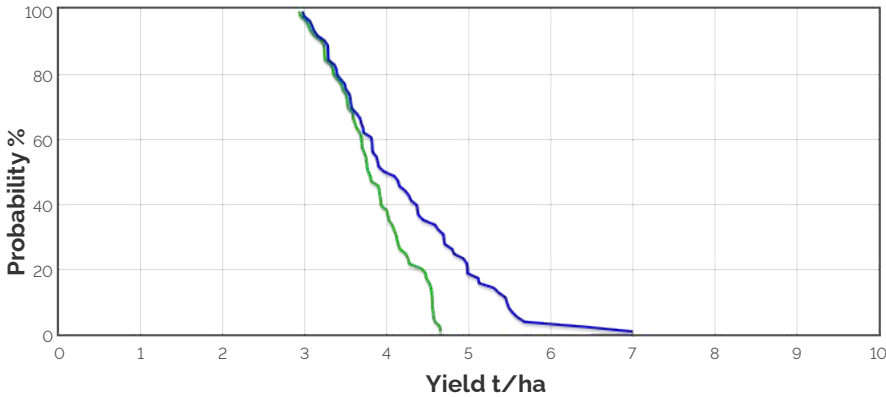
Paddock Details

Initial conditions date: 6-Jun

Soil: Sand (Tuckey No366)  
1000 mm max rooting depth  
Stubble: 1500 kg/ha of Canola  
No till

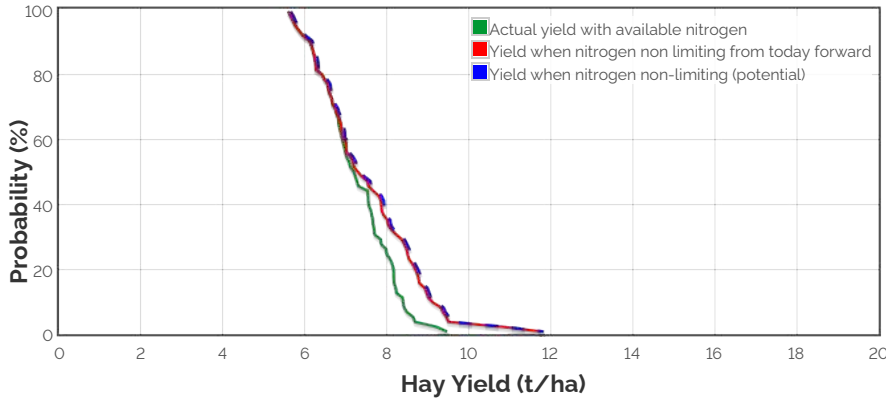
## Grain Yield Outcome

- 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.

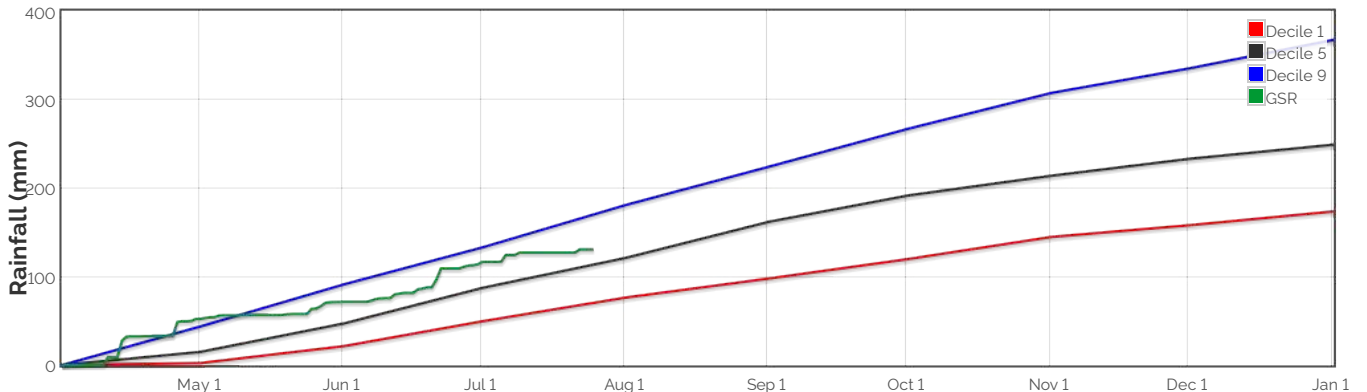
## Hay Yield Outcome



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: 4653.175171551058kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



