

# Crop Report

23-Jun-2022

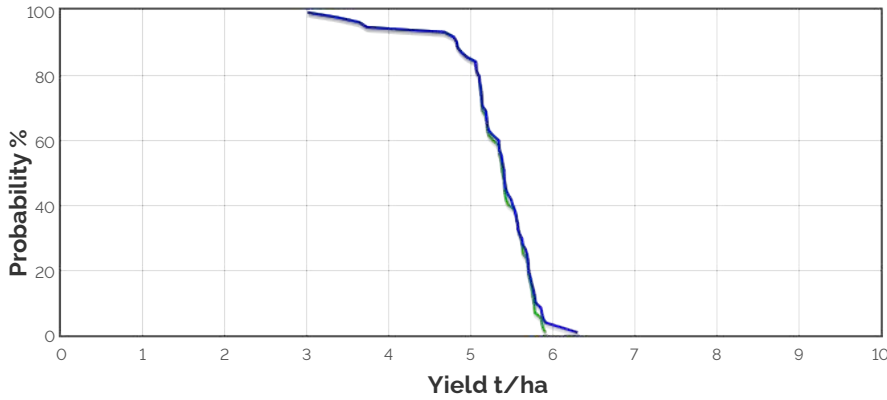
Resilient EP Soil  
Moisture Probe Network:  
Pt Kenny

Crop: Wheat  
Cultivar: Scepter  
Sowing details: 160 plants/m<sup>2</sup> on 28-Apr  
Expected maturity date: 8-Oct

**Paddock Details**  
Initial conditions date: 15-Mar  
Soil: Grey calcareous sandy clay loam (Port  
Kenny No322)  
600 mm max rooting depth  
Stubble: 100 kg/ha of Medic  
No till

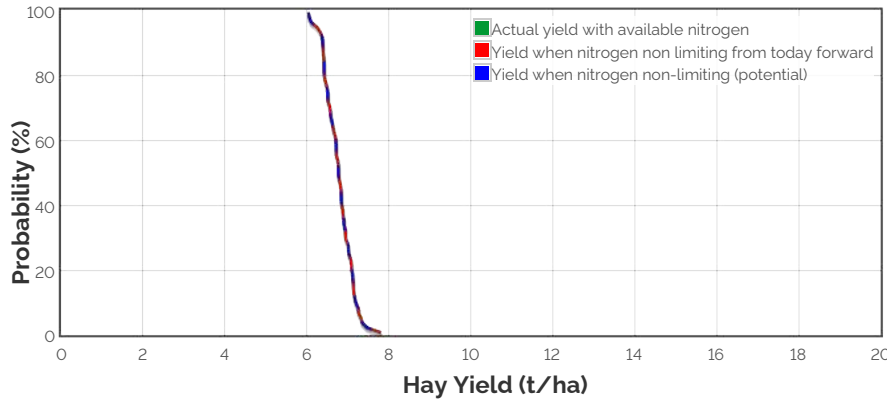
## Grain Yield Outcome

- 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.

