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YIELD PROPHET

Crop Report

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8-Jul-2022

Resilient EP Soil Moisture Probe Network: Yeelanna

Crop: Canola

Cultivar: Early

Sowing details: 45 plants/m^2 on 29-Apr

Expected maturity date: 16-Oct

Paddock Details

Initial conditions date: 24-Mar

Soil: Clay Loam over Loamy Medium Clay (Yeelanna No590)
1200 mm max rooting depth

Stubble: 1000 kg/ha of Lentil
No till

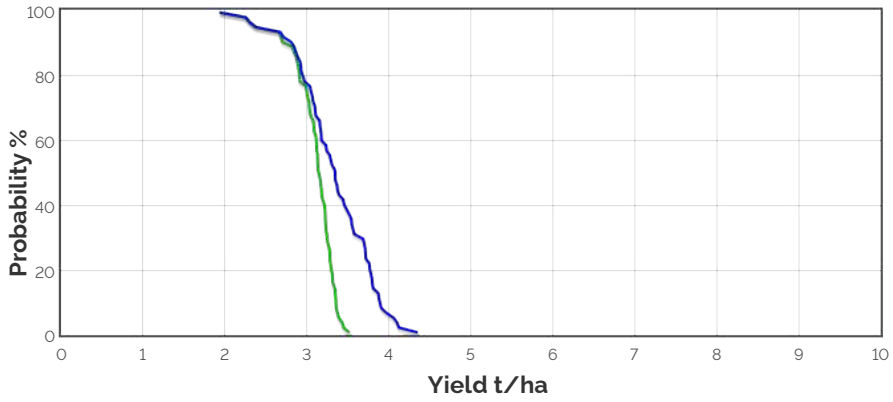
Grain Yield Outcome

☑ Nitrogen limited Yield

☐ Nitrogen limited Yield with Frost and heat Effects

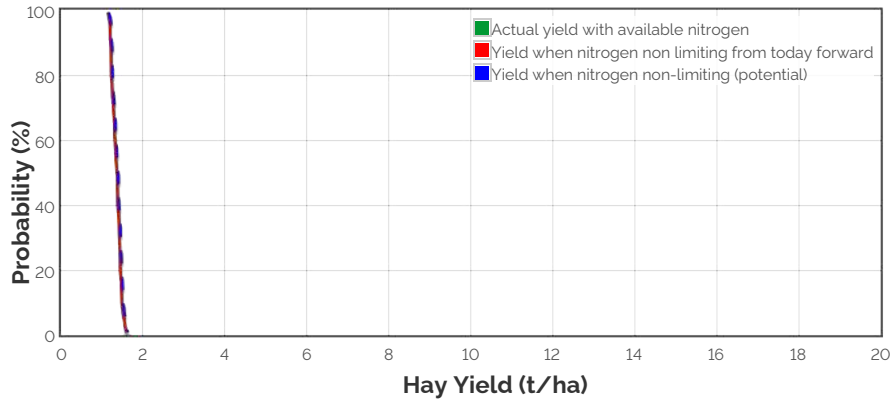
☑ Water limited Yield

☐ 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.

