



# Crop Report

18-Aug-2022

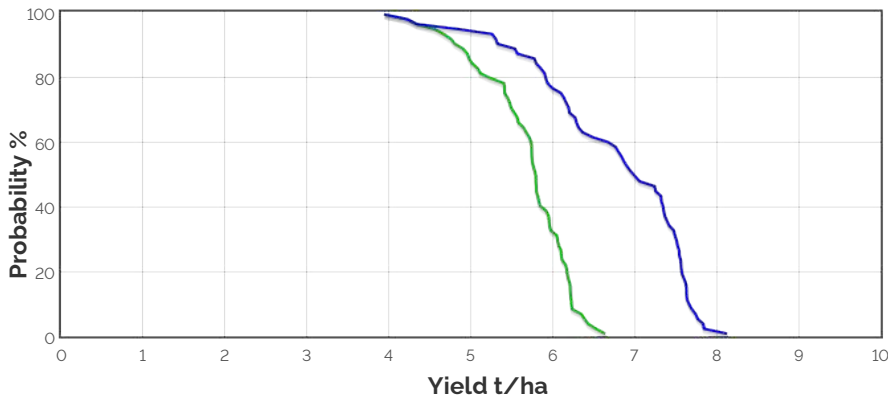
Resilient EP Soil  
Moisture Probe Network:  
Lock

Crop: Wheat  
Cultivar: Scepter  
Sowing details: 180 plants/m<sup>2</sup> on 9-May  
Expected maturity date: 25-Oct

Paddock Details  
Initial conditions date: 21-Mar  
Soil: ResEP\_sandy loam\_Lock  
1000 mm max rooting depth  
Stubble: 1000 kg/ha of Canola  
No till

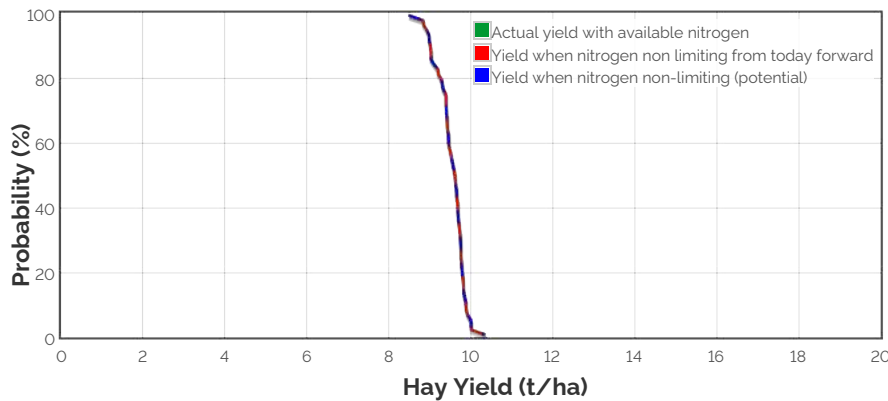
## Grain Yield Outcome

- 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.

