



# Crop Report

21-Jul-2022

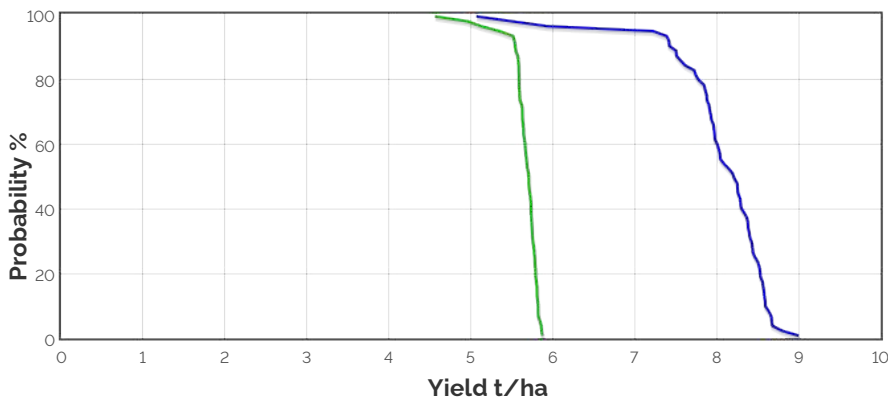
Resilient EP Soil  
Moisture Probe Network:  
Cockaleeche

Crop: Wheat  
Cultivar: Sunco  
Sowing details: 200 plants/m<sup>2</sup> on 10-May  
Expected maturity date: 4-Nov

Paddock Details  
Initial conditions date: 10-May  
Soil: ResEP\_clay\_Cockaleeche  
1400 mm max rooting depth  
Stubble: 2000 kg/ha of Wheat  
No till

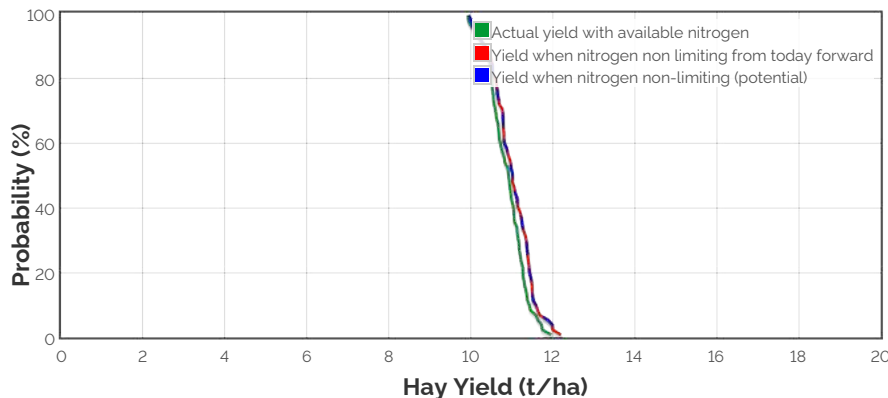
## Grain Yield Outcome

- 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.

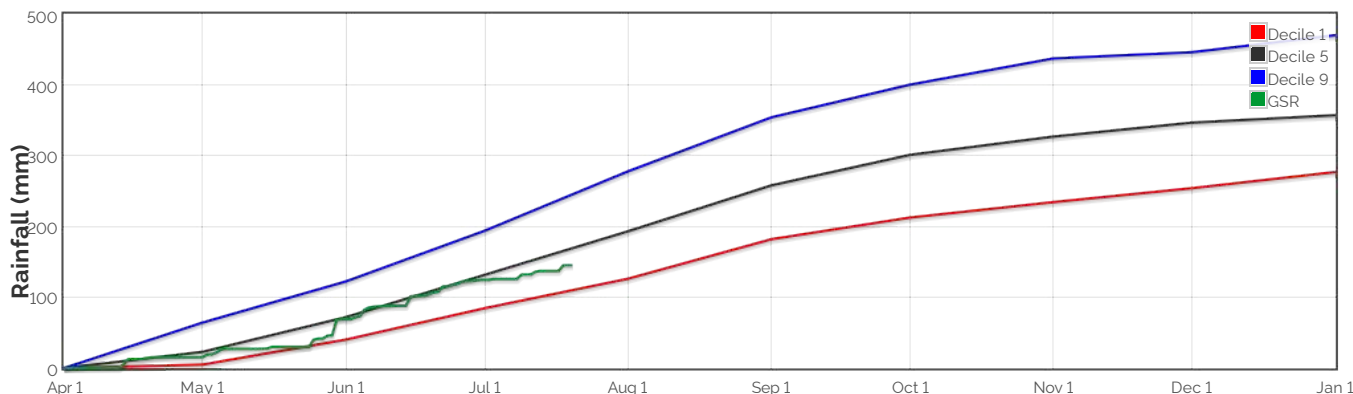
## Hay Yield Outcome



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: 3771.4kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



