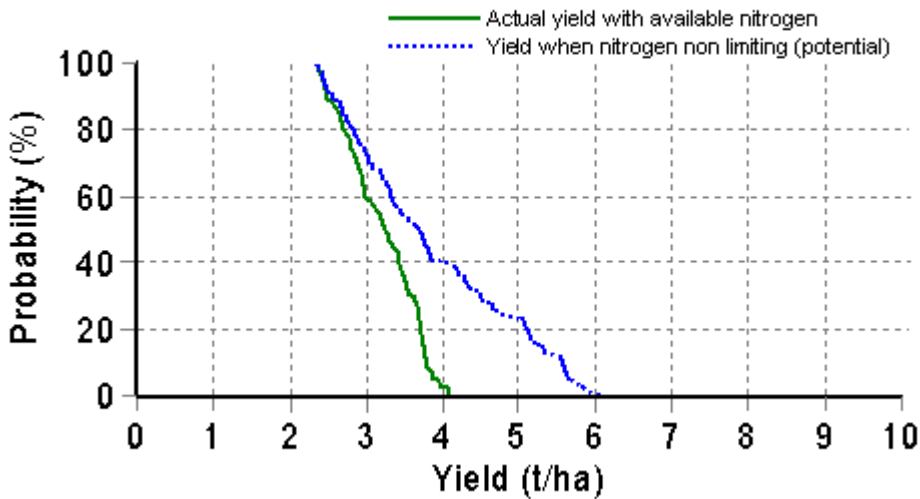


# Crop Report

Report name: Barooga Trial Site Crop report  
Report date: 10/09/2008  
Last climate date available: 9/09/2008  
Client name: bwhite  
Paddock name: Barooga Trial Site  
Report generated by: dubourg  
Date sown: 01-May  
Crop type: Wheat  
Variety sown: Ventura  
Sowing density: 150 plants/m<sup>2</sup>

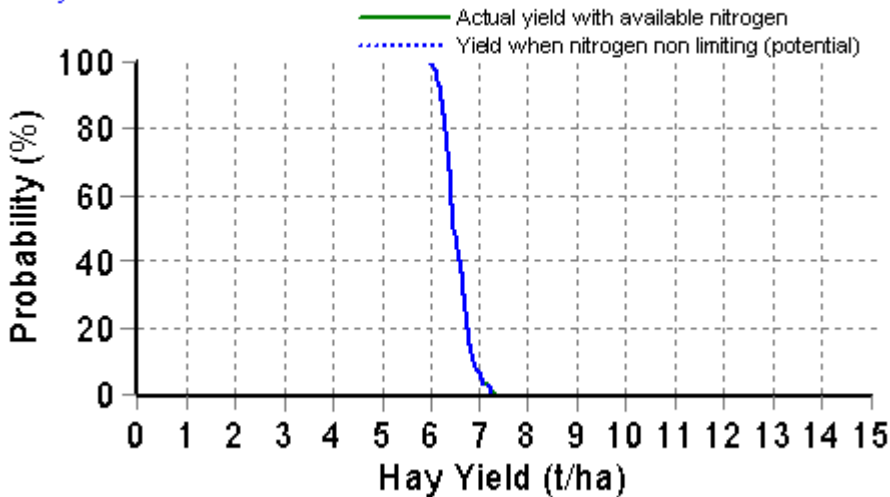
Weather station used: Tocumwal Airport  
Rainfall records used: Weather station  
Soil type: Berrigan Red Kandosol  
Maximum rooting depth: 180 cm  
Roots constrained by EC: no  
Stubble type: wheat  
Stubble amount: 100 kg/ha  
Start of growing season: 01-Apr  
Initial conditions date: 28-Apr  
Growing season rainfall to date: 126.2 mm  
Date of last rainfall entry: ?