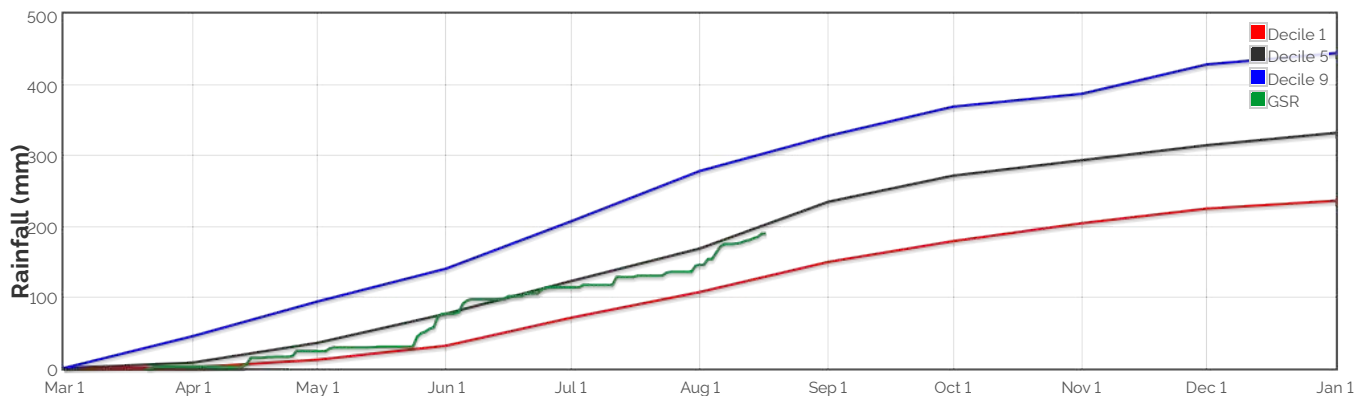
## Hay Yield Outcome



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: 7864.4kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



## Predicted

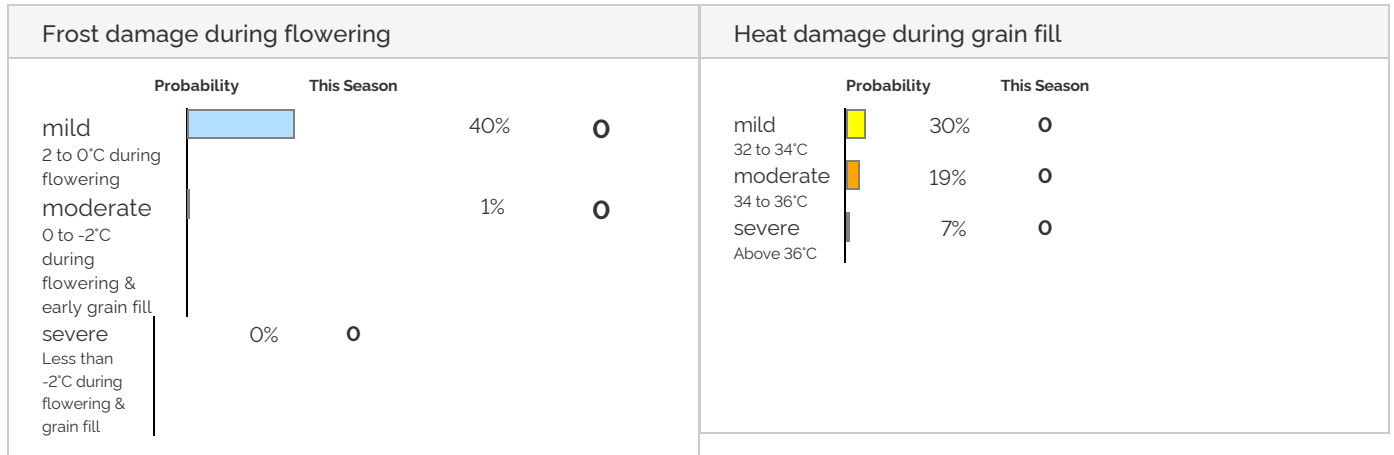
Earliest	18-May	28-May	5-Jun	14-Jun	21-Jun	29-Jun
Median	18-May	28-May	5-Jun	14-Jun	21-Jun	29-Jun
Latest	18-May	28-May	5-Jun	14-Jun	21-Jun	29-Jun



