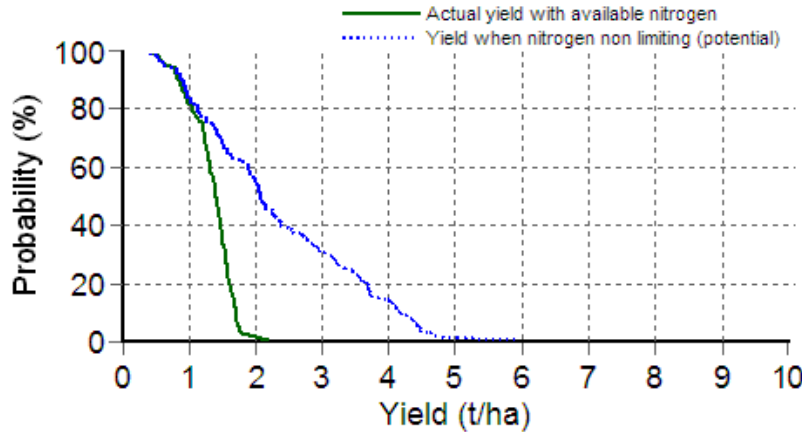


# Crop Report

Report name: Lameroo Crop report  
 Report date: 30/07/2010  
 Last climate date available: 29/07/2010  
 Client name: MSF  
 Paddock name: Lameroo Dune  
 Report generated by: MSF  
 Date sown: 31-May  
 Crop type: Wheat  
 Variety sown: Gladius  
 Sowing density: 120 plants/m<sup>2</sup>

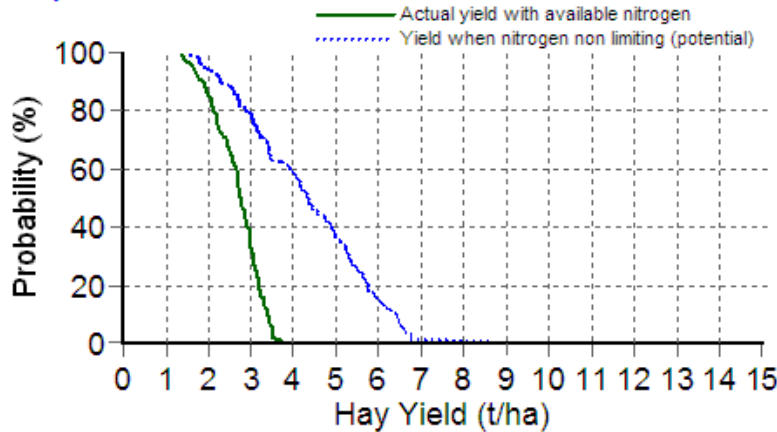
Weather station used: Lameroo  
 Rainfall records used: Weather station  
 Soil type: Sand (Euston)  
 Maximum rooting depth: 180 cm  
 Roots constrained by EC: yes  
 Stubble type: wheat  
 Stubble amount: 250 kg/ha  
 Start of growing season: 01-Apr  
 Initial conditions date: 12-May  
 Growing season rainfall to date: 97.4 mm  
 Date of last rainfall entry: ?  
 Expected harvest date: 19-Nov

## Grain Yield Outcome



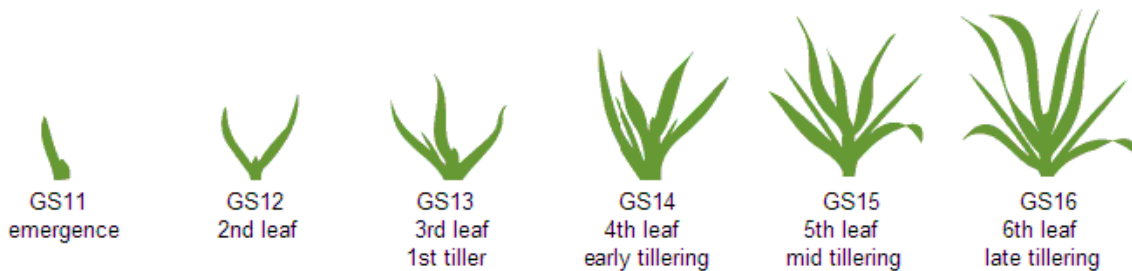
This graph shows the probability of exceeding a range of yield outcomes this season. It takes into account your pre-season soil moisture; the weather conditions so far; soil N and agronomic inputs. The long term record from your nominated weather station is then used to simulate what would have happened 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: 530 kg/ha