**Predicted**

Earliest	20-May	30-May	7-Jun	15-Jun	23-Jun	1-Jul
Median	20-May	30-May	7-Jun	15-Jun	23-Jun	1-Jul
Latest	20-May	30-May	7-Jun	15-Jun	23-Jun	1-Jul



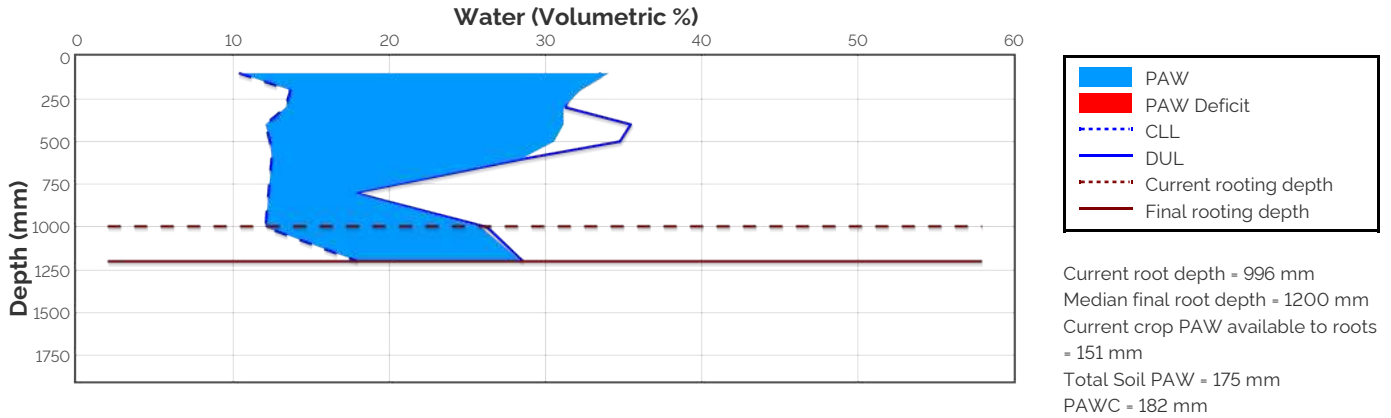
**Predicted**

Earliest	28-Jul	30-Jul	4-Aug	16-Aug	20-Aug	27-Aug	5-Sep	14-Sep	3-Oct
Median	30-Jul	3-Aug	7-Aug	19-Aug	23-Aug	31-Aug	10-Sep	21-Sep	8-Oct
Latest	1-Aug	5-Aug	10-Aug	25-Aug	30-Aug	8-Sep	18-Sep	27-Sep	16-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		10%	0	mild 32 to 34°C		21%	0
moderate 0 to -2°C during flowering & early grain fill		3%	0	moderate 34 to 36°C		12%	0
severe Less than -2°C during flowering & grain fill		0%	0	severe Above 36°C		4%	0

## Current Distribution of PAW



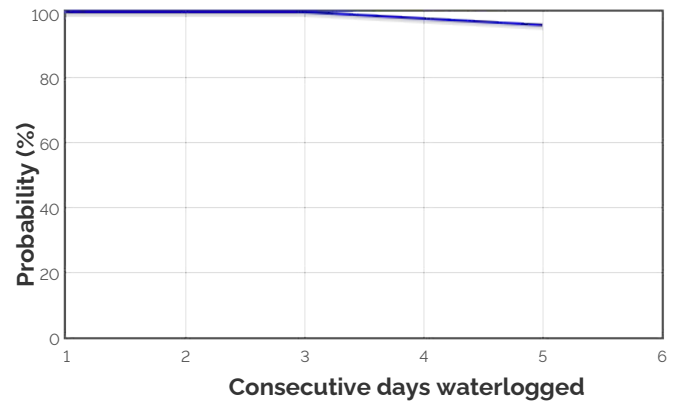
Current root depth = 996 mm  
 Median final root depth = 1200 mm  
 Current crop PAW available to roots = 151 mm  
 Total Soil PAW = 175 mm  
 PAWC = 182 mm

