YIELD PROPHET

# Crop Report

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8-Jun-2026

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Cockaleechie

## Crop: Barley

### Cultivar: RGTPlanet

Sowing details: 200 plants/$m^2$ on 30-Apr

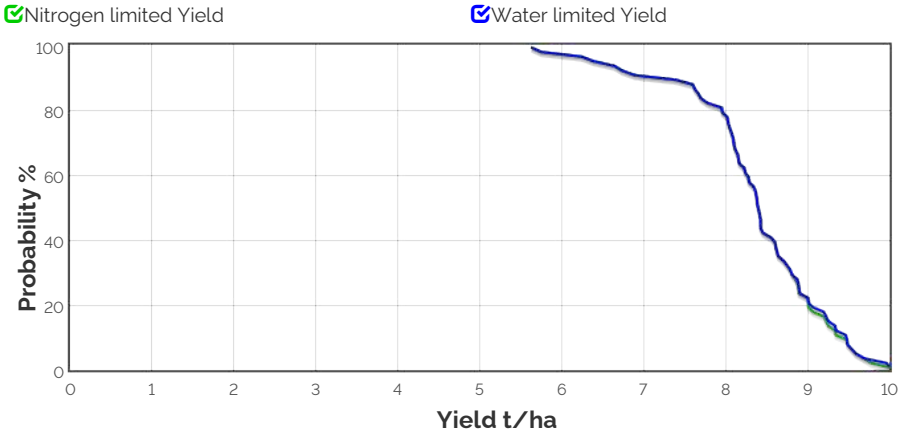
Expected maturity date: 21-Oct

## Paddock Details

Initial conditions date: 18-Mar

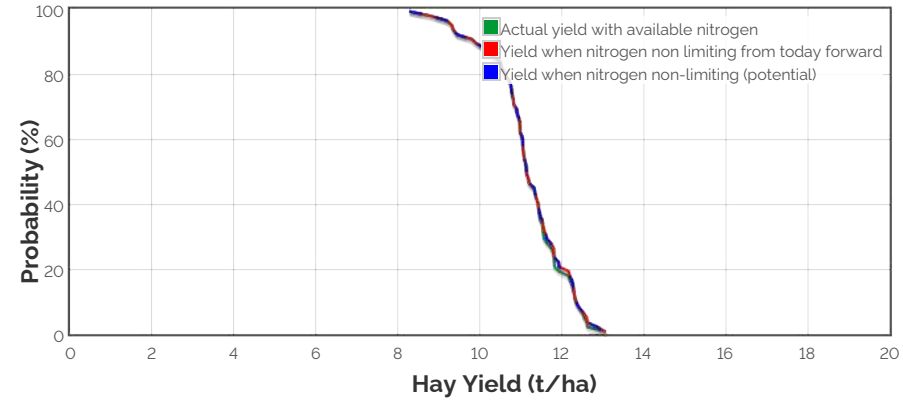
| | |
|---|---|
| Soil: | Clay Loam over Loamy Medium Clay (Yeelanna No590)<br>1400 mm max rooting depth |
| Stubble: | 1000 kg/ha of Lentil<br>No till |

## 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.

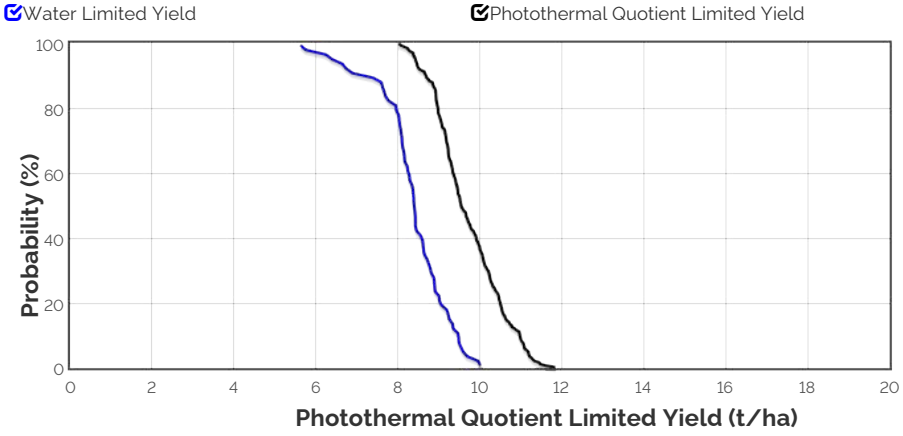
## Hay Yield Outcome




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).