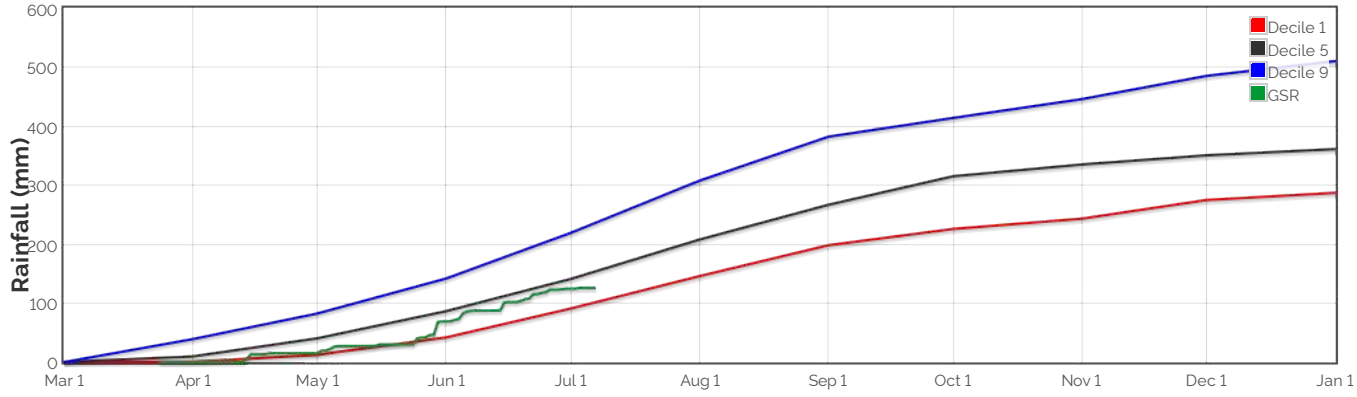
Hay Yield Outcome



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: 499.6kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage

	GS0	GS1	GS2	GS3	GS4	GS5	GS6
	germination	leaf development	stem elongation	bud development	flowering	pod development	seed development
Predicted →							
Earliest	18-May	23-May	7-Jun	10-Jul	30-Jul	16-Aug	7-Oct
Median	18-May	23-May	7-Jun	11-Jul	2-Aug	19-Aug	14-Oct
Latest	18-May	23-May	7-Jun	11-Jul	6-Aug	27-Aug	22-Oct

Probability and Incidence of Frost and Heat Shock

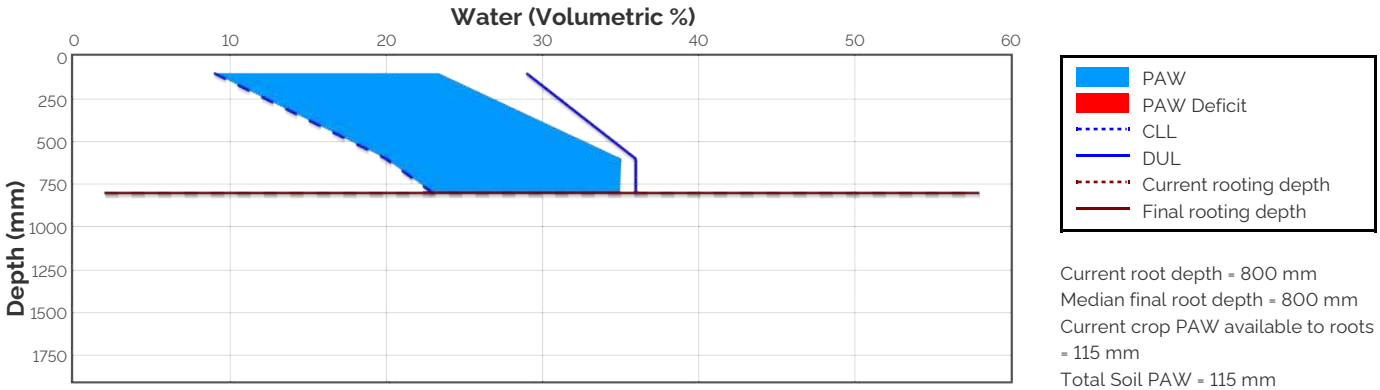
Frost damage during flowering

	Probability	This Season
mild 2 to 0°C during flowering	28%	0
moderate 0 to -2°C during flowering & early grain fill	3%	0
severe Less than -2°C during flowering & grain fill	0%	0

Heat damage during grain fill

	Probability	This Season
mild 32 to 34°C	10%	0
moderate 34 to 36°C	0%	0
severe Above 36°C	0%	0

