

# Crop Report

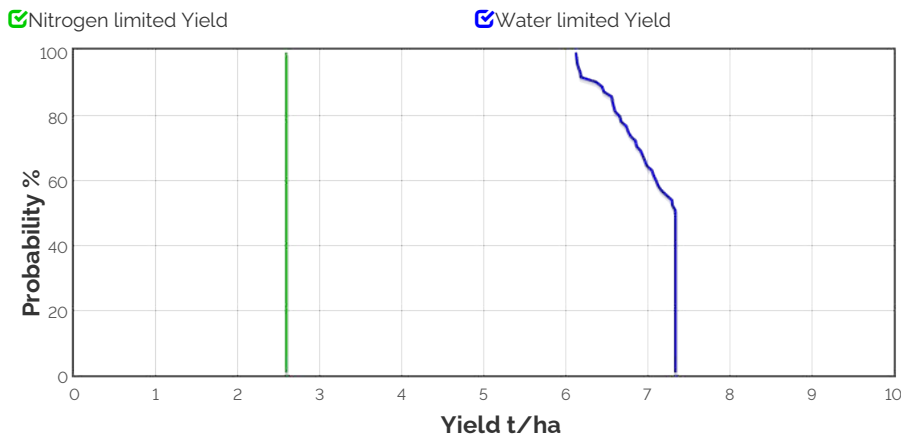
31-Aug-2022

Resilient EP Soil  
Moisture Probe Network:  
Cootra

Crop: Barley  
Cultivar: Spartacus  
Sowing details: 150 plants/m<sup>2</sup> on 2-May  
Expected maturity date: 2-Oct

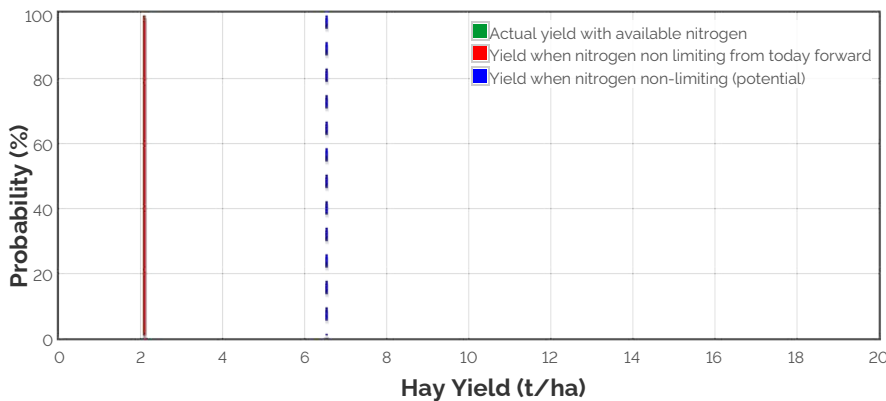
**Paddock Details**  
Initial conditions date: 26-May  
Soil: ResEP- Cootra Sand over clay  
1100 mm max rooting depth  
Stubble: 2500 kg/ha of Wheat  
No till

## Grain Yield Outcome



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.

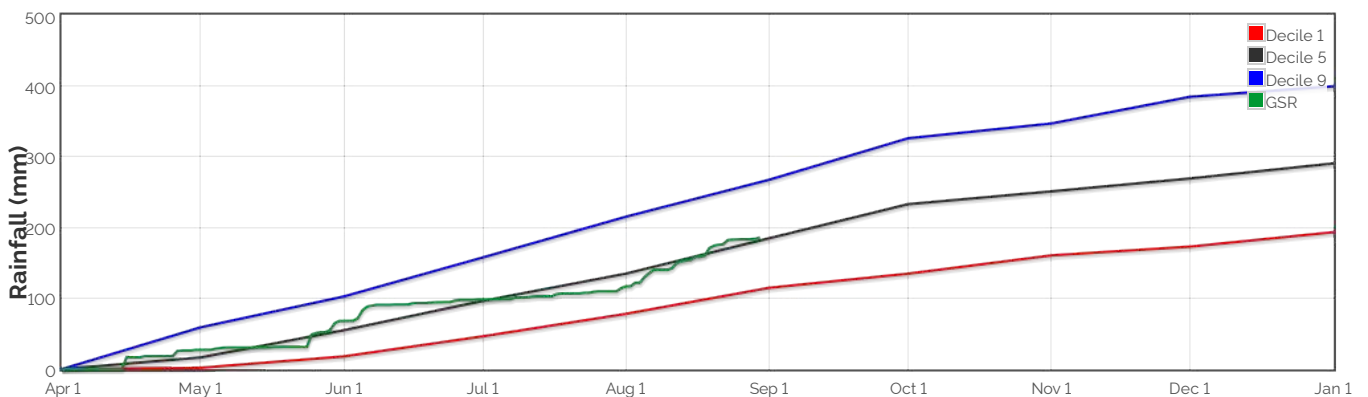
## Hay Yield Outcome



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: 4460.1kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