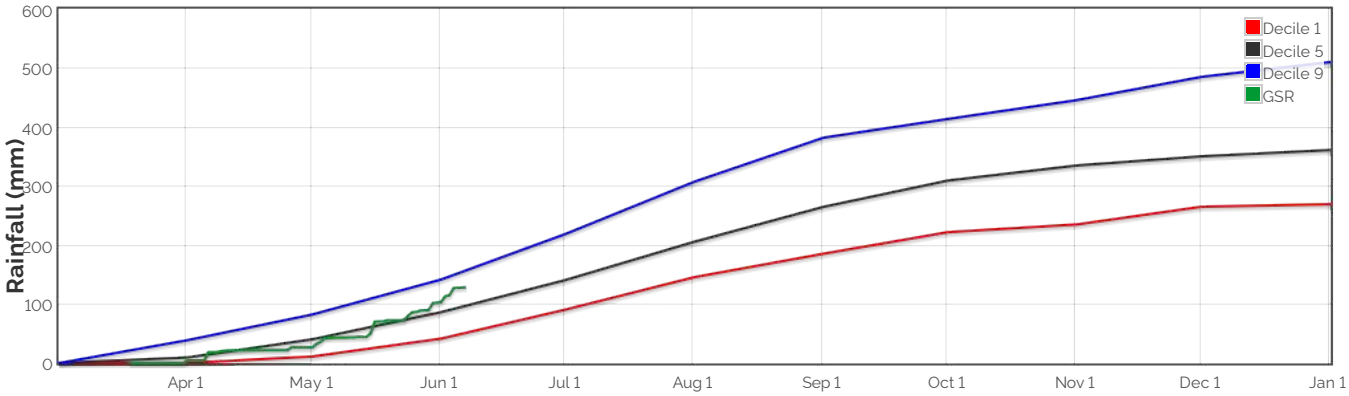
Current dry matter: 1061.0704194200102kg/ha

## PTQ Yield Outcome




This chart shows the chances of achieving different yield outcomes this season, based on two key limits: water, and the balance of radiation and temperature during the critical period for grain number development (Photothermal quotient). Water-limited yield is estimated from pre-season soil moisture, seasonal weather to date, and agronomic inputs, with future conditions simulated using the long-term weather record from your chosen station. Radiation and temperature-limited yield is estimated by modelling a range of flowering dates and calculating the ratio between radiation and temperature during the critical period for grain number determination. In most cases, water is the main constraint on yield, but in wetter seasons or locations, radiation and temperature can also limit yield if crop development is not well aligned with the environment. Earlier flowering often reduces potential from radiation due to shorter day lengths and cloudier conditions, while later flowering increases radiation but higher temperatures shorten the critical period, causing yield potential to decline again. These limits assume >90% light interception during the critical period and do not account for frost or heat events pre or post flowering, nor for other grain-filling stresses that reduce harvest index and grain size.

## The Season So Far - Growing Season Rainfall Deciles




## Simulated and Predicted Crop Growth Stage

| | GS11 | GS12 | GS13 | GS14 | GS15 | GS16 |
|---|---|---|---|---|---|---|
| | emergence | 2nd leaf | 3rd leaf<br>1st tiller | 4th leaf<br>early tillering | 5th leaf<br>mid tillering | 6th leaf<br>late tillering |
| Predicted | | | | | | |
| Earliest | 9-May | 14-May | 17-May | 23-May | 30-May | 6-Jun |
| Median | 9-May | 14-May | 17-May | 23-May | 30-May | 6-Jun |
| Latest | 9-May | 14-May | 17-May | 23-May | 30-May | 6-Jun |