**Predicted**

<b>Earliest</b>	10-Jun	24-Jun	5-Jul	15-Jul	24-Jul	2-Aug
<b>Median</b>	10-Jun	24-Jun	5-Jul	15-Jul	24-Jul	3-Aug
<b>Latest</b>	10-Jun	24-Jun	5-Jul	15-Jul	24-Jul	5-Aug

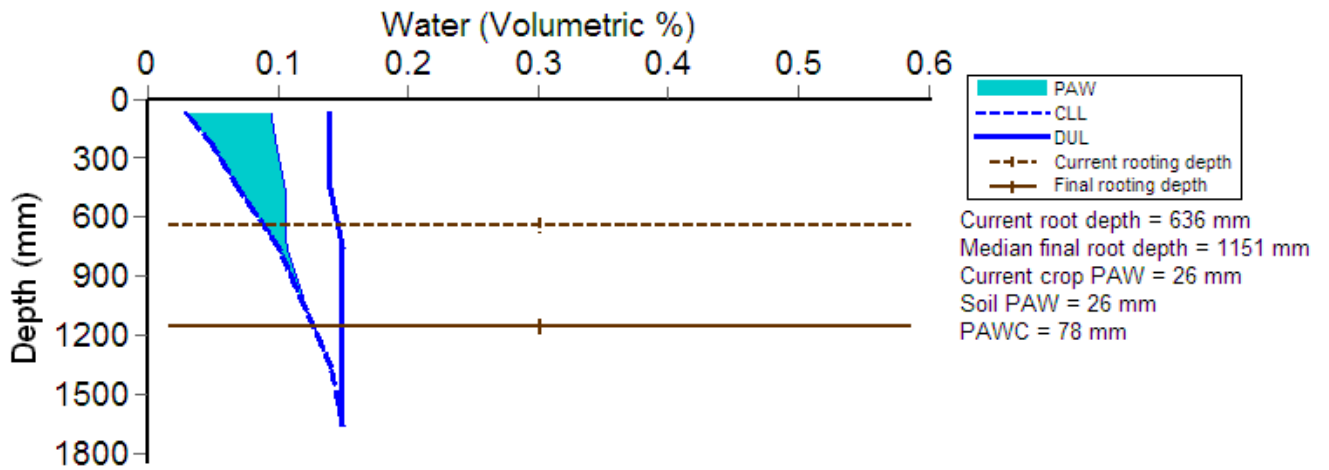


**Predicted**

<b>Earliest</b>	14-Aug	18-Aug	21-Aug	31-Aug	4-Sep	11-Sep	21-Sep	1-Oct	15-Oct
<b>Median</b>	18-Aug	21-Aug	24-Aug	5-Sep	10-Sep	17-Sep	27-Sep	7-Oct	24-Oct
<b>Latest</b>	21-Aug	25-Aug	28-Aug	11-Sep	16-Sep	24-Sep	6-Oct	16-Oct	5-Nov

<p><i>Percentage of years in which frost occurs</i></p> <p><b>Mild</b> Minimum temperature between 2 and 0°C during flowering (Z60-69) 18%</p> <p><b>Moderate</b> Minimum temperature between 0 and -2°C during flowering and early grain fill (Z60-75) 2%</p> <p><b>Severe</b> Minimum temperature less than -2°C during flowering and grain fill (Z60-79) 0%</p>	<p><i>Percentage of years in which heat shock occurs during grain fill (Z70-79)</i></p> <p><b>Mild</b> Maximum temperature between 32 and 34°C 52%</p> <p><b>Moderate</b> Maximum temperature between 34 and 36°C 28%</p> <p><b>Severe</b> Maximum temperature above 36° 21%</p>
<p><i>Incidence of frost for this growing season</i></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><i>Incidence of heat shock for this growing season, during grain fill (Z70-79)</i></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° 0</p>