## Predicted

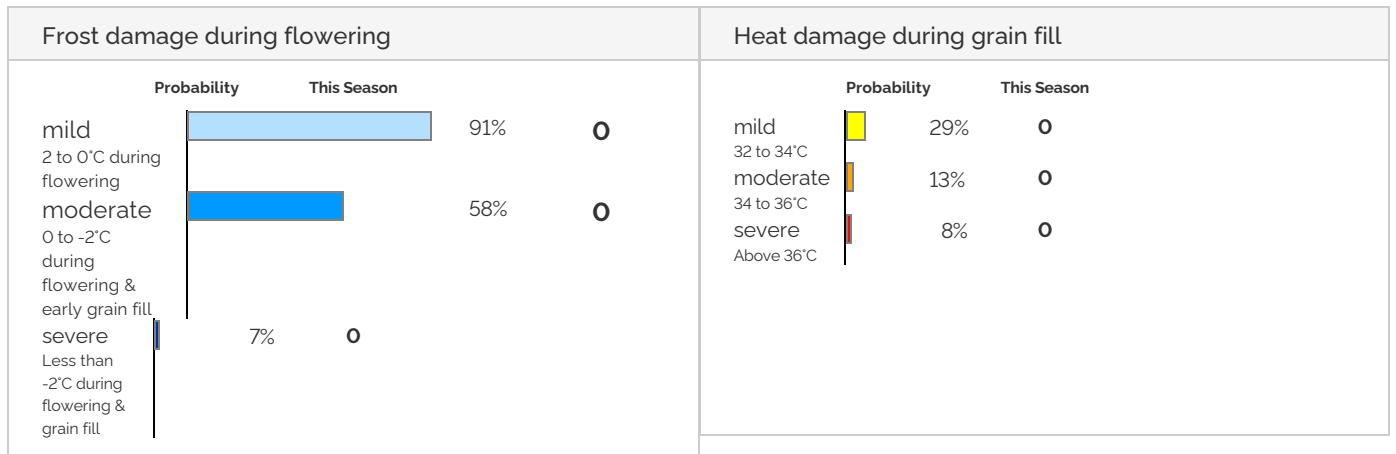
Earliest	20-May	26-May	3-Jun	10-Jun	18-Jun	28-Jun
Median	20-May	26-May	3-Jun	10-Jun	18-Jun	28-Jun
Latest	20-May	26-May	3-Jun	10-Jun	18-Jun	28-Jun