## Grain Yield Outcome



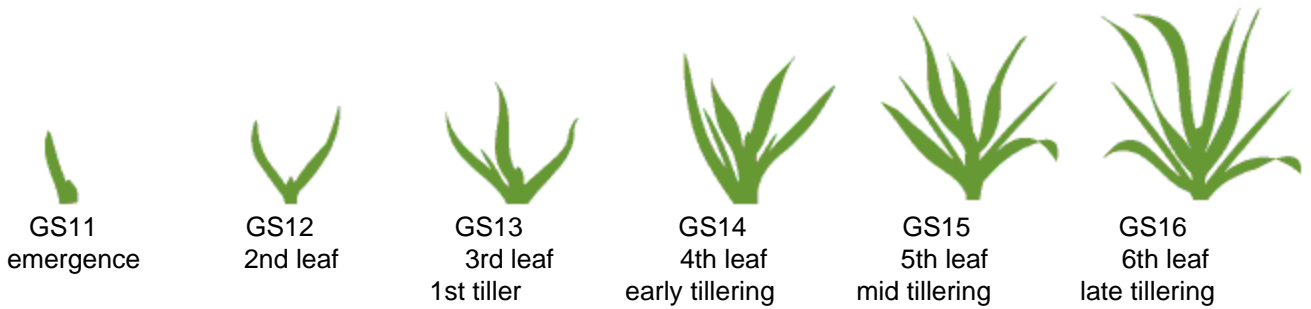
This graph shows the probability of exceeding a range of yield outcomes this season. It takes into account your pre-season soil moisture; the weather conditions so far; soil N and agronomic inputs. The long term record from your nominated weather station is then used to simulate what would have happened from this date on in each of the past 100 years. The yield results are used to produce this graph.

## Hay Yield Outcome



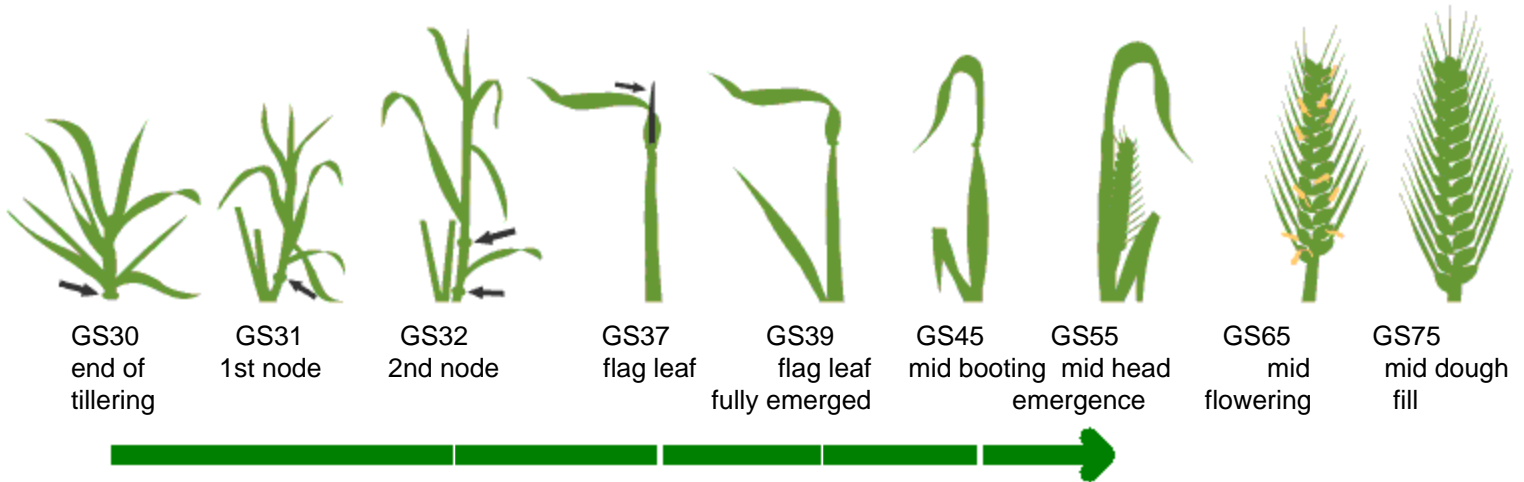
This graph show the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 6892 kg/ha



**Predicted**

<b>Earliest</b>	31-May	8-Jun	16-Jun	25-Jun	3-Jul	14-Jul
<b>Median</b>	31-May	8-Jun	16-Jun	25-Jun	3-Jul	14-Jul
<b>Latest</b>	31-May	8-Jun	16-Jun	25-Jun	3-Jul	14-Jul