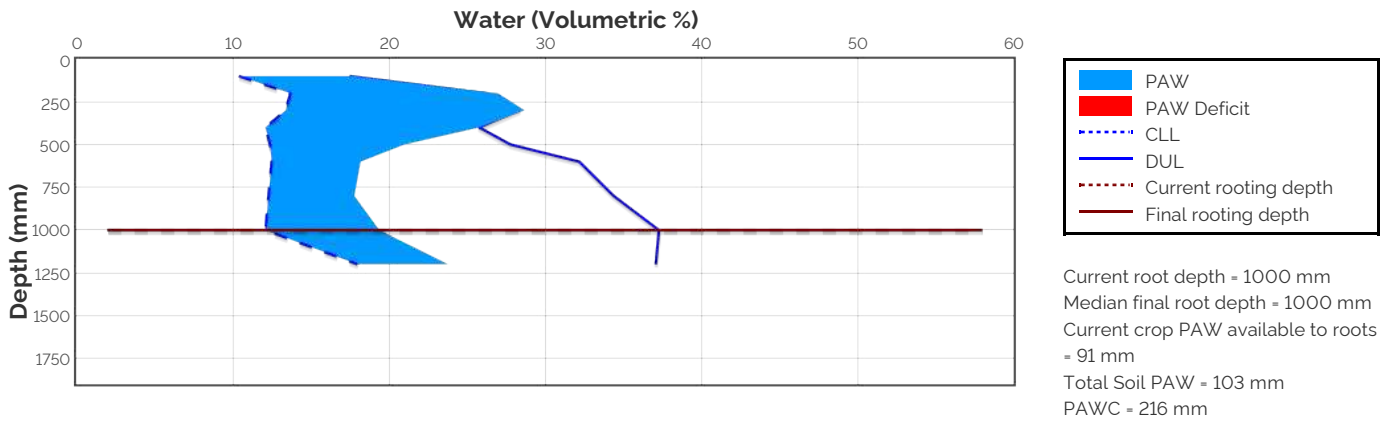
## Predicted

Earliest	17-Jul	21-Jul	26-Jul	6-Aug	11-Aug	19-Aug	27-Aug	5-Sep	23-Sep
Median	17-Jul	21-Jul	26-Jul	6-Aug	11-Aug	20-Aug	31-Aug	10-Sep	28-Sep
Latest	17-Jul	21-Jul	26-Jul	6-Aug	11-Aug	20-Aug	3-Sep	15-Sep	5-Oct

# Probability and Incidence of Frost and Heat Shock



## Current Distribution of PAW



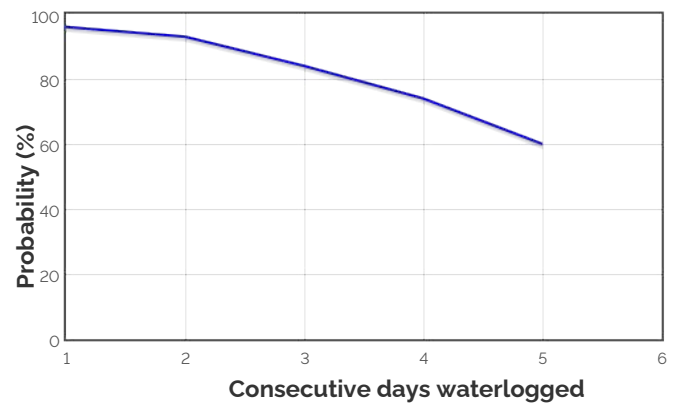
Current root depth = 1000 mm  
 Median final root depth = 1000 mm  
 Current crop PAW available to roots = 91 mm  
 Total Soil PAW = 103 mm  
 PAWC = 216 mm

**PAW** = Plant Available Water  
**CLL** = Crop Lower Limit or Wilting Point  
**DUL** = Drained Upper Limit or Field Capacity  
**PAWC** = Plant Available Water Capacity  
**Current Crop PAW** = Soil water currently accessible to the roots down to the current rooting depth  
**Soil PAW** = Total accessible soil water in the soil profile

## Water Budget

Initial PAW status @ 21-Mar	93 mm
Rainfall since 21-Mar	190 mm
Irrigations	
Evaporation since 21-Mar	89 mm
Transpiration since 21-Mar	91 mm
Deep drainage since 21-Mar	0 mm
Run-off since 21-Mar	0 mm
<b>Current PAW status:</b>	<b>103 mm</b>