Current distribution of PAW

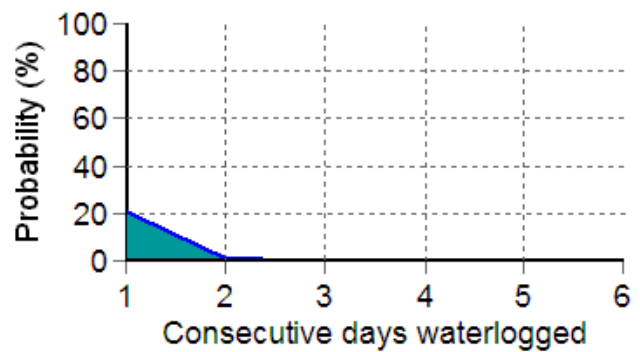


PAW = Plant Available Water  
 CLL = Crop Lower Limit or Wilting Point  
 DUL = Drained Upper Limit or Field Capacity  
 PAWC = Plant Available Water Capacity  
 Current Crop PAW = Soil water currently accessible to the roots down to the current rooting depth  
 Soil PAW = Total accessible soil water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

Water Budget

Initial PAW status @ 12-May	30 mm
Rainfall since 12-May	65 mm
Irrigations	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
	: mm
Evaporation since 12-May	61 mm
Transpiration since 12-May	6 mm
Deep drainage since 12-May	0 mm
Run-off since 12-May	0 mm
<b>Current PAW status:</b>	<b>26 mm</b>

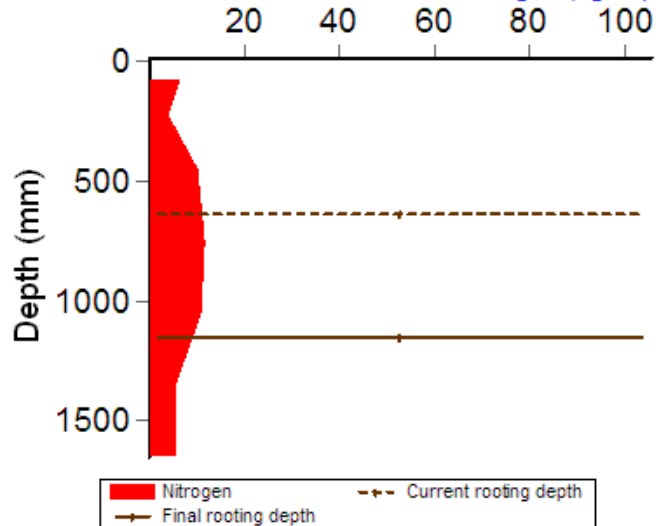
Probability of Future Waterlogging Events