| | GS30 | GS31 | GS32 | GS37 | GS39 | GS45 | GS55 | GS65 | GS75 |
|---|---|---|---|---|---|---|---|---|---|
| | end of tillering | 1st node | 2nd node | flag leaf | flag leaf fully emerged | mid booting | mid head emergence | mid flowering | mid dough fill |
| Predicted | | | | | | | | | |
| Earliest | 16-Jun | 23-Jun | 30-Jun | 14-Jul | 17-Jul | 21-Jul | 27-Jul | 3-Aug | 26-Aug |
| Median | 21-Jun | 30-Jun | 10-Jul | 23-Jul | 26-Jul | 31-Jul | 7-Aug | 14-Aug | 6-Sep |
| Latest | 25-Jun | 5-Jul | 18-Jul | 31-Jul | 3-Aug | 8-Aug | 16-Aug | 23-Aug | 17-Sep |

## Probability and Incidence of Frost and Heat Shock

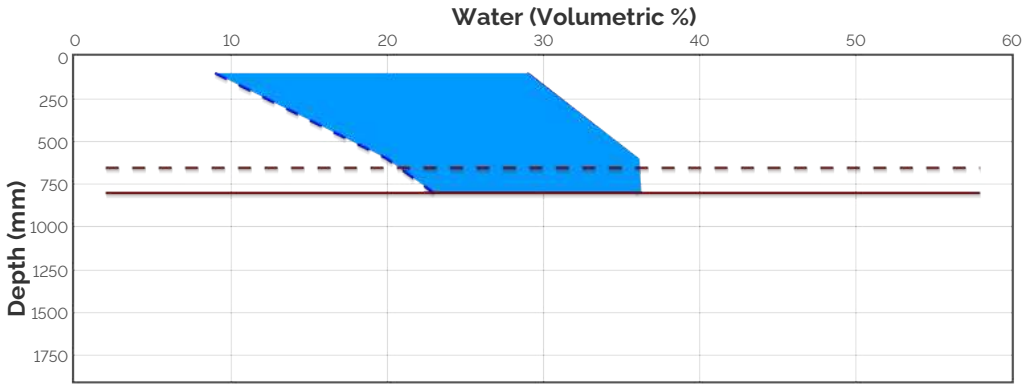
### Frost damage during flowering

| | Probability | This Season |
|---|---|---|
| mild<br>2 to 0°C during flowering | 27% | 0 |
| moderate<br>0 to -2°C during flowering & early grain fill | 1% | 0 |
| severe<br>Less than -2°C during flowering & grain fill | 0% | 0 |

### Heat damage during grain fill

| | Probability | This Season |
|---|---|---|
| mild<br>32 to 34°C | 5% | 0 |
| moderate<br>34 to 36°C | 0% | 0 |
| severe<br>Above 36°C | 0% | 0 |

## Current Distribution of PAW



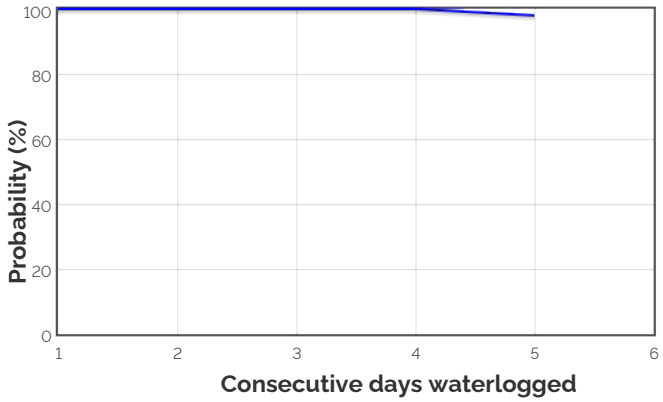

Current root depth = 654 mm
Median final root depth = 800 mm
Current crop PAW available to roots = 108 mm
Total Soil PAW = 128 mm
PAWC = 126 mm