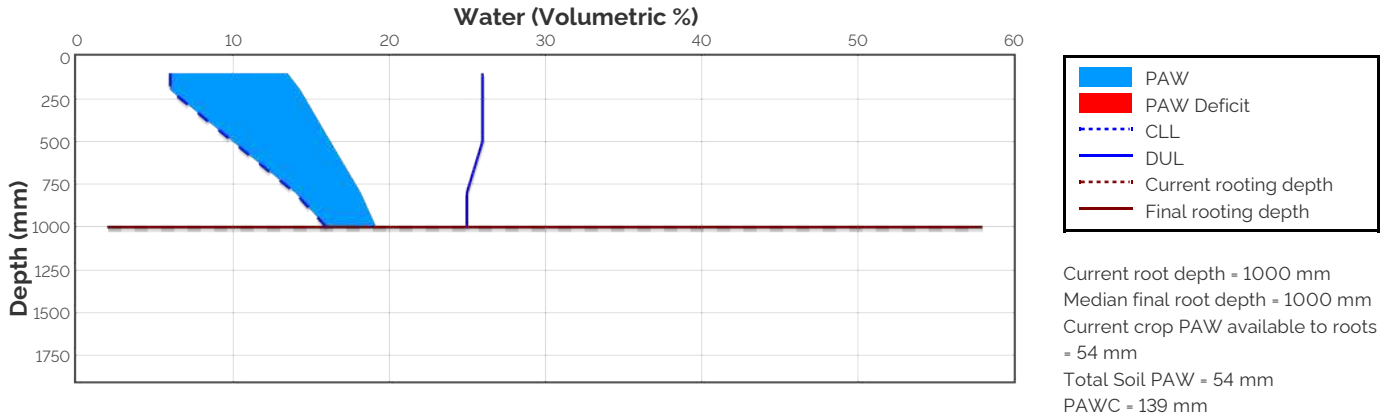
## Predicted

Earliest	3-Jul	9-Jul	13-Jul	26-Jul	28-Jul	3-Aug	15-Aug	21-Aug	8-Sep
Median	3-Jul	9-Jul	13-Jul	26-Jul	28-Jul	5-Aug	18-Aug	24-Aug	13-Sep
Latest	3-Jul	9-Jul	13-Jul	26-Jul	28-Jul	7-Aug	22-Aug	30-Aug	20-Sep

## Probability and Incidence of Frost and Heat Shock



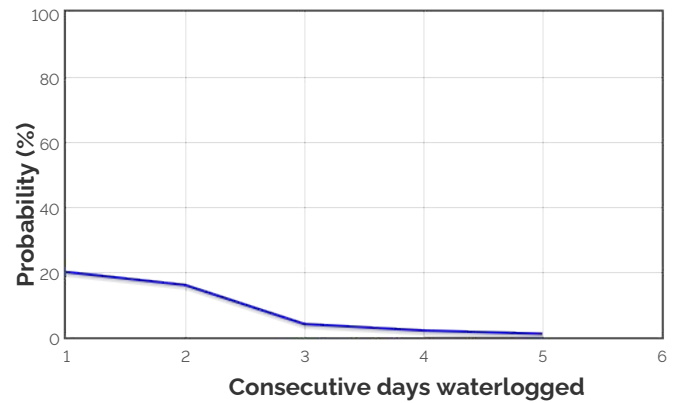
## Current Distribution of PAW



## Water Budget

Initial PAW status @ 6-Jun	76 mm
Rainfall since 6-Jun	59.1 mm
Irrigations	
Evaporation since 6-Jun	33 mm
Transpiration since 6-Jun	70 mm
Deep drainage since 6-Jun	0 mm
Run-off since 6-Jun	0 mm
<b>Current PAW status:</b>	<b>54 mm</b>

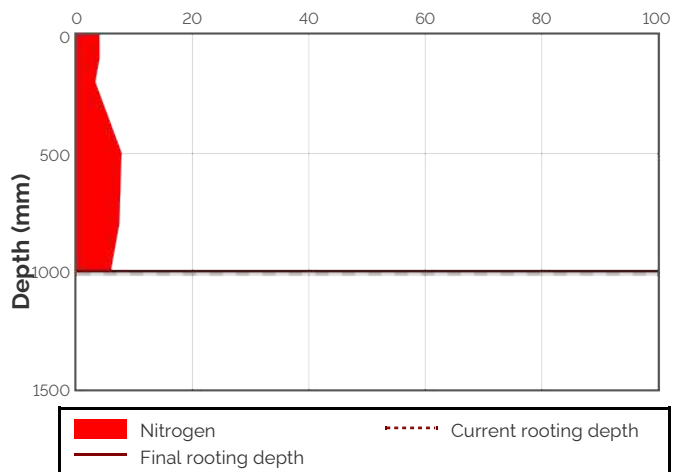
## Probability of Future Waterlogging Events