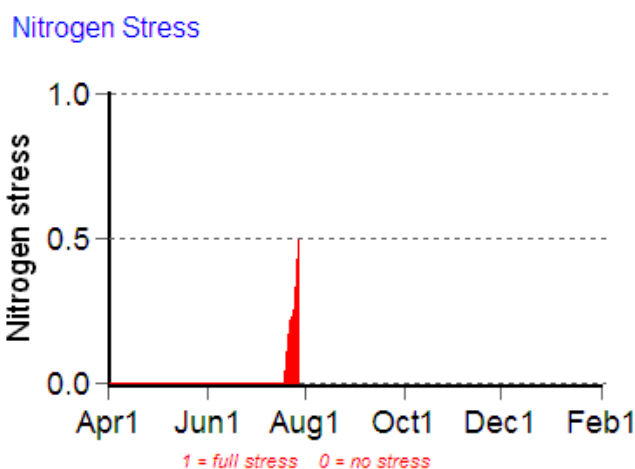
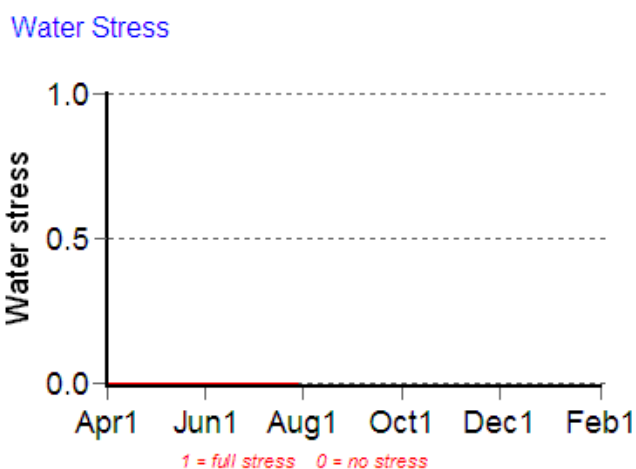
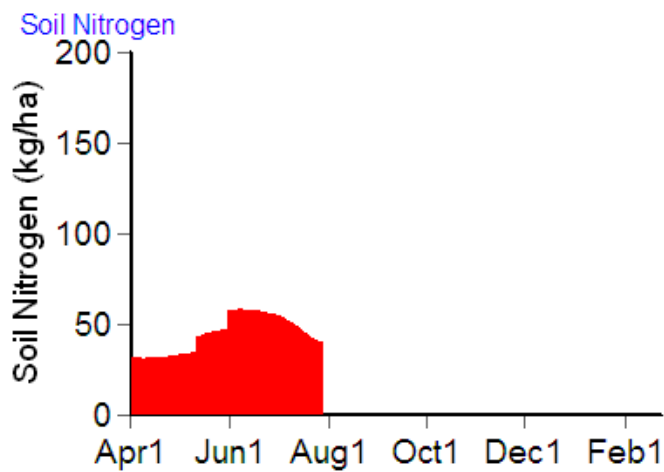
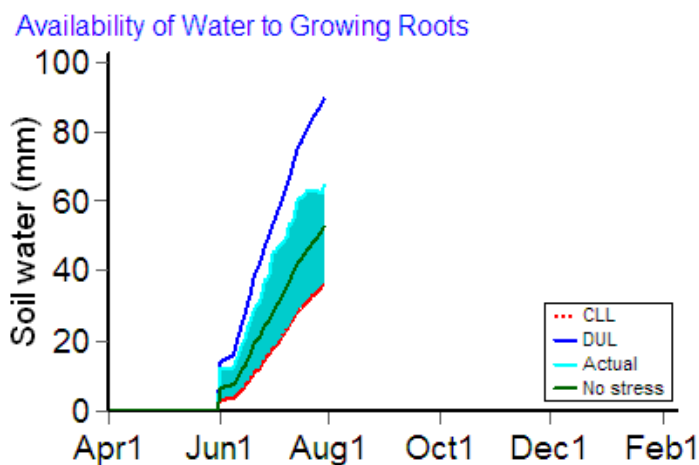


Nitrogen Budget

Initial N status @ 12-May	63 kg/ha
Mineralisation since 12-May	-1 kg/ha
N applications	31-May: 11 kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
	: kg/ha
Total N in plant	20 kg/ha
De-nitrification since 12-May	0 kg/ha
Leaching	0 kg/ha
<b>Current N status:</b>	<b>55 kg/ha</b>

Current distribution of soil nitrogen (kg/ha)