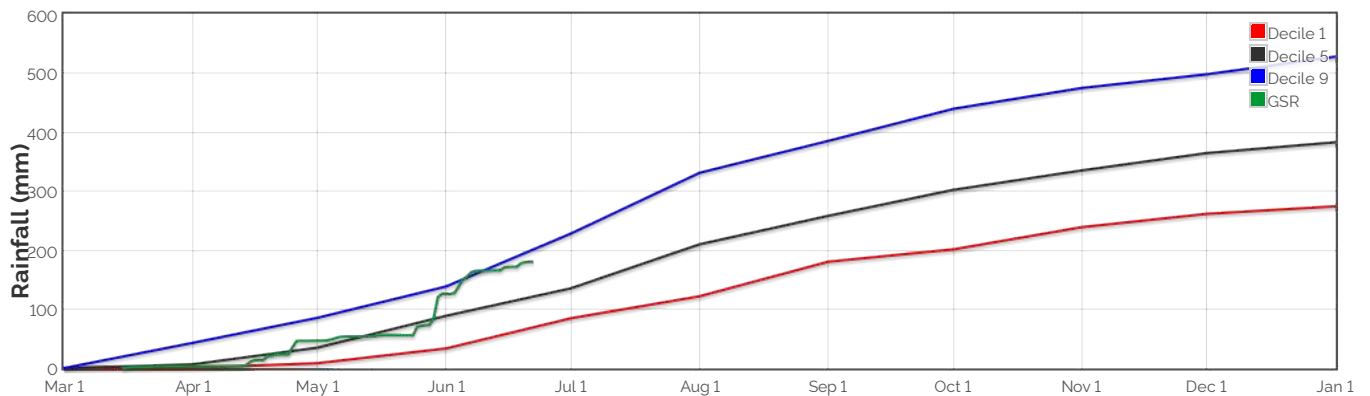
## Hay Yield Outcome



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: 1760.5kg/ha

## The Season So Far - Growing Season Rainfall Deciles



# Simulated and Predicted Crop Growth Stage



**Predicted**

|          |       |        |        |        |       |        |
|----------|-------|--------|--------|--------|-------|--------|
| Earliest | 7-May | 17-May | 24-May | 31-May | 7-Jun | 15-Jun |
| Median   | 7-May | 17-May | 24-May | 31-May | 7-Jun | 15-Jun |
| Latest   | 7-May | 17-May | 24-May | 31-May | 7-Jun | 15-Jun |



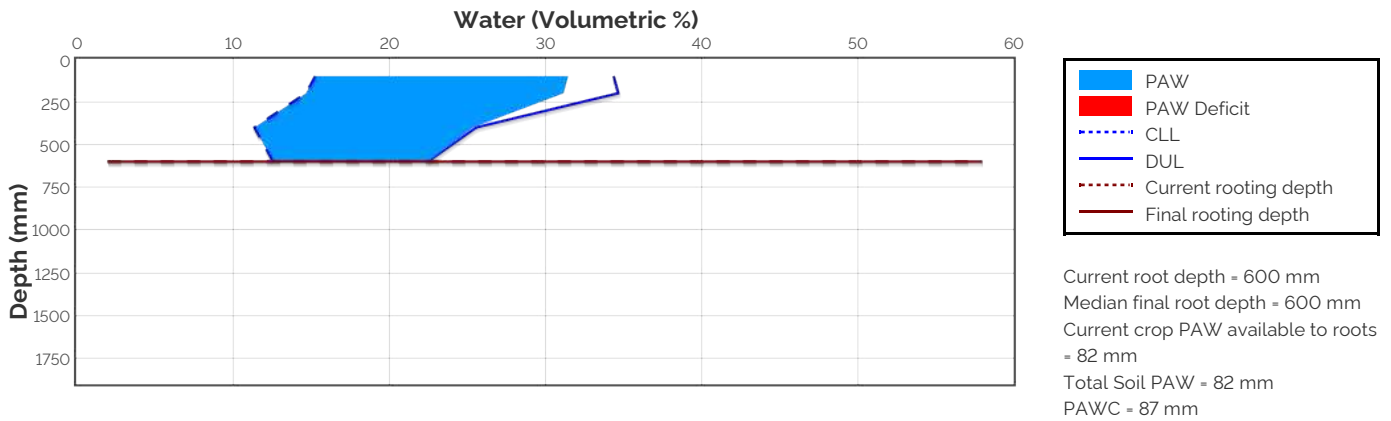
**Predicted**

|          |        |        |       |        |        |        |        |        |        |
|----------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| Earliest | 27-Jun | 29-Jun | 3-Jul | 14-Jul | 19-Jul | 26-Jul | 6-Aug  | 16-Aug | 3-Sep  |
| Median   | 28-Jun | 2-Jul  | 6-Jul | 17-Jul | 22-Jul | 30-Jul | 10-Aug | 21-Aug | 9-Sep  |
| Latest   | 30-Jun | 4-Jul  | 9-Jul | 22-Jul | 27-Jul | 5-Aug  | 17-Aug | 30-Aug | 19-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                               |             | 10%         | <b>0</b> | mild<br>32 to 34°C            | 3%          | <b>0</b>    |  |
| moderate<br>0 to -2°C<br>during<br>flowering &<br>early grain fill |             | 0%          | <b>0</b> | moderate<br>34 to 36°C        | 0%          | <b>0</b>    |  |
| severe<br>Less than<br>-2°C during<br>flowering &<br>grain fill    |             | 0%          | <b>0</b> | severe<br>Above 36°C          | 0%          | <b>0</b>    |  |