## Predicted

|          |        |        |        |       |       |        |
|----------|--------|--------|--------|-------|-------|--------|
| Earliest | 11-May | 20-May | 26-May | 1-Jun | 8-Jun | 15-Jun |
| Median   | 11-May | 20-May | 26-May | 1-Jun | 8-Jun | 15-Jun |
| Latest   | 11-May | 20-May | 26-May | 1-Jun | 8-Jun | 15-Jun |



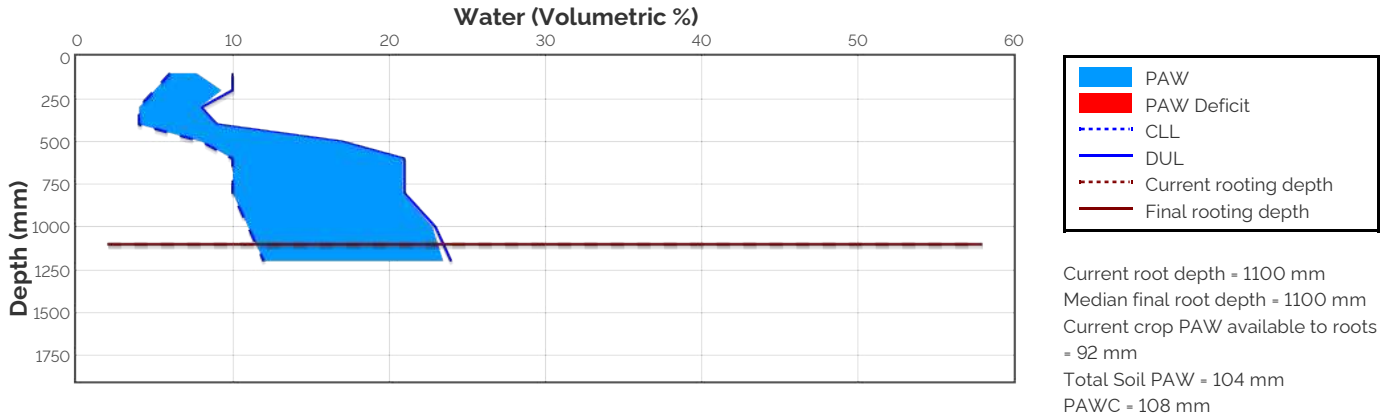
## Predicted

|          |        |        |        |        |        |       |       |        |       |
|----------|--------|--------|--------|--------|--------|-------|-------|--------|-------|
| Earliest | 16-Jul | 19-Jul | 25-Jul | 29-Jul | 31-Jul | 4-Aug | 8-Aug | 13-Aug | 2-Sep |
| Median   | 16-Jul | 19-Jul | 25-Jul | 29-Jul | 31-Jul | 4-Aug | 8-Aug | 13-Aug | 3-Sep |
| Latest   | 16-Jul | 19-Jul | 25-Jul | 29-Jul | 31-Jul | 4-Aug | 8-Aug | 13-Aug | 4-Sep |

# Probability and Incidence of Frost and Heat Shock

| Frost damage during flowering                                      |             |             |   | Heat damage during grain fill |             |             |  |
|--|-------------|-------------|---|-------------------------------|-------------|-------------|--|
|  | Probability | This Season |   |                               | Probability | This Season |  |
| mild<br>2 to 0°C during<br>flowering                               |             | 37%         | 0 | mild<br>32 to 34°C            | 3%          | 0           |  |
| moderate<br>0 to -2°C<br>during<br>flowering &<br>early grain fill |             | 1%          | 0 | moderate<br>34 to 36°C        | 0%          | 0           |  |
| severe<br>Less than<br>-2°C during<br>flowering &<br>grain fill    |             | 0%          | 0 | severe<br>Above 36°C          | 0%          | 0           |  |

## Current Distribution of PAW



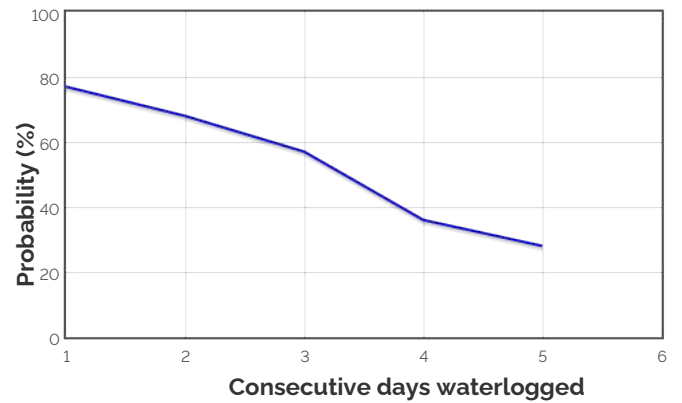
## Water Budget

Initial PAW status @ 26-May  
 Rainfall since 26-May  
 Irrigations  
 Evaporation since 26-May  
 Transpiration since 26-May  
 Deep drainage since 26-May  
 Run-off since 26-May