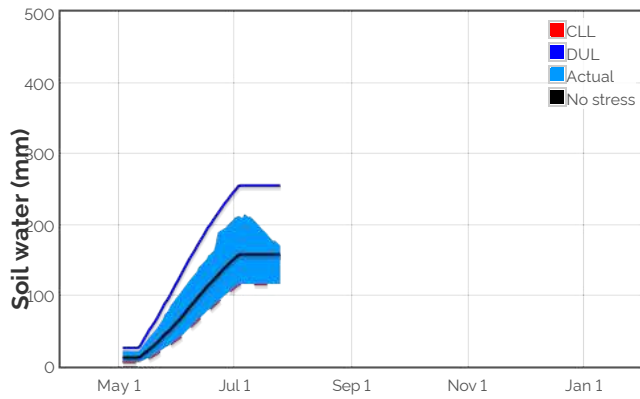
## Nitrogen Budget

Initial N status @ 6-Jun	90 kg/ha
N mineralisation since 6-Jun	25 kg/ha
N tie up since 6-Jun	0 kg/ha
N applications	
	7-May : 45 kg/ha
	26-Jun : 33 kg/ha
Total N in plant	13 kg/ha
De-nitrification since 6-Jun	0 kg/ha
Leaching since 6-Jun	0 kg/ha
<b>Current N status:</b>	<b>28 kg/ha</b>
Median N mineralisation to maturity = 90.213970269206 kg/ha	
Median N tie up to maturity = 0 kg/ha	

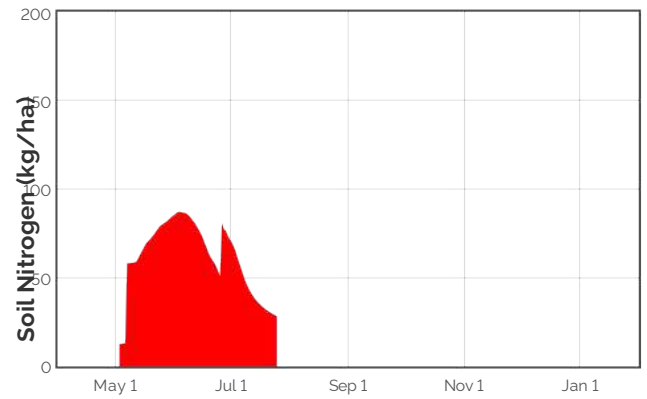
## Current distribution of soil nitrogen (kg/ha)



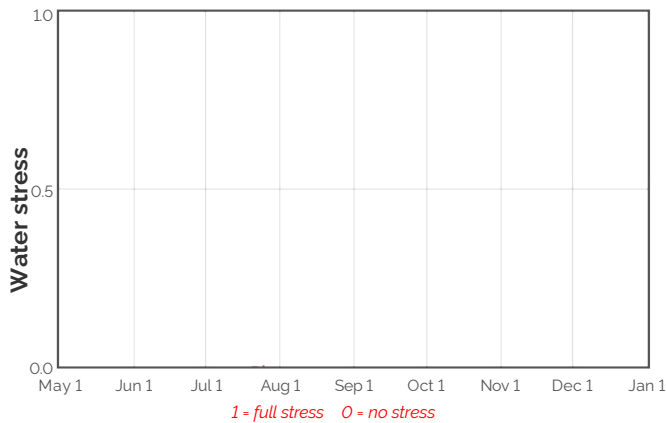
## Availability of Water to Growing Roots



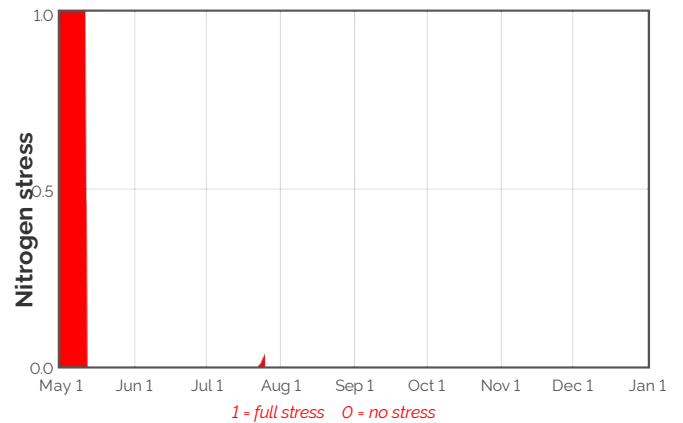
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