Current Distribution of PAW



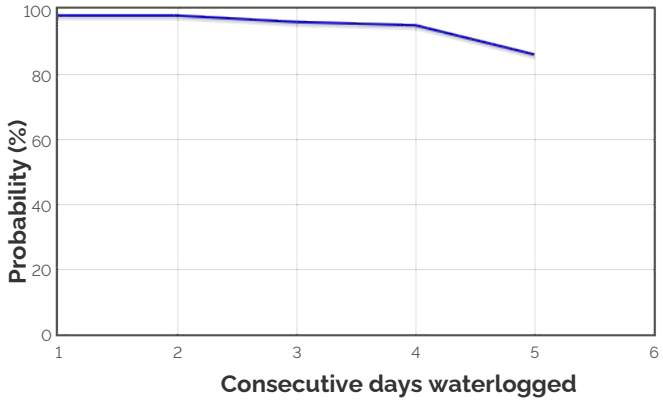
Current root depth = 800 mm
Median final root depth = 800 mm
Current crop PAW available to roots = 115 mm
Total Soil PAW = 115 mm
PAWC = 126 mm

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 @ 24-Mar	90 mm
Rainfall since 24-Mar	126 mm
Irrigations	
Evaporation since 24-Mar	94 mm
Transpiration since 24-Mar	6 mm
Deep drainage since 24-Mar	0 mm
Run-off since 24-Mar	1 mm
Current PAW status:	**115 mm**

Probability of Future Waterlogging Events

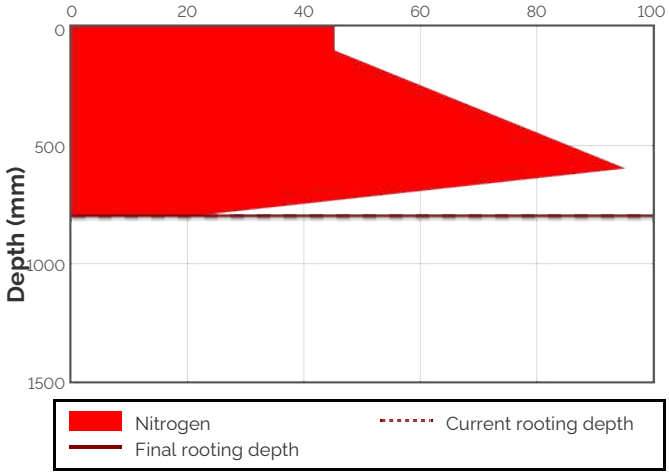


Nitrogen Budget

Initial N status @ 24-Mar	121 kg/ha
N mineralisation since 24-Mar	12 kg/ha
N tie up since 24-Mar	3 kg/ha
N applications	
	29-Apr : 16.1 kg/ha
	16-Jun : 46 kg/ha
	8-Jul : 57.5 kg/ha
Total N in plant	29 kg/ha
De-nitrification since 24-Mar	0 kg/ha
Leaching since 24-Mar	0 kg/ha
Current N status:	**165 kg/ha**

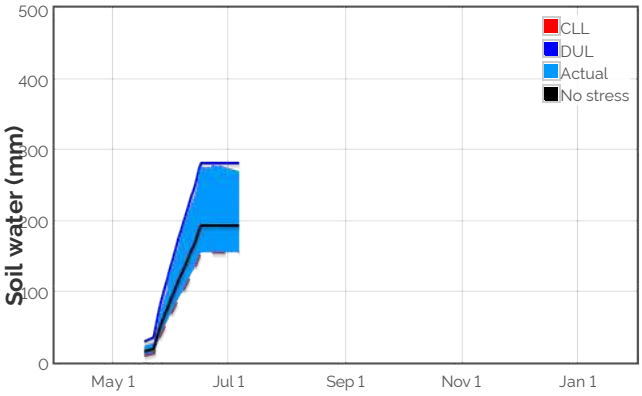
Median N mineralisation to maturity = 7.0075 kg/ha
Median N tie up to maturity = 0 kg/ha

Current distribution of soil nitrogen (kg/ha)