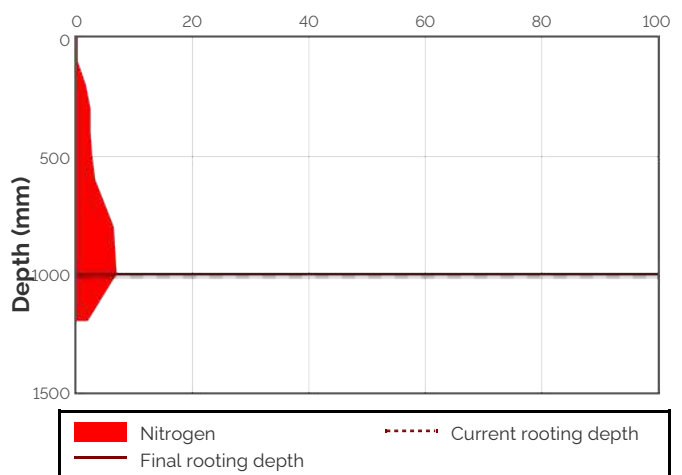
## Probability of Future Waterlogging Events



## Nitrogen Budget

Initial N status @ 21-Mar	154 kg/ha
N mineralisation since 21-Mar	3 kg/ha
N tie up since 21-Mar	7 kg/ha
N applications	
9-May : 9 kg/ha	
23-Jun : 32 kg/ha	
13-Jul : 20.7 kg/ha	
Total N in plant	182 kg/ha
De-nitrification since 21-Mar	0 kg/ha
Leaching since 21-Mar	0 kg/ha
<b>Current N status:</b>	<b>28 kg/ha</b>

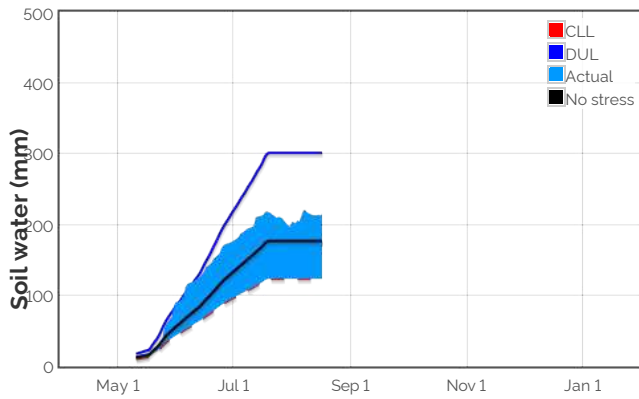
## Current distribution of soil nitrogen (kg/ha)



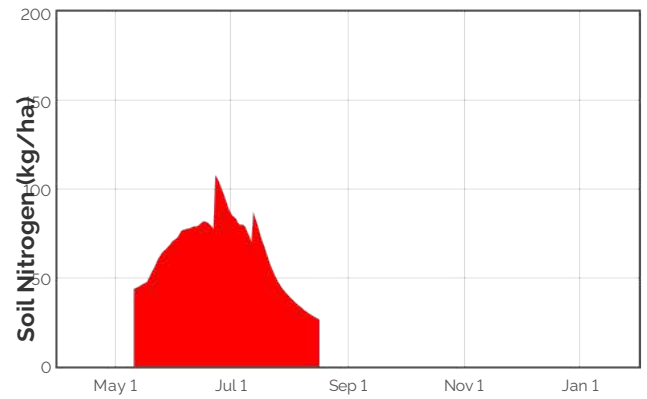
Current Crop Available N = 26 kg/ha  
 Total Soil N = 28 kg/ha

Median N mineralisation to maturity = 0.326 kg/ha  
 Median N tie up to maturity = 0.2855 kg/ha