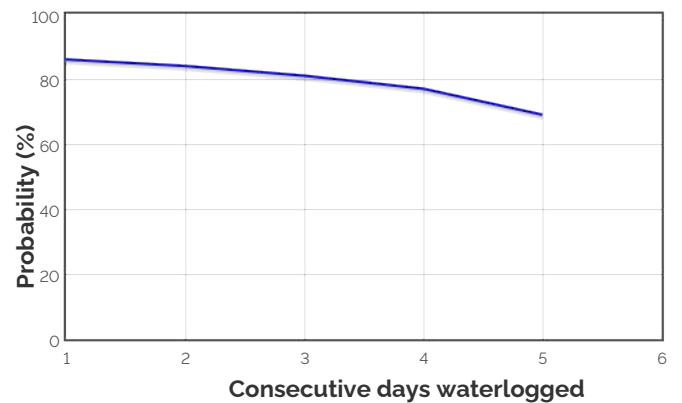
## Current Distribution of PAW



## Water Budget

|                             |              |
|-----------------------------|--------------|
| Initial PAW status @ 15-Mar | 49 mm        |
| Rainfall since 15-Mar       | 180.3 mm     |
| Irrigations                 |              |
| Evaporation since 15-Mar    | 81 mm        |
| Transpiration since 15-Mar  | 17 mm        |
| Deep drainage since 15-Mar  | 44 mm        |
| Run-off since 15-Mar        | 5 mm         |
| <b>Current PAW status:</b>  | <b>82 mm</b> |

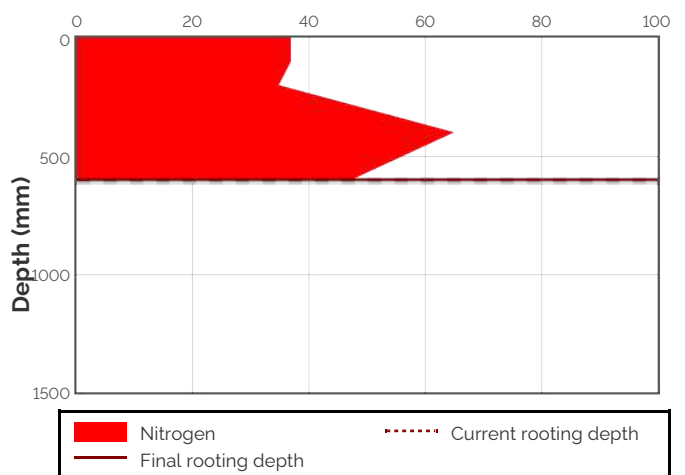
## Probability of Future Waterlogging Events



