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YIELD PROPHET

Crop Report

26-Jul-2023

Andrew H Ware: Cockaleechie

Crop: Canola

Cultivar: Variety44Y90

Sowing details: 25 plants/m^2 on 2-May

Expected maturity date: 1-Oct

Paddock Details

Initial conditions date: 2-Apr

Soil: Clay Loam over Loamy Medium Clay (Yeelanna No590)
1400 mm max rooting depth

Stubble: 7000 kg/ha of Wheat
No till

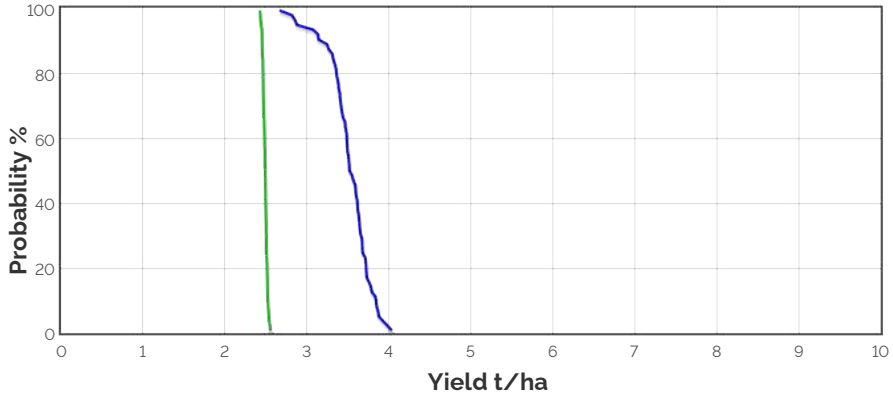
Grain Yield Outcome

☑ Nitrogen limited Yield

☐ Nitrogen limited Yield with Frost and heat Effects

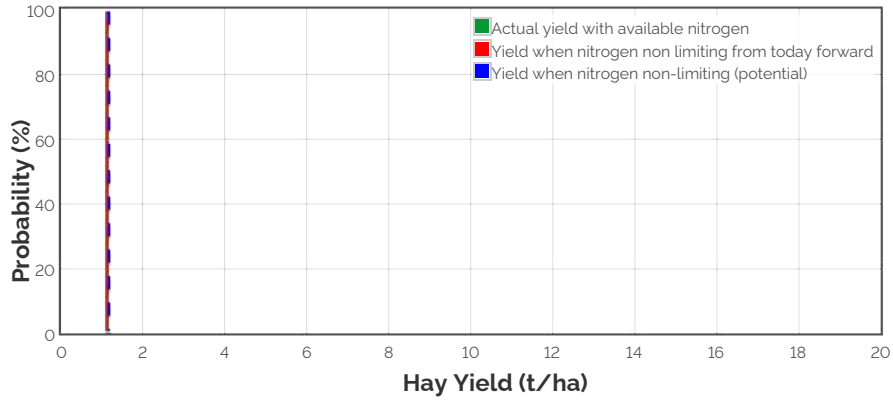
☑ Water limited Yield

☐ 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.