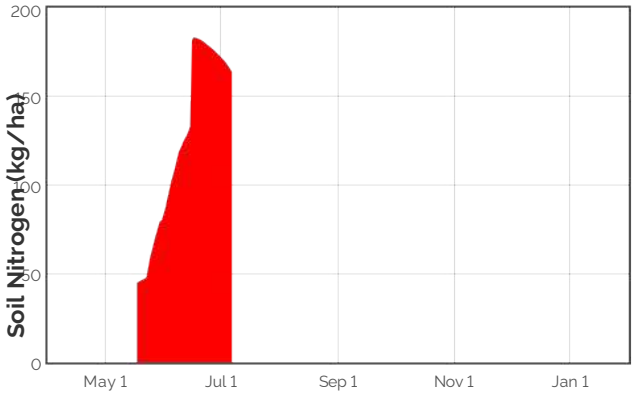


Current Crop Available N = 164 kg/ha
Total Soil N = 165 kg/ha

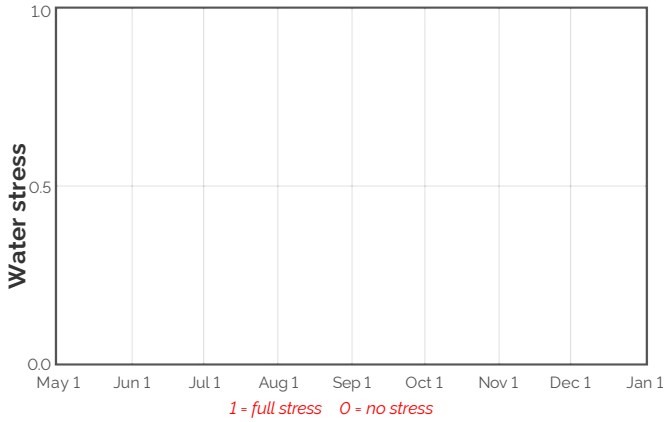
Availability of Water to Growing Roots



Availability of Soil Nitrogen to Growing Roots

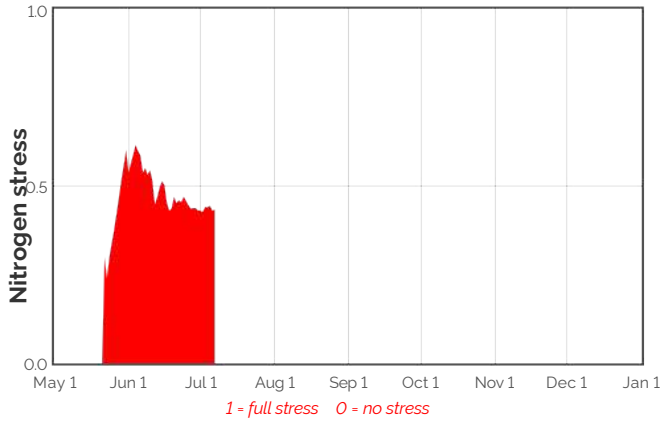


Water Stress



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-Jul	16.0	0.3	0.3	1.6	75.2	113.0	217.2	0.1	0.0
10-Jul	16.0	0.3	0.3	1.6	74.6	112.4	215.6	0.1	0.0
11-Jul	16.0	0.3	0.3	1.6	74.1	111.9	214.2	0.1	0.0
12-Jul	16.0	0.3	0.3	1.6	73.5	111.3	212.8	0.1	0.0
13-Jul	16.0	0.2	0.3	1.6	72.9	110.7	211.3	0.2	0.0
14-Jul	16.0	0.2	0.4	1.8	72.4	110.2	209.8	0.1	0.0
15-Jul	16.0	0.2	0.4	1.8	71.8	109.6	208.0	0.2	0.0
16-Jul	16.0	0.2	0.4	1.9	71.2	109.0	206.2	0.2	0.0
17-Jul	16.0	0.2	0.5	2.1	70.5	108.3	204.1	0.2	0.0
18-Jul	16.0	0.2	0.5	2.2	69.8	107.6	202.4	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.

Bureau of Meteorology Seasonal and Monthly Outlooks