## Nitrogen Budget

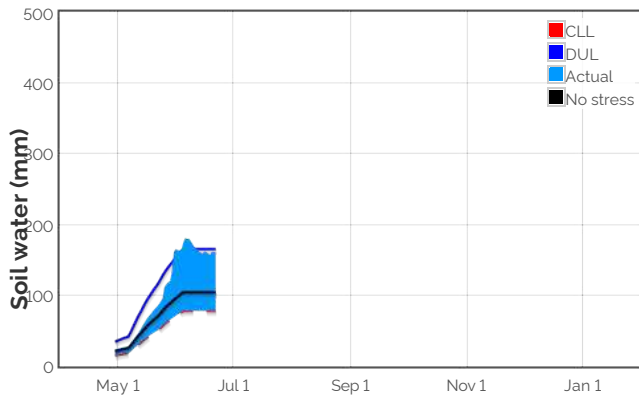
|                                     |                     |
|-------------------------------------|---------------------|
| Initial N status @ 15-Mar           | 269 kg/ha           |
| N mineralisation since 15-Mar       | 13 kg/ha            |
| N tie up since 15-Mar               | 2 kg/ha             |
| N applications                      |                     |
|                                     | 28-Apr : 8 kg/ha    |
|                                     | 14-Jun : 27.6 kg/ha |
| Total N in plant                    | 77 kg/ha            |
| De-nitrification since 15-Mar       | 3 kg/ha             |
| Leaching since 15-Mar               | 47 kg/ha            |
| <b>Current N status:</b>            | <b>189 kg/ha</b>    |
| Median N mineralisation to maturity | = 5.0545 kg/ha      |
| Median N tie up to maturity         | = 0 kg/ha           |

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

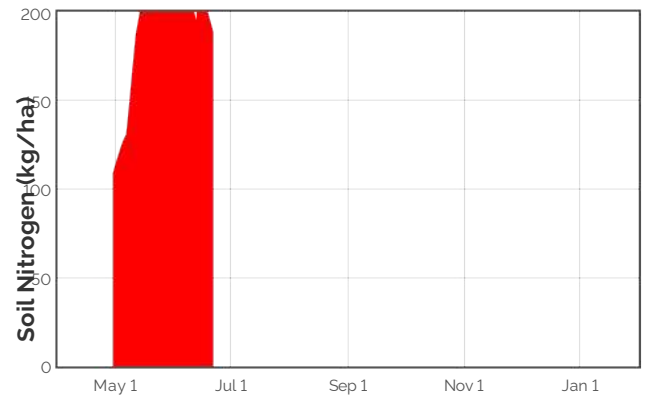


Current Crop Available N = 188 kg/ha  
 Total Soil N = 189 kg/ha

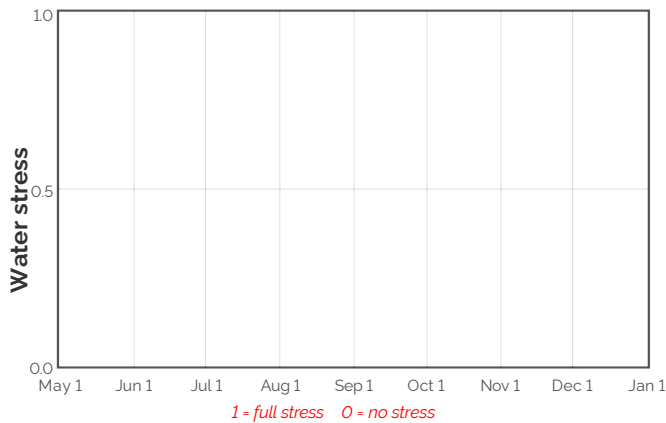
## Availability of Water to Growing Roots



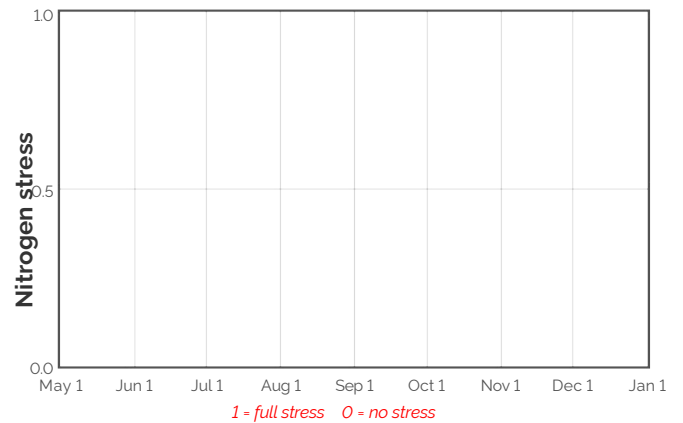
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



