



# Crop Report

25-May-2016

Toni Nugent: Graham Centre Field Site

Crop: Wheat

Cultivar: Gregory

Sowing details: 150 plants/m<sup>2</sup> on 14-May

Expected maturity date: 22-Nov

### Paddock Details

Initial conditions date: 2-Mar

Soil: Red Kandosol (No498-Generic)  
1500 mm max rooting depth

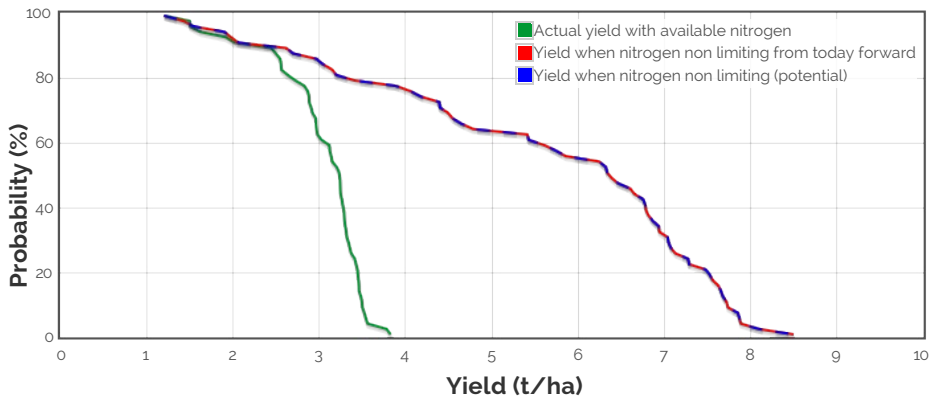
Stubble: 0 kg/ha of Wheat  
No till

### Weather Details

Rainfall since 2-Mar: 128.4mm

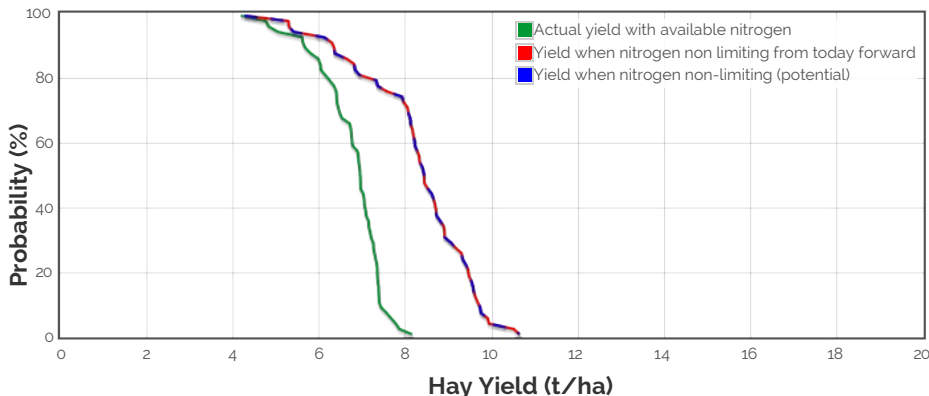
Rainfall records used: Wagga Wagga AMO  
Weather station