**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 @ 10-May	249 mm
Rainfall since 10-May	118.1 mm
Irrigations	
Evaporation since 10-May	58 mm
Transpiration since 10-May	37 mm
Deep drainage since 10-May	9 mm
Run-off since 10-May	1 mm
<b>Current PAW status:</b>	<b>175 mm</b>

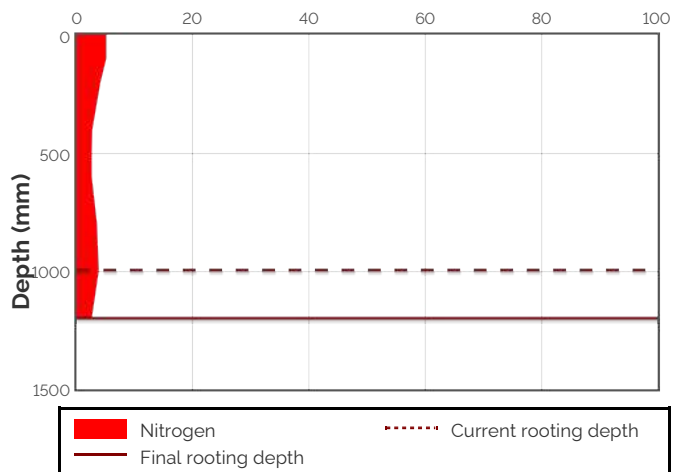
## Probability of Future Waterlogging Events



## Nitrogen Budget

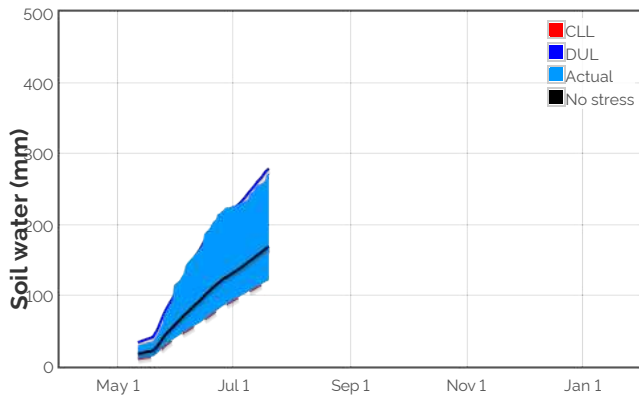
Initial N status @ 10-May	79 kg/ha
N mineralisation since 10-May	2 kg/ha
N tie up since 10-May	3 kg/ha
N applications	
10-May : 9.7 kg/ha	
1-Jun : 37.7 kg/ha	
17-Jun : 36.3 kg/ha	
8-Jul : 42.3 kg/ha	
Total N in plant	159 kg/ha
De-nitrification since 10-May	2 kg/ha
Leaching since 10-May	0 kg/ha
<b>Current N status:</b>	<b>32 kg/ha</b>

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

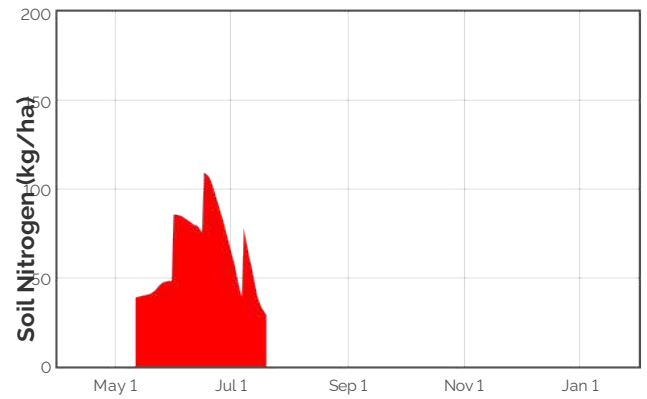


Current Crop Available N = 29 kg/ha  
 Total Soil N = 32 kg/ha

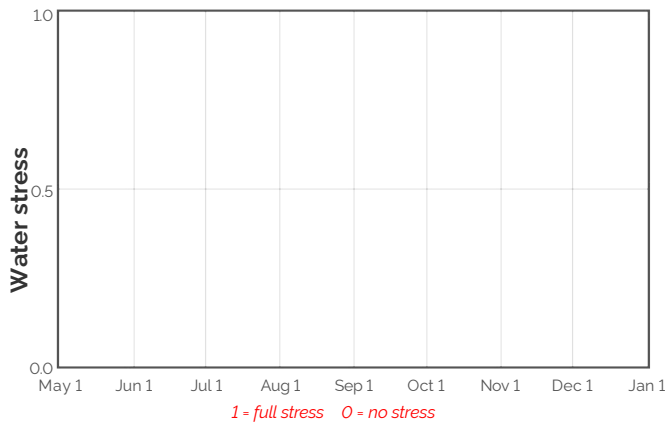
## Availability of Water to Growing Roots