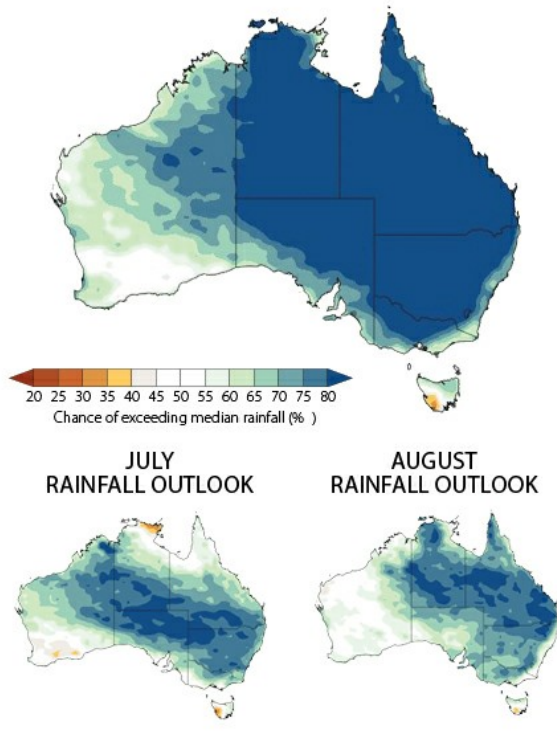
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

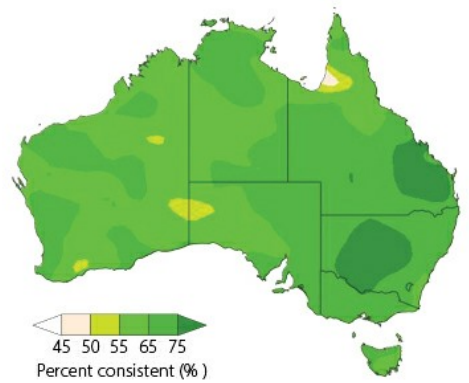
| Date   | Growth Stage | Evap. (mm) | Water use (mm) | N use (kg/ha) | Water avail. to roots above stress threshold (mm) | Water avail. to roots above CLL (mm) | N avail. to roots (kg/ha) | Mineralisation (kg/ha) | N tie up (kg/ha) |
|--------|--------------|------------|----------------|---------------|---|--------------------------------------|---------------------------|------------------------|------------------|
| 24-Jun | 16.0         | 0.4        | 0.8            | 2.7           | 52.1  | 78.3                                 | 178.9                     | 0.1                    | 0.0              |
| 25-Jun | 16.0         | 0.5        | 1.0            | 2.9           | 50.7  | 76.8                                 | 176.0                     | 0.1                    | 0.0              |
| 26-Jun | 16.0         | 0.5        | 0.9            | 2.9           | 49.6  | 75.8                                 | 172.9                     | 0.1                    | 0.0              |
| 27-Jun | 30.1         | 0.5        | 1.1            | 3.1           | 48.1  | 74.3                                 | 170.3                     | 0.1                    | 0.0              |
| 28-Jun | 30.4         | 0.5        | 1.0            | 3.0           | 46.5  | 72.7                                 | 167.2                     | 0.1                    | 0.0              |
| 29-Jun | 30.7         | 0.4        | 0.9            | 2.8           | 45.0  | 71.2                                 | 164.2                     | 0.1                    | 0.0              |
| 30-Jun | 31.0         | 0.4        | 0.9            | 2.7           | 43.4  | 69.6                                 | 162.1                     | 0.1                    | 0.0              |
| 1-Jul  | 31.3         | 0.4        | 0.9            | 2.7           | 42.2  | 68.4                                 | 160.0                     | 0.1                    | 0.0              |
| 2-Jul  | 31.6         | 0.4        | 0.9            | 2.3           | 40.9  | 67.1                                 | 157.6                     | 0.1                    | 0.0              |
| 3-Jul  | 31.9         | 0.4        | 1.0            | 2.5           | 39.6  | 65.8                                 | 155.3                     | 0.1                    | 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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