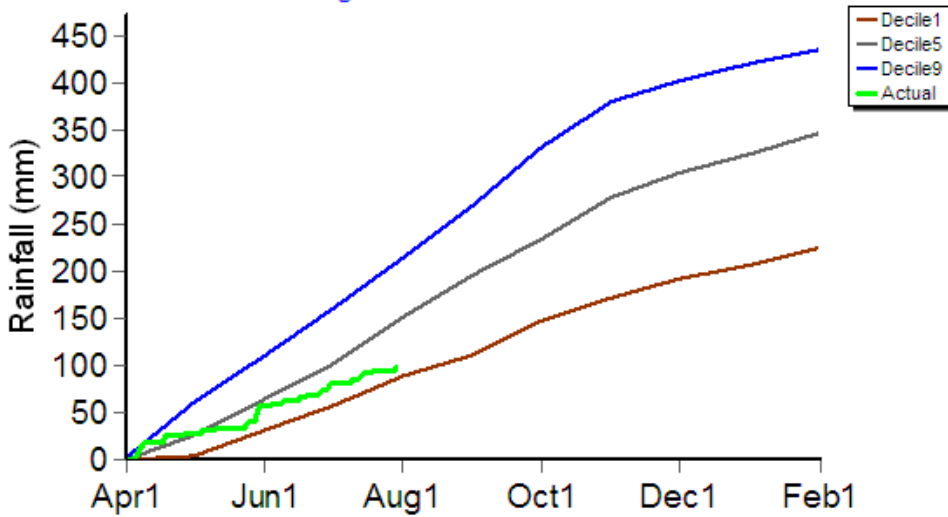
Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

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

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)
30-Jul	15.7	1.0	0.3	0.4	11.3	27.3	22.5
31-Jul	15.8	0.8	0.3	0.3	11.0	27.1	22.5
1-Aug	15.9	0.8	0.3	0.3	11.4	27.5	22.5
2-Aug	16.0	0.8	0.3	0.3	11.2	27.5	22.4
3-Aug	16.0	0.8	0.3	0.3	11.5	27.7	22.4
4-Aug	16.0	0.8	0.3	0.3	11.7	28.1	22.4
5-Aug	16.0	0.8	0.3	0.3	12.1	28.6	22.3
6-Aug	16.0	0.8	0.3	0.3	12.0	28.6	22.3
7-Aug	16.0	0.8	0.3	0.3	12.7	29.4	22.3
8-Aug	16.0	0.8	0.3	0.3	13.8	30.6	22.3

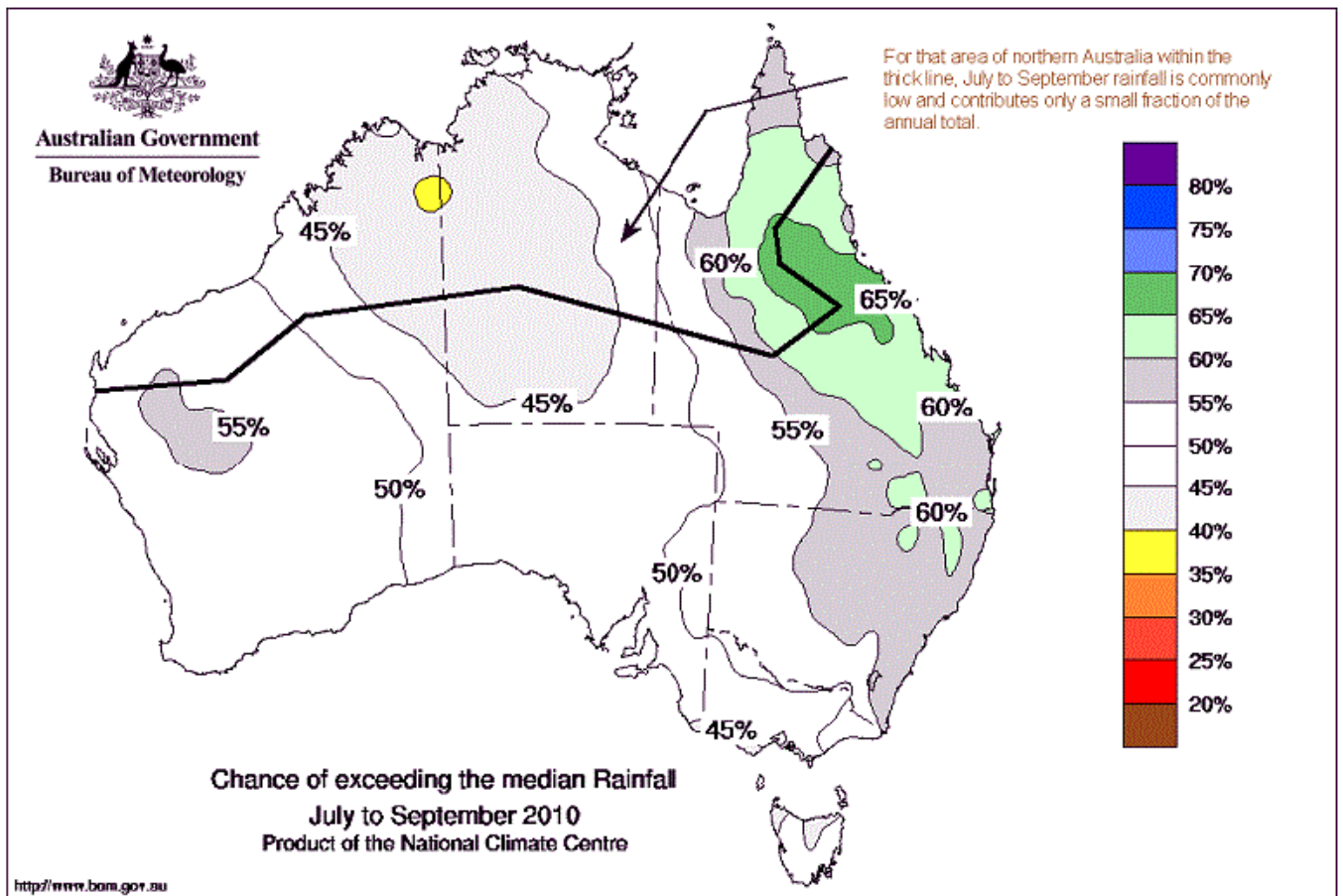
The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