## 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.

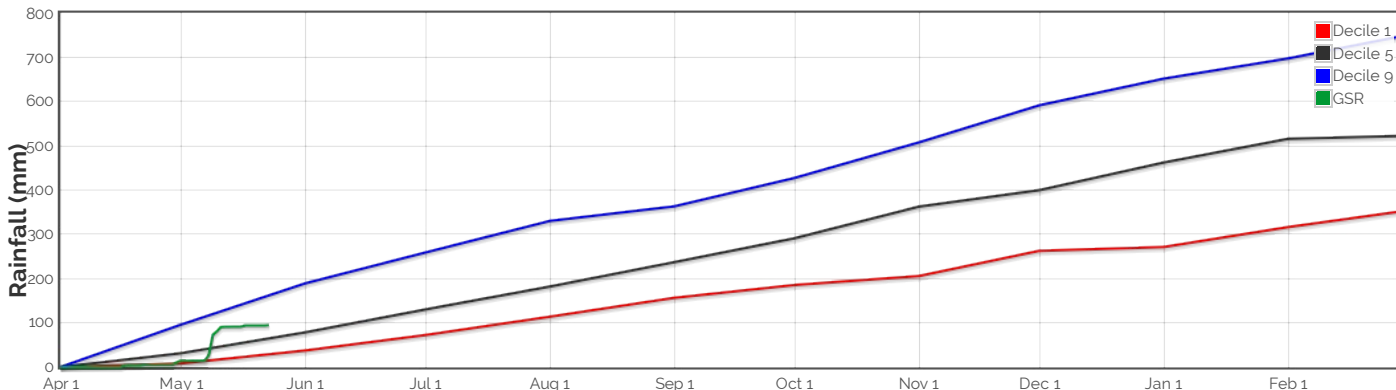
## Hay Yield Outcome



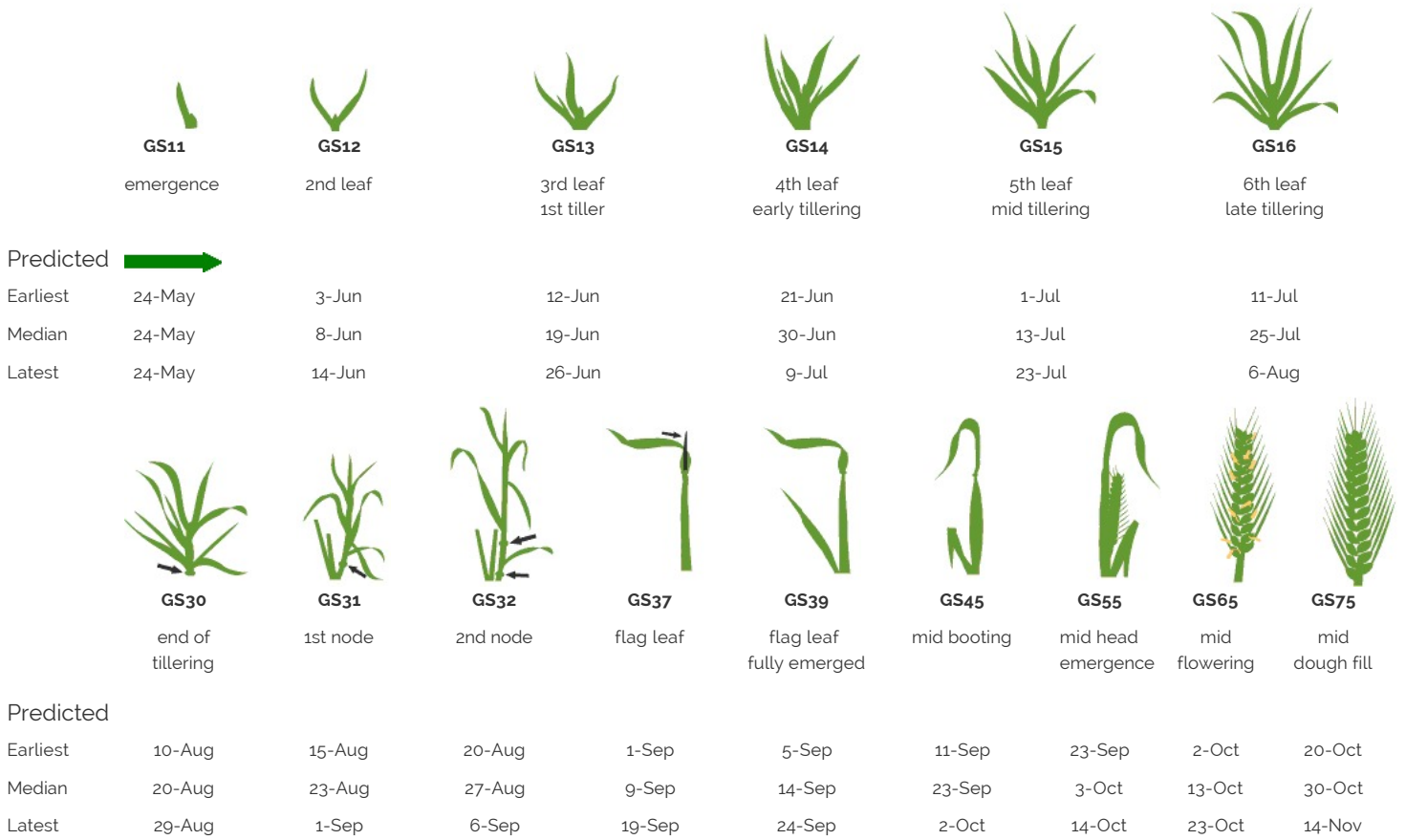
This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 6.9kg/ha