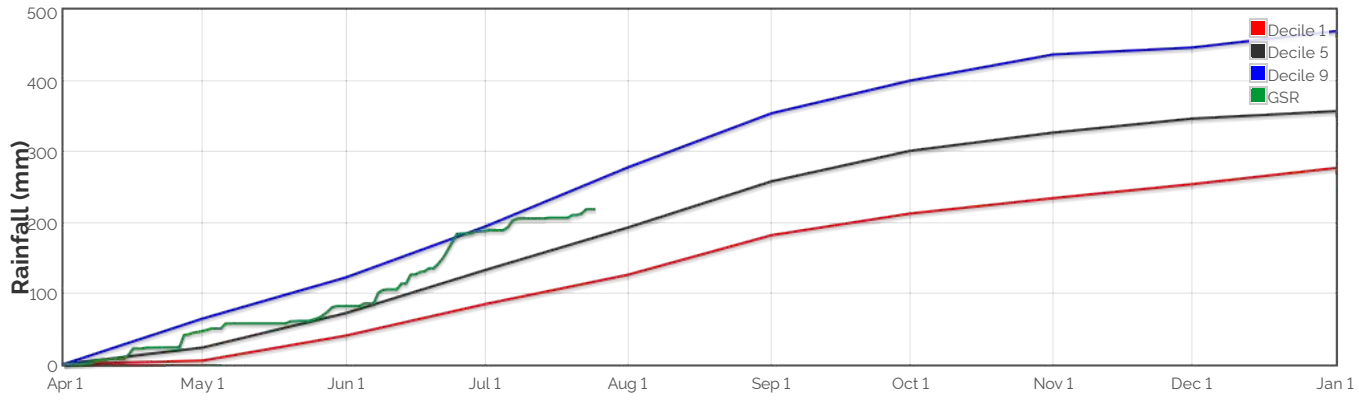
Hay Yield Outcome



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: 3225.4kg/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	4-May	5-May	22-May	20-Jun	12-Jul	29-Jul	20-Sep
Median	4-May	5-May	22-May	20-Jun	12-Jul	31-Jul	27-Sep
Latest	4-May	5-May	22-May	20-Jun	12-Jul	1-Aug	3-Oct

Probability and Incidence of Frost and Heat Shock

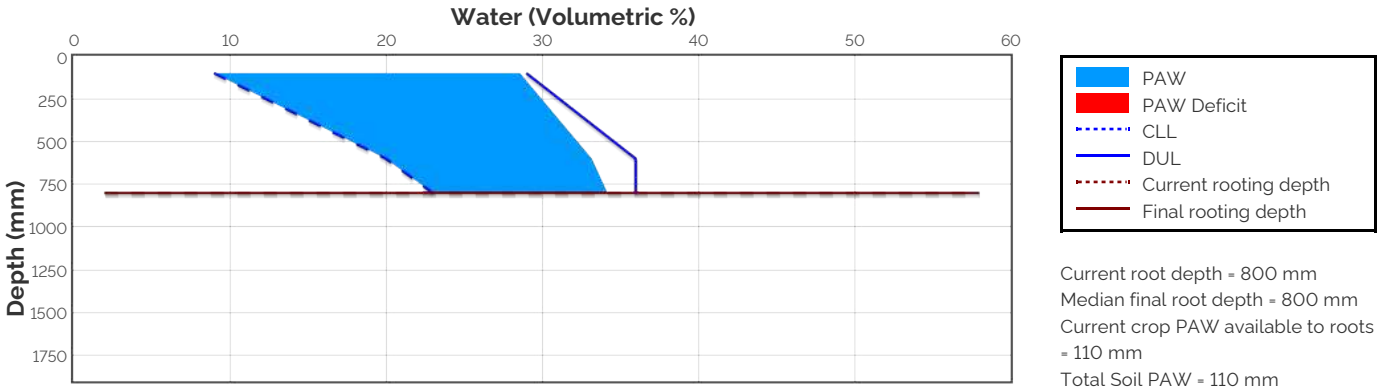
Frost damage during flowering

	Probability	This Season
mild 2 to 0°C during flowering	32%	0
moderate 0 to -2°C during flowering & early grain fill	2%	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	1%	0
moderate 34 to 36°C	0%	0
severe Above 36°C	0%	0