**Predicted**

<b>Earliest</b>	21-Jul	26-Jul	1-Aug	16-Aug	22-Aug	1-Sep	11-Sep	19-Sep	6-Oct
<b>Median</b>	21-Jul	26-Jul	1-Aug	16-Aug	22-Aug	1-Sep	12-Sep	23-Sep	11-Oct
<b>Latest</b>	21-Jul	26-Jul	1-Aug	16-Aug	22-Aug	1-Sep	13-Sep	28-Sep	16-Oct

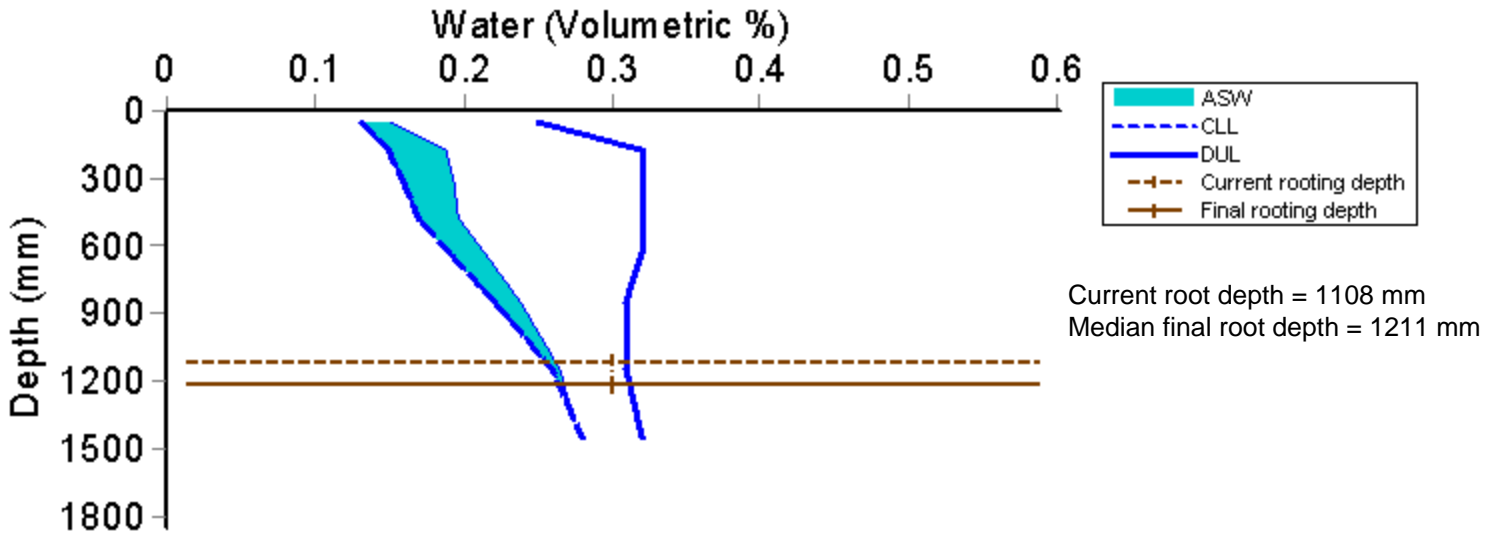
*Percentage of years in which frost occurs*

<b>Mild</b>		
Minimum temperature between 2 and 0°C during flowering (Z60-69)	32%	
<b>Moderate</b>		
Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75)	3%	
<b>Severe</b>		
Minimum temperature less than -2°C during flowering and grain fill (Z60-79)	0%	