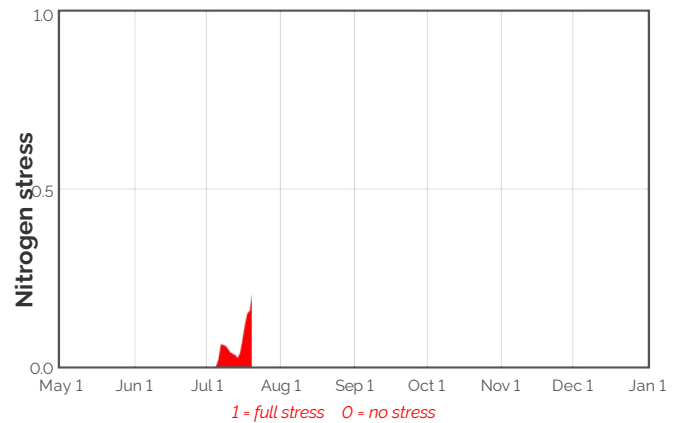
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



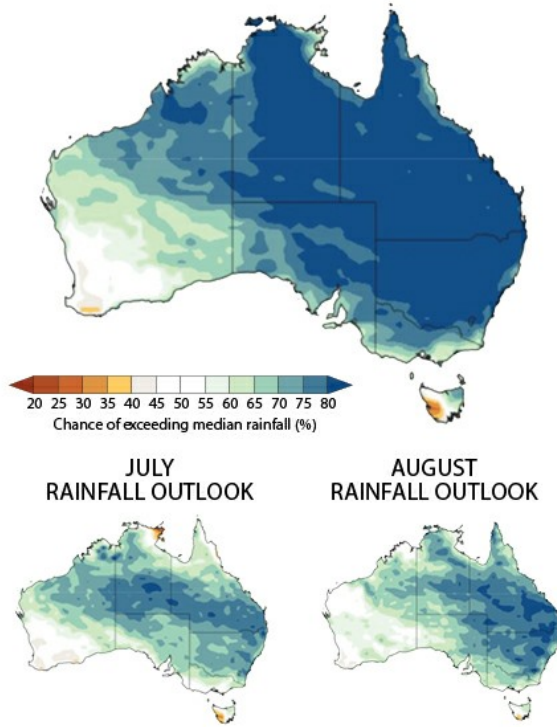
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

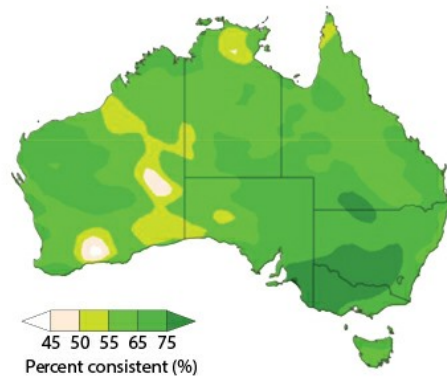
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
22-Jul	16.0	0.3	1.1	1.2	103.2	152.1	25.6	0.0	0.0
23-Jul	16.0	0.3	1.0	1.1	103.2	152.4	24.8	0.0	0.0
24-Jul	16.0	0.3	1.0	1.0	102.8	152.6	24.0	0.0	0.0
25-Jul	16.0	0.3	1.0	0.9	102.6	152.8	23.3	0.0	0.0
26-Jul	16.0	0.3	1.0	0.8	102.3	153.0	22.7	0.0	0.0
27-Jul	16.0	0.3	1.1	0.7	101.7	152.6	22.2	0.0	0.0
28-Jul	16.0	0.3	1.1	0.7	101.2	152.8	21.7	0.0	0.0
29-Jul	30.2	0.3	1.1	0.6	100.6	152.5	21.3	0.0	0.0
30-Jul	30.4	0.3	1.3	0.6	100.4	152.6	20.9	0.0	0.0
31-Jul	30.7	0.4	1.2	0.6	99.4	151.9	20.5	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.

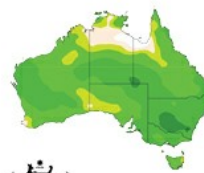
3 MONTH RAINFALL OUTLOOK FOR JULY TO SEPTEMBER



PAST ACCURACY FOR JULY TO SEPTEMBER



PAST ACCURACY FOR JULY



PAST ACCURACY FOR AUGUST