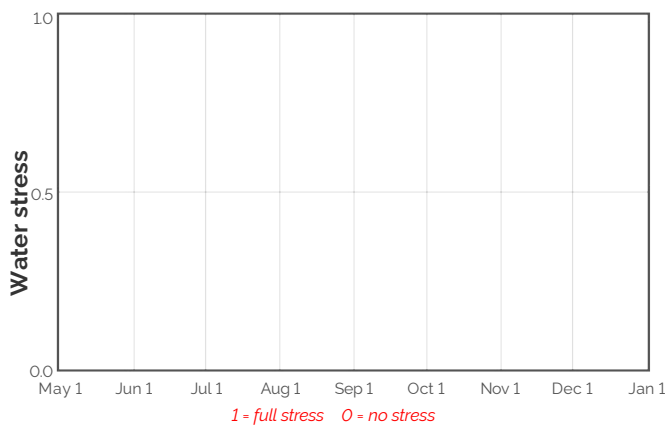
## Availability of Water to Growing Roots



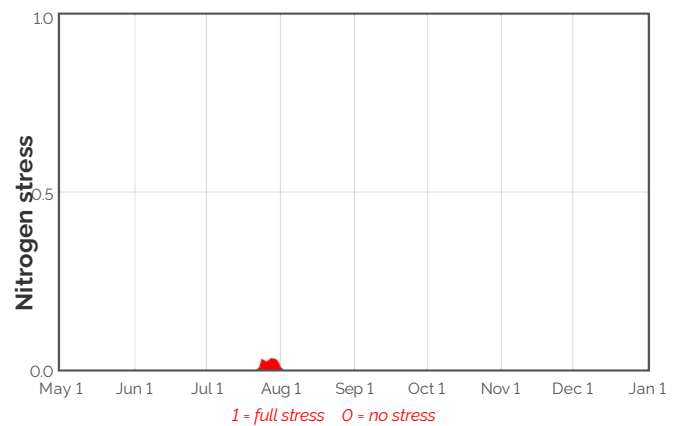
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



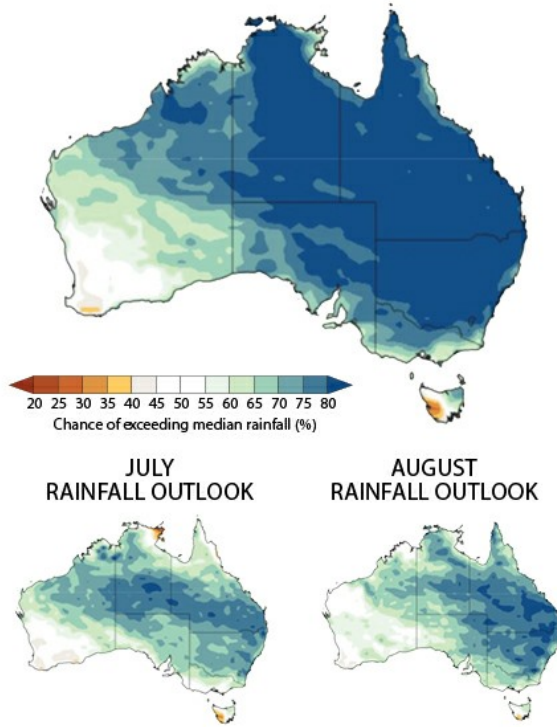
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

## 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	45.8	0.4	2.0	0.5	32.2	85.6	24.8	0.0	0.0
20-Aug	46.7	0.4	2.0	0.4	29.8	83.1	24.4	0.0	0.0
21-Aug	47.6	0.4	1.9	0.4	27.2	80.6	24.0	0.0	0.0
22-Aug	48.4	0.4	1.9	0.4	25.2	78.5	23.6	0.0	0.0
23-Aug	49.3	0.4	1.8	0.4	23.2	76.5	23.2	0.0	0.0
24-Aug	50.2	0.5	1.8	0.3	20.4	73.8	22.9	0.0	0.0
25-Aug	51.2	0.5	2.0	0.3	18.0	71.3	22.6	0.0	0.0
26-Aug	52.0	0.5	2.0	0.3	15.6	68.9	22.3	0.0	0.0
27-Aug	52.9	0.5	2.4	0.3	12.4	65.8	22.0	0.0	0.0
28-Aug	53.8	0.5	2.1	0.3	10.0	63.4	21.8	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