**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 @ 18-Mar | 100 mm |
| Rainfall since 18-Mar | 128.6 mm |
| Irrigations | |
| Evaporation since 18-Mar | 49 mm |
| Transpiration since 18-Mar | 13 mm |
| Deep drainage since 18-Mar | 39 mm |
| Run-off since 18-Mar | 2 mm |
| **Current PAW status:** | **128 mm** |

## Probability of Future Waterlogging Events

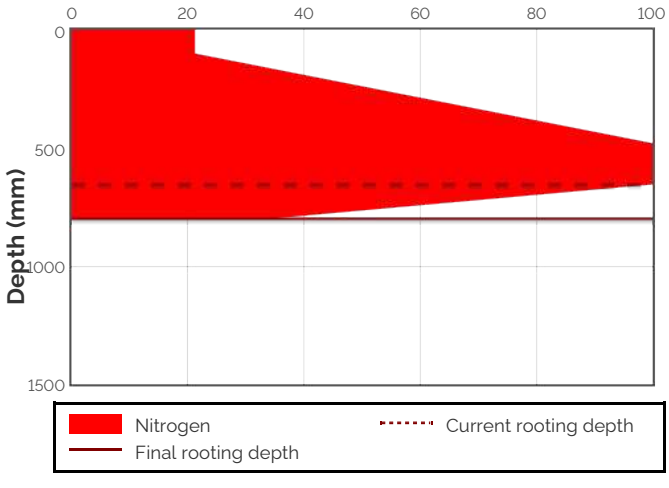



## Nitrogen Budget

| | |
|---|---|
| Initial N status @ 18-Mar | 116 kg/ha |
| N mineralisation since 18-Mar | 34 kg/ha |
| N tie up since 18-Mar | 0 kg/ha |
| N applications | |
| | 30-Apr : 20 kg/ha |
| | 29-May : 41.4 kg/ha |
| | 29-May : 41.4 kg/ha |
| Total N in plant | 53 kg/ha |
| De-nitrification since 18-Mar | 0 kg/ha |
| Leaching since 18-Mar | 16 kg/ha |
| **Current N status:** | **183 kg/ha** |

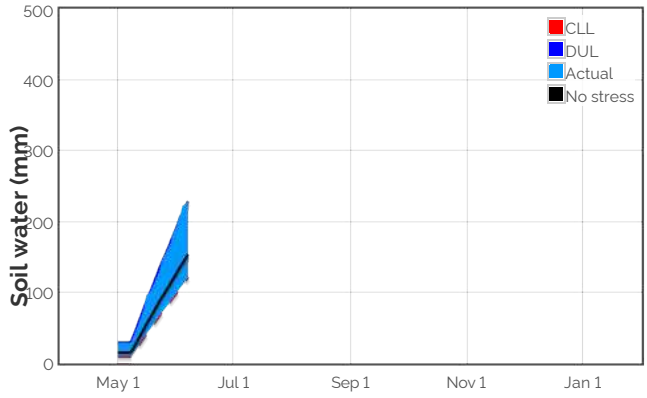
Median N mineralisation to maturity = 47.7520775144508 kg/ha
Median N tie up to maturity = 0 kg/ha