110 mm  
 135 mm  
 67 mm  
 52 mm  
 27 mm  
 0 mm  
**104 mm**

**Current PAW status:**

## Probability of Future Waterlogging Events



## Nitrogen Budget

Initial N status @ 26-May  
 N mineralisation since 26-May  
 N tie up since 26-May  
 N applications

31 kg/ha  
 1 kg/ha  
 12 kg/ha

Total N in plant  
 De-nitrification since 26-May  
 Leaching since 26-May

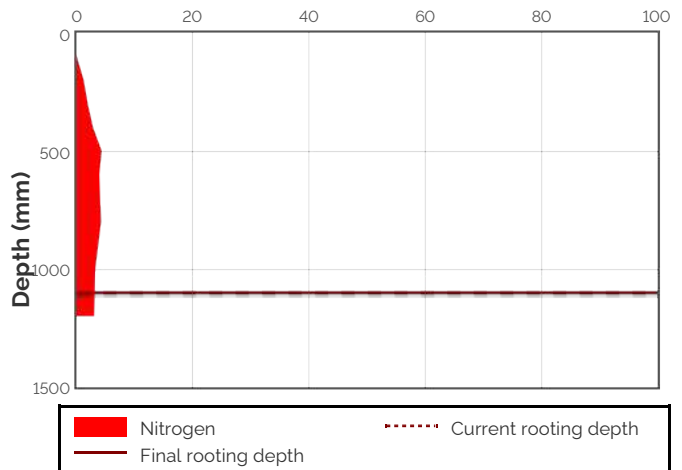
2-May : 27.6 kg/ha  
 6-Jul : 46 kg/ha  
 57 kg/ha  
 0 kg/ha  
 2 kg/ha

**Current N status:**

**26 kg/ha**

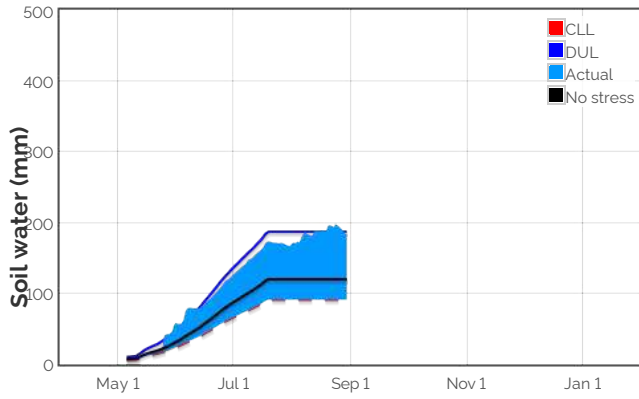
Median N mineralisation to maturity = 0.569 kg/ha  
 Median N tie up to maturity = 0.013 kg/ha

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

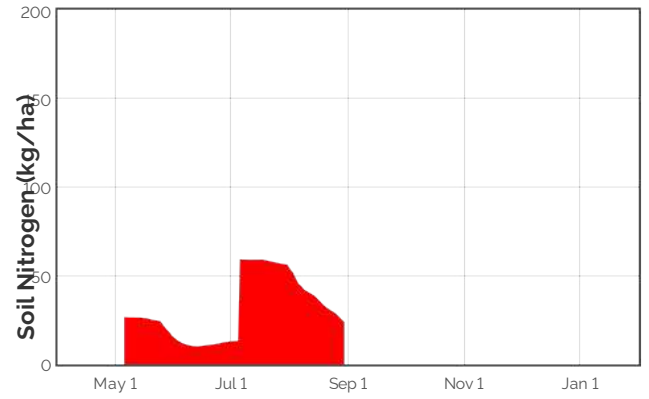


Current Crop Available N = 24 kg/ha  
 Total Soil N = 26 kg/ha

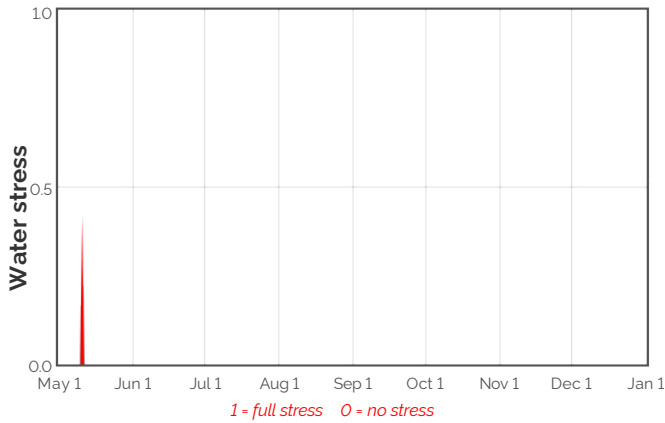
### Availability of Water to Growing Roots