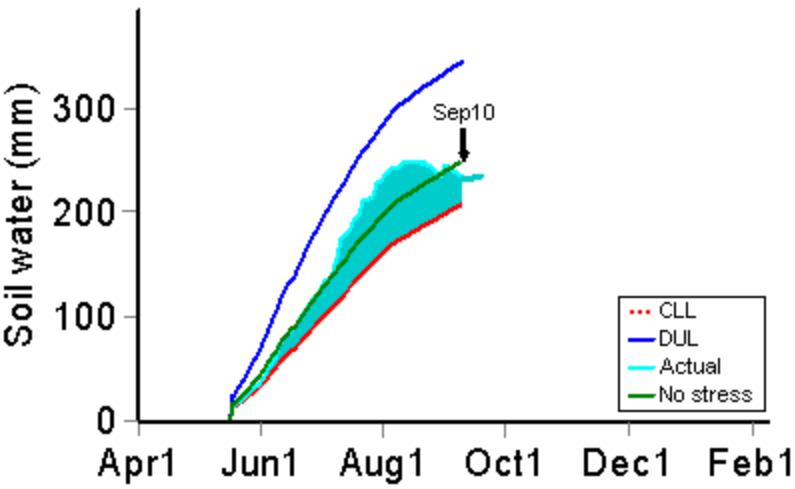
*Percentage of years in which heat shock occurs during grain fill (Z70-79)*

<b>Mild</b>		
Maximum temperature between 32 and 34°C	26%	
<b>Moderate</b>		
Maximum temperature between 34 and 36°C	9%	
<b>Severe</b>		
Maximum temperature above 36°	3%	