## The Season So Far - Growing Season Rainfall Deciles



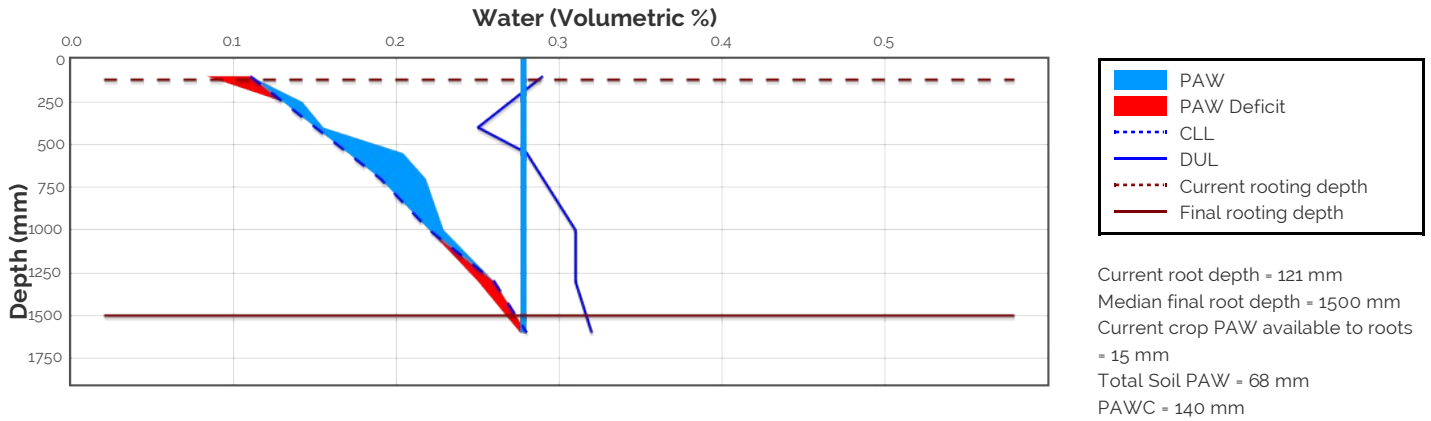
## Simulated and Predicted Crop Growth Stage



## Probability and Incidence of Frost and Heat Shock

<p>Percentage of years in which frost occurs during flowering</p> <p><b>Mild</b> Minimum temperature between 2 and 0°C during flowering (Z60-69) 65%</p> <p><b>Moderate</b> Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) 10%</p> <p><b>Severe</b> Minimum temperature less than -2°C during flowering and grain fill (Z60-79) 1%</p>	<p>Percentage of years in which heat shock occurs during grain fill (Z70-79)</p> <p><b>Mild</b> Maximum temperature between 32 and 34°C 36%</p> <p><b>Moderate</b> Maximum temperature between 34 and 36°C 23%</p> <p><b>Severe</b> Maximum temperature above 36°C 3%</p>
<p>Incidence of frost for this growing season, during flowering</p> <p><b>Mild</b> Minimum temperature between 2 and 0°C during flowering (Z60-69) 0</p> <p><b>Moderate</b> Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) 0</p> <p><b>Severe</b> Minimum temperature less than -2°C during flowering and grain fill (Z60-79) 0</p>	<p>Incidence of heat shock for this growing season, during grain fill (Z70-79)</p> <p><b>Mild</b> Maximum temperature between 32 and 34°C 0</p> <p><b>Moderate</b> Maximum temperature between 34 and 36°C 0</p> <p><b>Severe</b> Maximum temperature above 36°C 0</p>