Current Distribution of PAW



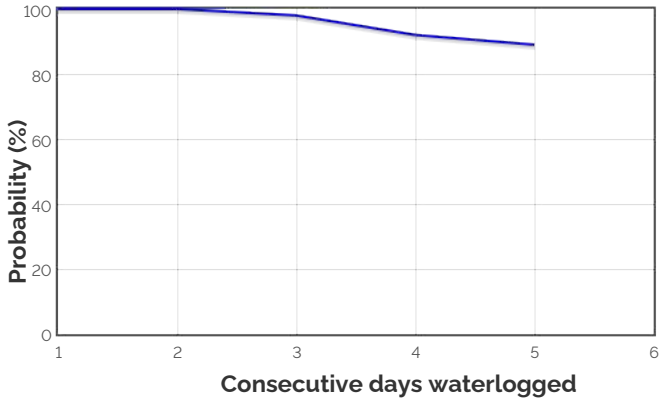
Current root depth = 800 mm
Median final root depth = 800 mm
Current crop PAW available to roots = 110 mm
Total Soil PAW = 110 mm
PAWC = 126 mm

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 @ 2-Apr	92 mm
Rainfall since 2-Apr	219.1 mm
Irrigations	
Evaporation since 2-Apr	89 mm
Transpiration since 2-Apr	39 mm
Deep drainage since 2-Apr	73 mm
Run-off since 2-Apr	0 mm
Current PAW status:	**110 mm**

Probability of Future Waterlogging Events

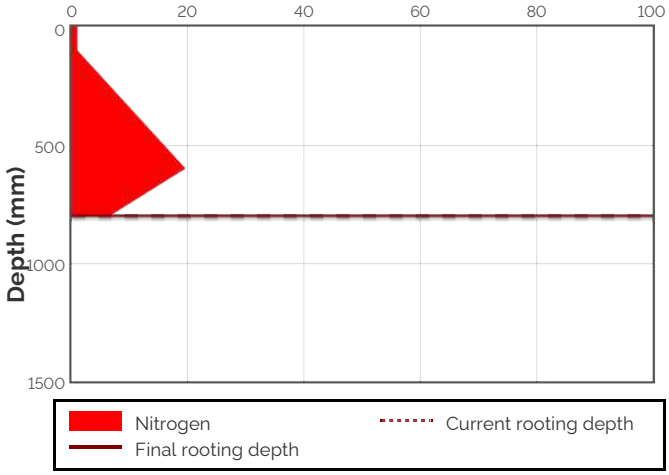


Nitrogen Budget

Initial N status @ 2-Apr	69 kg/ha
N mineralisation since 2-Apr	2 kg/ha
N tie up since 2-Apr	50 kg/ha
N applications	
	2-May : 22 kg/ha
	24-May : 50.6 kg/ha
	20-Jun : 55.6 kg/ha
	26-Jun : 53 kg/ha
Total N in plant	144 kg/ha
De-nitrification since 2-Apr	4 kg/ha
Leaching since 2-Apr	19 kg/ha
Current N status:	**35 kg/ha**

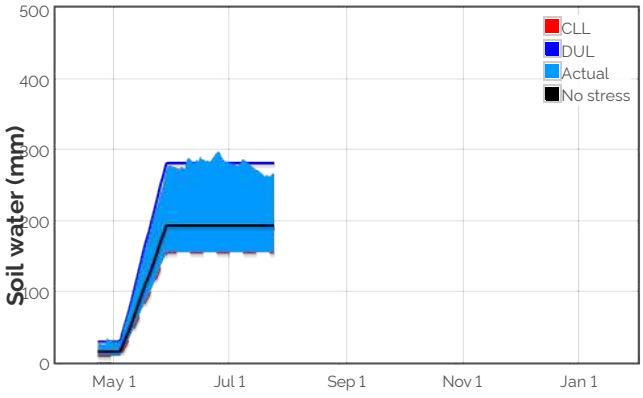
Median N mineralisation to maturity = 3.907 kg/ha
Median N tie up to maturity = 0.544 kg/ha

Current distribution of soil nitrogen (kg/ha)