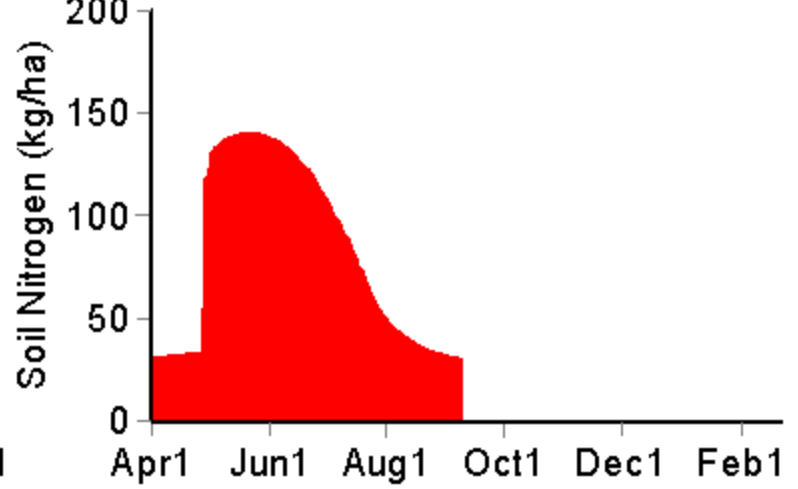
Current distribution of PAW



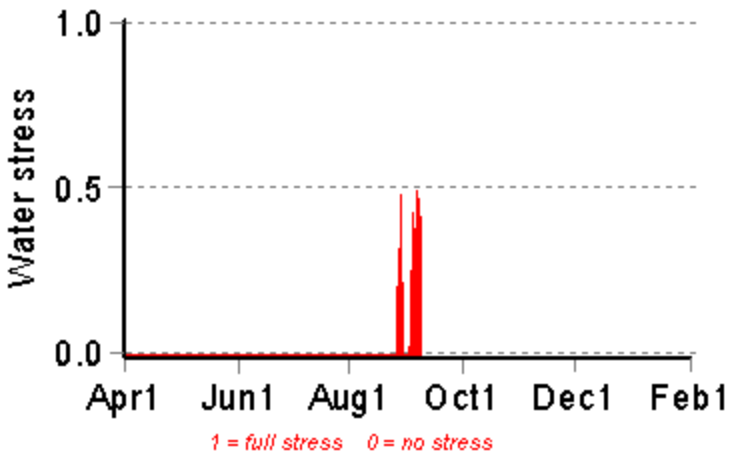
Availability of Water to Growing Roots



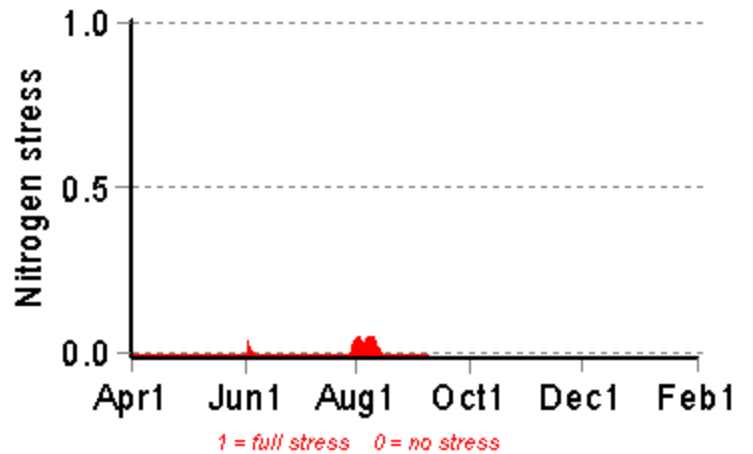
Soil Nitrogen



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.

### Water Budget

Initial PAW status @ 28-Apr	45 mm
Rainfall since 28-Apr	118.9 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 28-Apr	63 mm
Transpiration since 28-Apr	75 mm
Deep drainage since 28-Apr	0 mm
Run-off since 28-Apr	0 mm

**Current PAW status: 29 mm**

### Nitrogen Budget

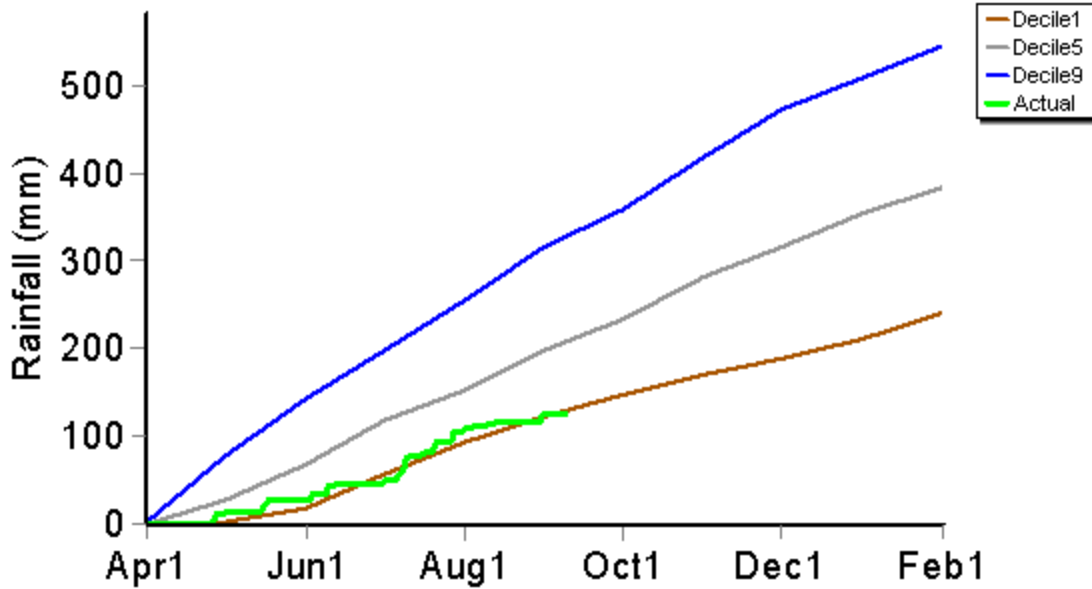
Initial N status @ 28-Apr	136 kg/ha
Mineralisation since 28-Apr	-4 kg/ha
N applications	1-May: 10 kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	107 kg/ha
De-nitrification since	0 kg/ha
Leaching	0 kg/ha

**Current N status: 31 kg/ha**

Mean projected crop performance and requirements for the next 10 days assuming no rain and no added fertilizer.