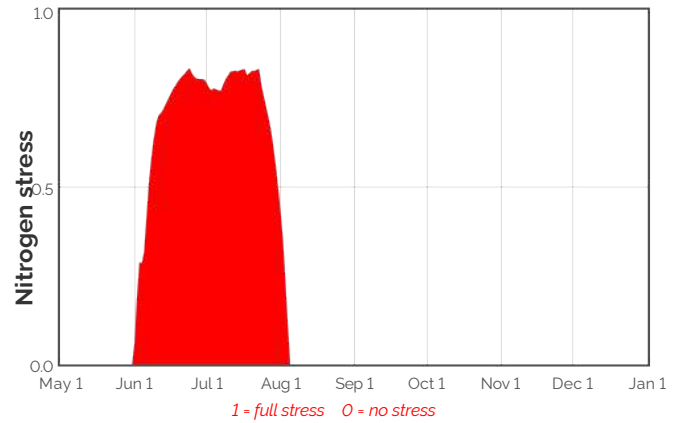
### Availability of Soil Nitrogen to Growing Roots



### Water Stress



### Nitrogen Stress



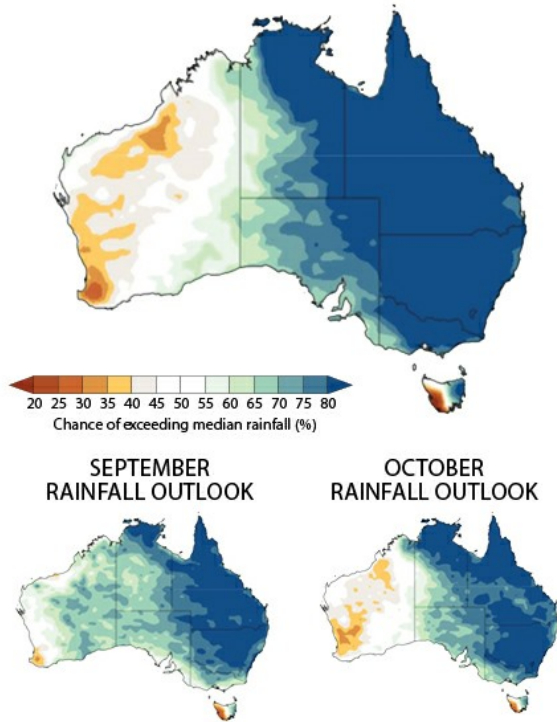
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

### 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) |
|--------|--------------|------------|----------------|---------------|---|--------------------------------------|---------------------------|------------------------|------------------|
| 1-Sep  | 74.7         | 0.8        | 1.3            | 0.7           | 59.2  | 88.0                                 | 21.5                      | 0.0                    | 0.0              |
| 2-Sep  | 75.1         | 0.6        | 1.2            | 0.7           | 57.4  | 86.2                                 | 20.9                      | 0.0                    | 0.0              |
| 3-Sep  | 75.5         | 0.5        | 1.2            | 0.6           | 56.2  | 85.0                                 | 20.3                      | 0.0                    | 0.0              |
| 4-Sep  | 75.9         | 0.4        | 1.2            | 0.6           | 54.2  | 83.0                                 | 19.8                      | 0.0                    | 0.0              |
| 5-Sep  | 76.3         | 0.4        | 1.2            | 0.5           | 52.9  | 81.7                                 | 19.3                      | 0.0                    | 0.0              |
| 6-Sep  | 76.7         | 0.4        | 1.0            | 0.5           | 51.6  | 80.4                                 | 18.8                      | 0.0                    | 0.0              |
| 7-Sep  | 77.0         | 0.4        | 1.2            | 0.5           | 49.7  | 78.5                                 | 18.4                      | 0.0                    | 0.0              |
| 8-Sep  | 77.6         | 0.3        | 1.2            | 0.4           | 47.8  | 76.6                                 | 17.9                      | 0.0                    | 0.0              |
| 9-Sep  | 78.0         | 0.3        | 1.4            | 0.4           | 46.0  | 74.8                                 | 17.6                      | 0.0                    | 0.0              |
| 10-Sep | 78.4         | 0.3        | 1.6            | 0.4           | 44.2  | 73.0                                 | 17.2                      | 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 SEPTEMBER TO NOVEMBER



### PAST ACCURACY FOR SEPTEMBER TO NOVEMBER