### The season so far - Growing Season Rainfall Deciles



### How much rainfall can I expect?

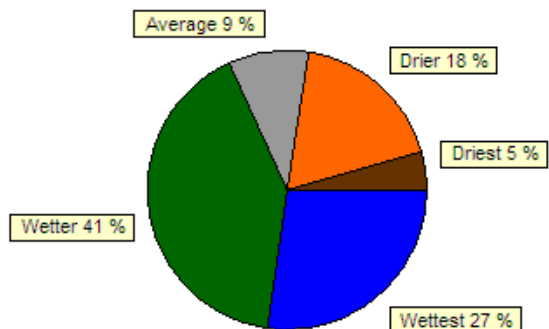
The Bureau of Meteorology Forecast for the next 3 months



### National Seasonal Rainfall Outlook: probabilities July to September 2010

Issued by the bureau of Meteorology 23rd June 2010

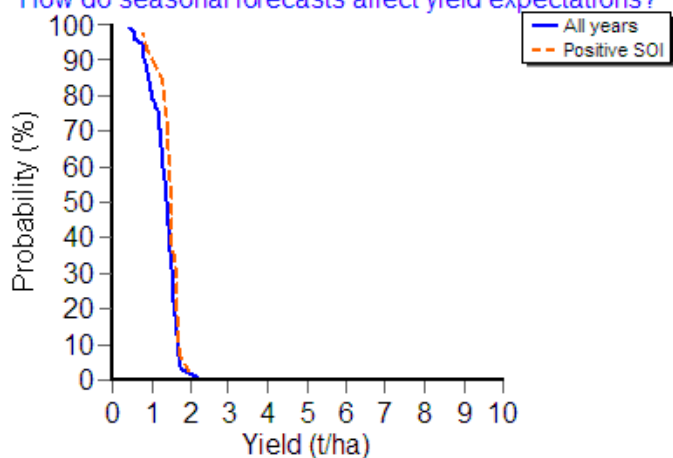
How much rainfall can I expect?  
The SOI seasonal forecast for the next 3 months.



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 86 mm
Drier	86 to 107 mm
Average	107 to 127 mm
Wetter	127 to 163 mm
Wettest	163 to 241 mm

How do seasonal forecasts affect yield expectations?



The 30 day mean SOI for June was 1.31, in May it was 10.48.

Yield outcomes of the current SOI Phase ARE significantly different from yield outcomes of all years. Significance is determined on a 90% probability threshold. (PValue=0.077)

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