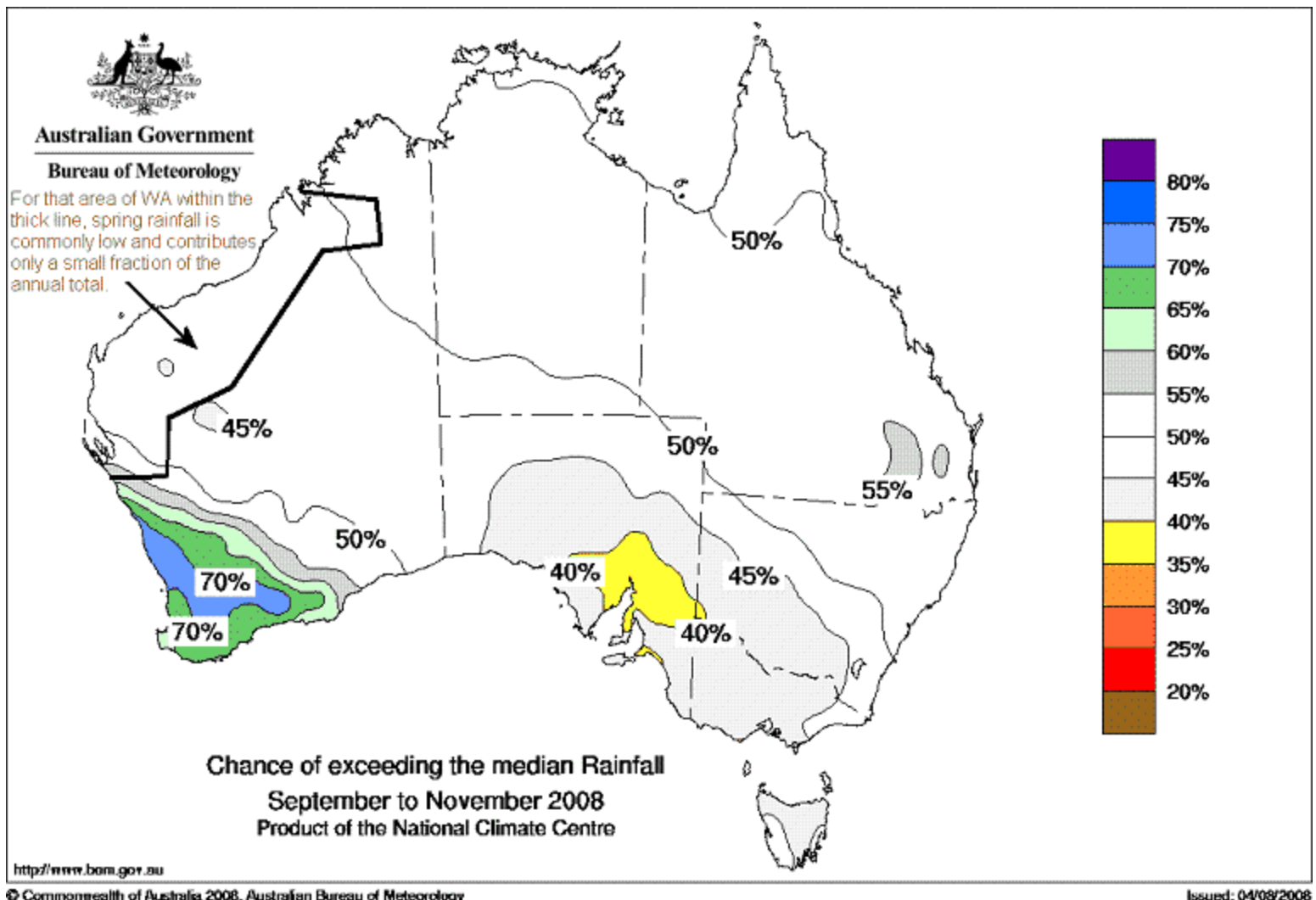
Date	Growth Stage	Evap (mm)	Daily water use (mm)	Daily N use (kg/ha)	Water available to roots above stress threshold (mm)	Water available to roots above crop lower limit (mm)	N available to roots (kg/ha)	
		54.6	0.7	1.2	0.1	-16.0	24.8	31.1
		55.5	0.6	1.1	0.1	-17.5	23.3	31.0
		56.4	0.4	1.0	0.1	-18.5	22.4	30.8
		57.3	0.4	1.0	0.1	-19.0	22.0	30.7
		58.2	0.6	0.9	0.1	-18.7	22.3	30.6
		59.1	0.6	0.9	0.1	-19.5	21.6	30.5
		60.1	0.7	0.9	0.1	-19.4	21.6	30.4
		61.0	0.7	0.9	0.1	-21.0	20.2	30.2
		61.9	0.7	0.9	0.1	-21.5	19.7	30.1
		62.9	0.7	0.8	0.1	-22.5	18.7	30.0

## The season so far - Growing Season Rainfall Deciles



How much rainfall can I expect?