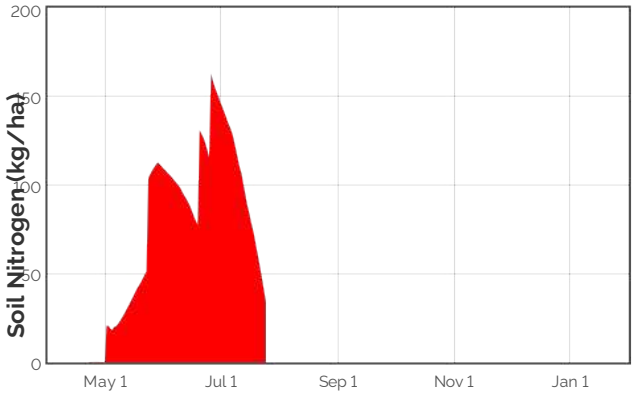


Current Crop Available N = 34 kg/ha
Total Soil N = 35 kg/ha

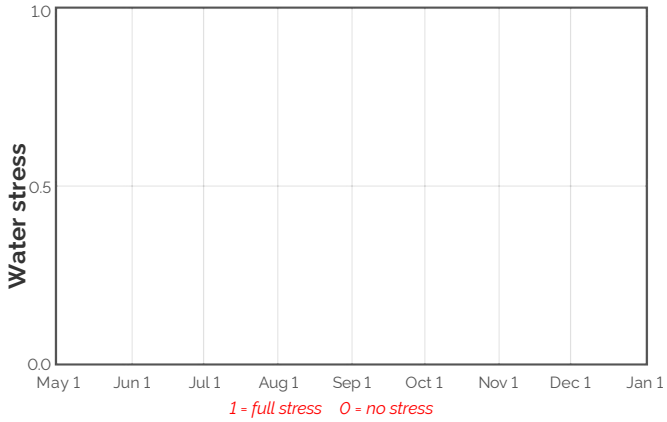
Availability of Water to Growing Roots



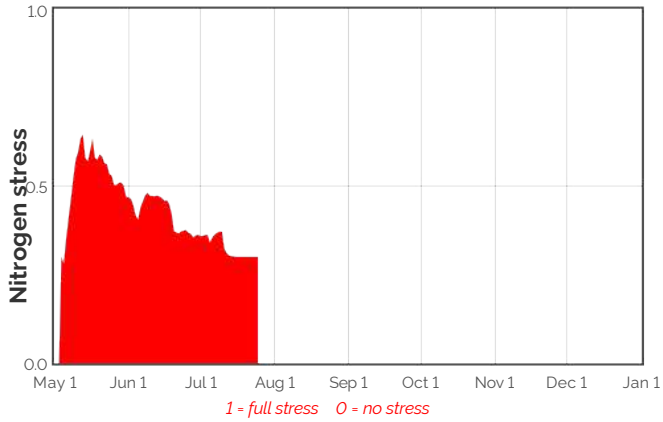
Availability of Soil Nitrogen to Growing Roots



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)
27-Jul	16.0	0.3	1.3	4.1	67.8	105.6	17.3	0.0	0.2
28-Jul	16.0	0.3	1.3	3.3	66.3	104.1	14.1	0.1	0.0
29-Jul	16.0	0.3	1.3	2.7	64.5	102.3	11.5	0.1	0.0
30-Jul	16.0	0.3	1.4	2.2	62.6	100.4	9.5	0.1	0.0
31-Jul	16.0	0.3	1.3	1.7	61.0	98.8	7.8	0.1	0.0
1-Aug	16.0	0.3	1.3	1.4	58.8	96.6	6.5	0.1	0.0
2-Aug	16.0	0.3	1.5	1.2	57.2	95.0	5.4	0.1	0.0
3-Aug	16.0	0.3	1.4	1.0	55.8	93.6	4.5	0.1	0.0
4-Aug	16.0	0.3	1.4	0.8	53.8	91.6	3.7	0.1	0.0
5-Aug	16.0	0.3	1.3	0.7	52.4	90.2	3.1	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