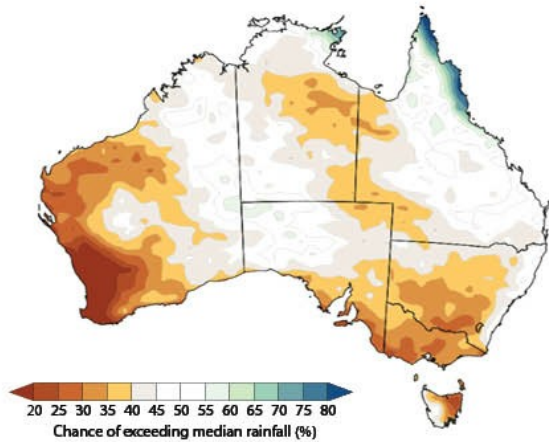
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

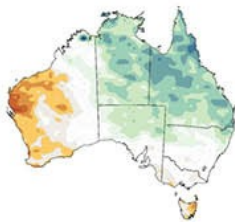
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
27-Jul	38.7	0.4	1.8	-0.5	9.8	51.5	27.7	0.4	0.0
28-Jul	39.0	0.4	2.0	-0.5	7.9	49.6	27.2	0.4	0.0
29-Jul	39.8	0.4	1.7	-0.4	5.9	47.6	26.8	0.4	0.0
30-Jul	40.5	0.4	1.9	-0.4	3.9	45.6	26.4	0.4	0.0
31-Jul	41.4	0.4	1.9	-0.4	1.6	43.3	26.0	0.4	0.0
1-Aug	42.2	0.4	1.9	-0.3	-0.6	41.1	25.6	0.4	0.0
2-Aug	42.9	0.4	1.9	-0.3	-2.5	39.2	25.3	0.4	0.0
3-Aug	43.7	0.3	1.9	-0.3	-4.4	37.3	25.0	0.4	0.0
4-Aug	44.5	0.3	1.9	-0.3	-6.0	35.7	24.7	0.4	0.0
5-Aug	45.3	0.3	1.8	-0.3	-7.9	33.8	24.4	0.4	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.

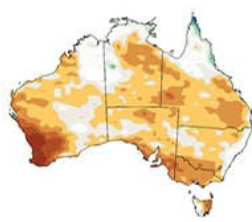
3 MONTH RAINFALL OUTLOOK FOR JULY TO SEPTEMBER



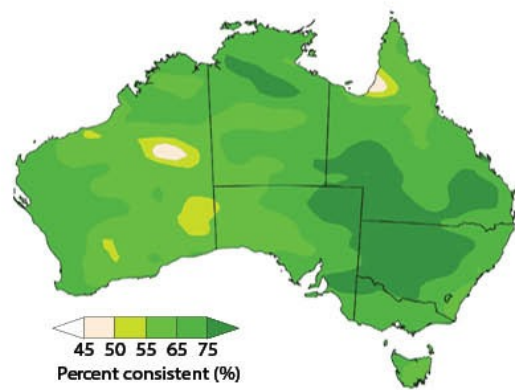
JULY RAINFALL OUTLOOK



AUGUST RAINFALL OUTLOOK



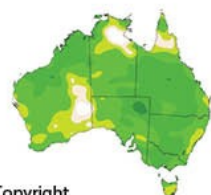
PAST ACCURACY FOR JULY TO SEPTEMBER



PAST ACCURACY FOR JULY



PAST ACCURACY FOR AUGUST



Australian Government  
Bureau of Meteorology

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