The Bureau of Meteorology Forecast for the next 3 months

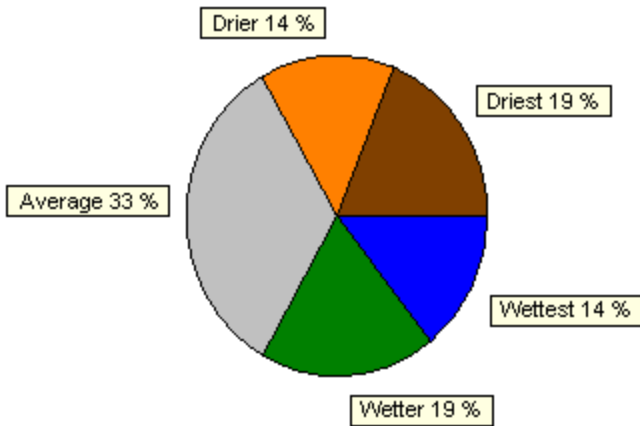


### National Seasonal Rainfall Outlook: probabilities September to November 2008

Issued by the bureau of Meteorology 26th August 2008

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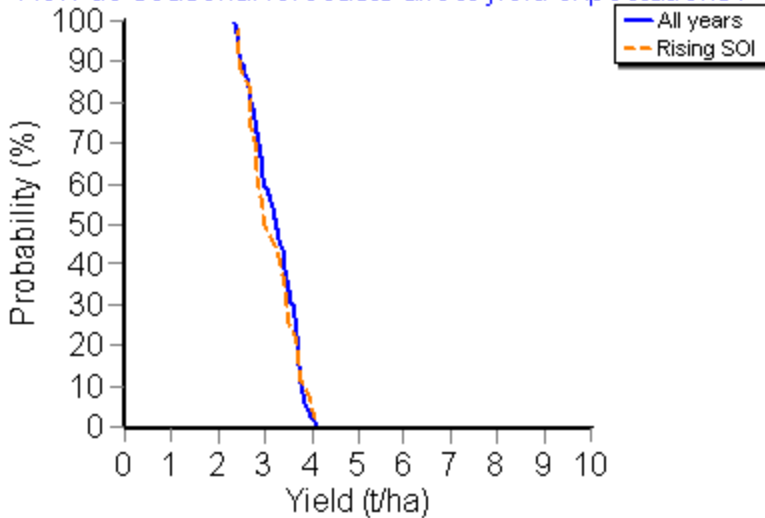
How much rainfall can I expect?  
 The SOI seasonal forecast for the next 3 months.



The SOI is an index that compares the atmospheric pressure between Tahiti and Darwin. SOI Phases are determined by comparing average monthly SOI values of the past two months. Phases of the SOI have been shown to be related to rainfall variability in a range of locations in Australia and around the world.

	Rainfall
Driest	0 to 53 mm
Drier	53 to 89 mm
Average	89 to 113 mm
Wetter	113 to 155 mm
Wettest	155 to 312 mm

How do seasonal forecasts affect yield expectations?



The 31 day mean SOI for August was 7.97, it was 2.27 in June.

Yield outcomes of the current SOI Phase ARE NOT significantly different from yield outcomes of all years. Significance is determined on a 90% probability threshold. (PValue=0.529)

The ENSO Sequence System (ESS) - An alternative but still experimental forecasting system.

ESS Analogue Years

	Yields	N Unlimited Yields
Year 1976	3.7 t/ha	4.8 t/ha
Year 1967	2.7 t/ha	2.7 t/ha
Year 1994	2.8 t/ha	3.2 t/ha
Year 2006	2.4 t/ha	2.4 t/ha
Year 2007	2.5 t/ha	2.5 t/ha

Note: The ESS Analogue system is still experimental.

The Pacific indicators are mixed and this is reflected in the range of conditions indicated by the analogues for the end of the year. Neutral conditions are therefore most likely.

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