## Current Distribution of PAW

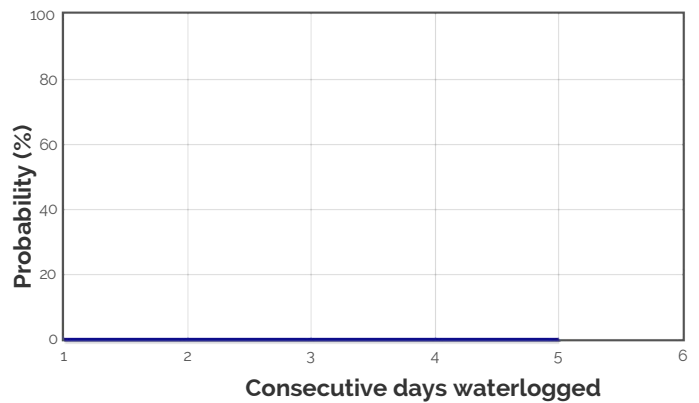


**PAW** = Plant Available Water  
**CLL** = Crop Lower Limit or Wilting Point  
**DUL** = Drained Upper Limit or Field Capacity  
**PAWC** = Plant Available Water Capacity  
**Current Crop PAW** = Soil water currently accessible to the roots down to the current rooting depth  
**Soil PAW** = Total accessible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

## Water Budget

Initial PAW status @ 2-Mar	15 mm
Rainfall since 2-Mar	128.4 mm
Irrigations	
Evaporation since 2-Mar	57 mm
Transpiration since 2-Mar	0 mm
Deep drainage since 2-Mar	0 mm
Run-off since 2-Mar	16 mm
<b>Current PAW status:</b>	<b>68 mm</b>

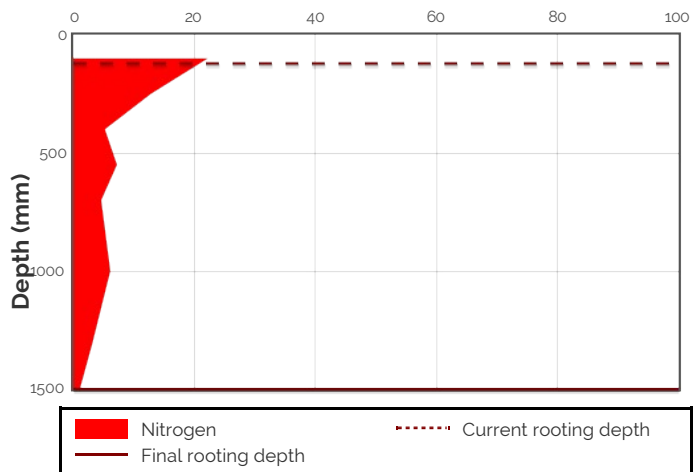
## Probability of Future Waterlogging Events