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

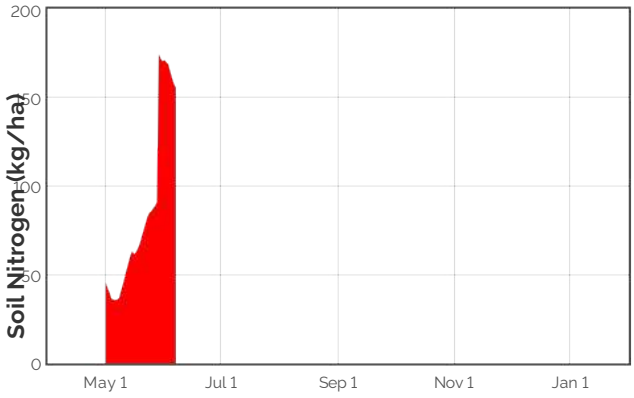



Current Crop Available N = 155 kg/ha
Total Soil N = 183 kg/ha

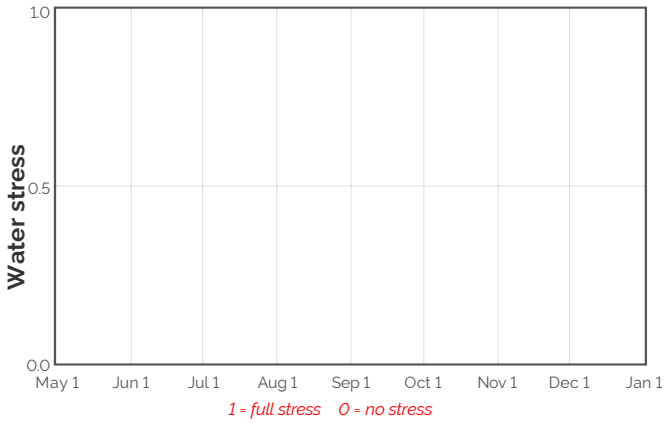
## Availability of Water to Growing Roots




## Availability of Soil Nitrogen to Growing Roots

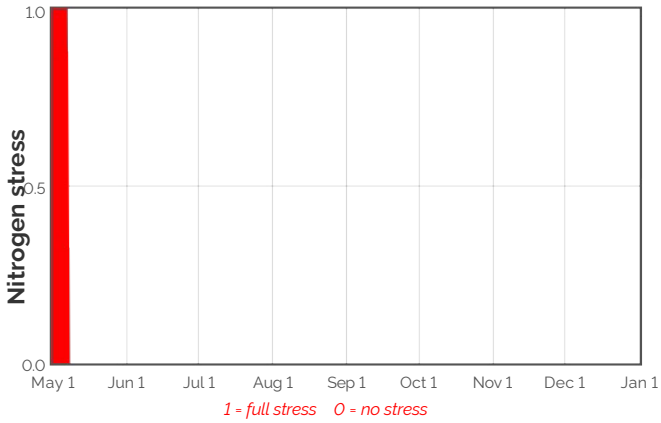



## Water Stress




*1 = full stress  0 = no stress*

## Nitrogen Stress




*1 = full stress  0 = no 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) |
|---|---|---|---|---|---|---|---|---|---|
| 9-Jun | 16.0 | 0.3 | 1.1 | -3.4 | 76.1 | 109.0 | 154.8 | 0.3 | 0.0 |
| 10-Jun | 16.0 | 0.3 | 1.1 | -3.6 | 76.4 | 109.8 | 154.3 | 0.3 | 0.0 |
| 11-Jun | 16.0 | 0.3 | 1.0 | -3.4 | 76.6 | 110.8 | 153.9 | 0.3 | 0.0 |
| 12-Jun | 16.0 | 0.3 | 1.2 | -3.6 | 76.8 | 111.5 | 153.6 | 0.3 | 0.0 |
| 13-Jun | 16.0 | 0.3 | 1.3 | -4.0 | 76.8 | 112.2 | 153.1 | 0.3 | 0.0 |
| 14-Jun | 16.0 | 0.3 | 1.2 | -3.6 | 76.8 | 113.0 | 152.4 | 0.3 | 0.0 |
| 15-Jun | 16.0 | 0.3 | 1.1 | -3.3 | 77.0 | 113.8 | 152.2 | 0.3 | 0.0 |
| 16-Jun | 16.0 | 0.3 | 1.3 | -3.6 | 76.8 | 114.0 | 152.6 | 0.3 | 0.0 |
| 17-Jun | 16.0 | 0.3 | 1.2 | -3.0 | 76.4 | 113.9 | 151.4 | 0.3 | 0.0 |
| 18-Jun | 16.0 | 0.3 | 1.2 | -2.8 | 75.0 | 112.8 | 149.8 | 0.3 | 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.

Bureau of Meteorology Seasonal and Monthly Outlooks