## Nitrogen Budget

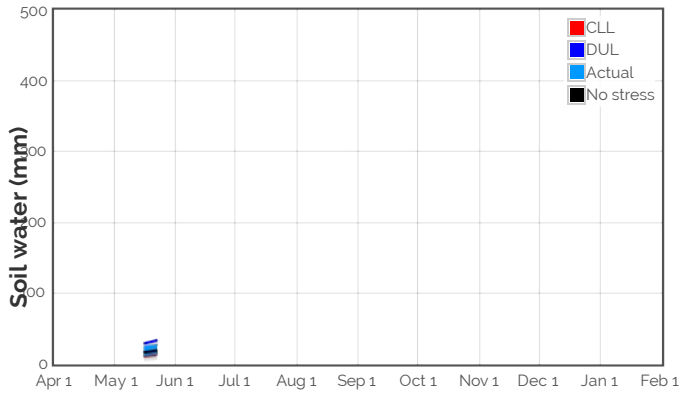
Initial N status @ 2-Mar	89 kg/ha
N mineralisation since 2-Mar	2 kg/ha
N tie up since 2-Mar	2 kg/ha
N applications	
14-May :	12 kg/ha
Total N in plant	0 kg/ha
De-nitrification since 2-Mar	0 kg/ha
Leaching	0 kg/ha
<b>Current N status:</b>	<b>100 kg/ha</b>
Median N mineralisation to maturity =	0.034 kg/ha
Median N tie up to maturity =	0 kg/ha

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

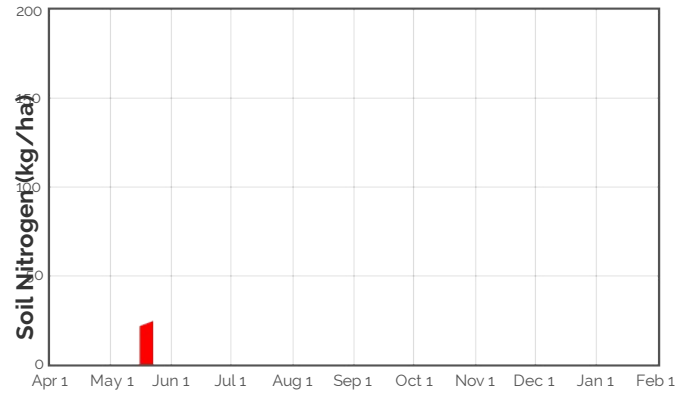


Current Crop Available N = 25 kg/ha  
 Total Soil N = 100 kg/ha

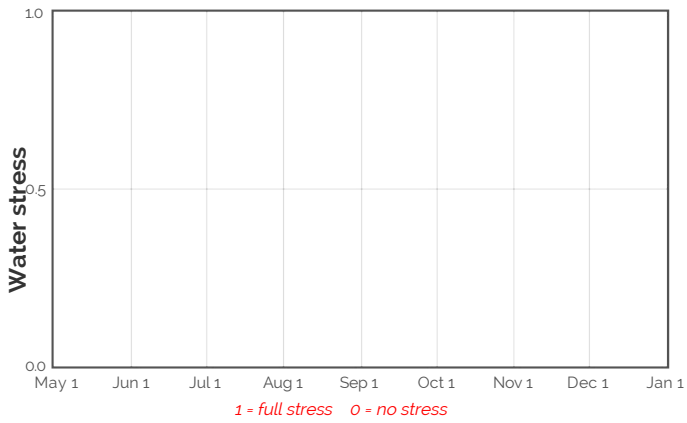
## Availability of Water to Growing Roots



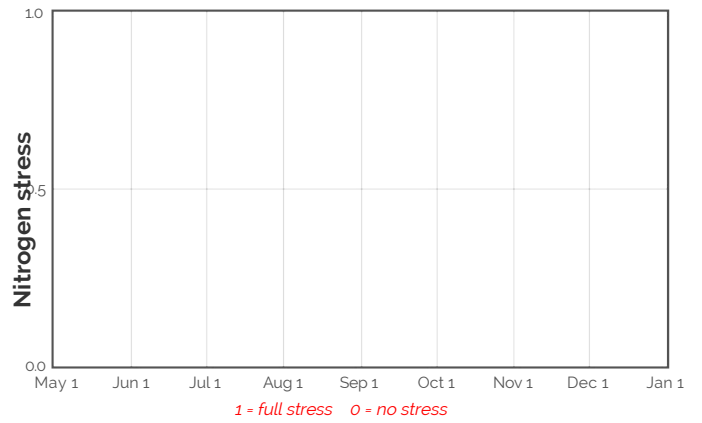
## Availability of Soil Nitrogen to Growing Roots



## Water Stress



## Nitrogen Stress



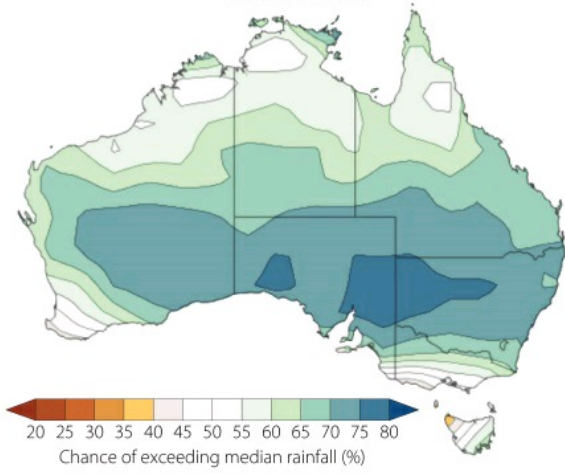
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

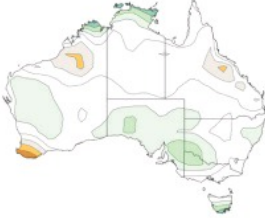
Date	Growth Stage	Evap. (mm)	Water use (mm)	N use (kg/ha)	Water avail. to roots above stress threshold (mm)	Water avail. to roots above CLL (mm)	N avail. to roots (kg/ha)	Mineralisation (kg/ha)	N tie up (kg/ha)
25-May	11.1	0.3	0.0	0.1	10.7	18.0	28.2	0.1	0.0
26-May	11.2	0.3	0.0	0.1	11.6	19.5	29.8	0.1	0.0
27-May	11.2	0.3	0.0	0.2	12.5	20.8	31.3	0.1	0.0
28-May	11.3	0.3	0.0	0.2	13.5	22.4	32.8	0.1	0.0
29-May	11.4	0.3	0.0	0.2	14.4	23.8	34.2	0.1	0.0
30-May	11.4	0.3	0.0	0.2	15.4	25.4	35.5	0.1	0.0
31-May	11.5	0.2	0.0	0.2	16.2	26.8	37.0	0.1	0.0
1-Jun	11.6	0.2	0.0	0.2	17.2	28.2	38.6	0.1	0.0
2-Jun	11.7	0.2	0.0	0.2	17.8	29.3	39.8	0.1	0.0
3-Jun	11.7	0.2	0.0	0.2	18.5	30.5	41.3	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.

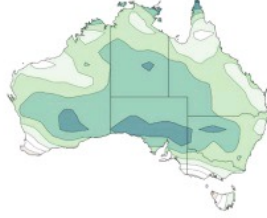
### 3 MONTH CLIMATE OUTLOOK FROM MAY TO JULY



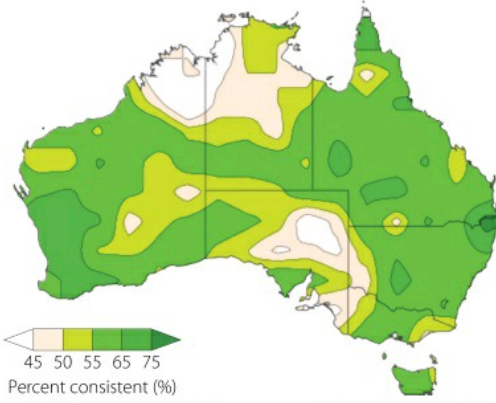
### MAY CLIMATE OUTLOOK



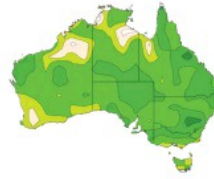
### JUNE CLIMATE OUTLOOK



### PAST ACCURACY FROM MAY TO JULY



### PAST ACCURACY FOR MAY



### PAST ACCURACY FOR JUNE

