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Crop Report

21-Jul-2022

Resilient EP Soil Moisture Probe Network: Pt Kenny

Crop: Wheat

Cultivar: Scepter

Sowing details: 160 plants/m^2 on 28-Apr

Expected maturity date: 9-Oct

Paddock Details

Initial conditions date: 15-Mar

Soil: Grey calcareous sandy clay loam (Port Kenny No322)
600 mm max rooting depth

Stubble: 100 kg/ha of Medic
No till

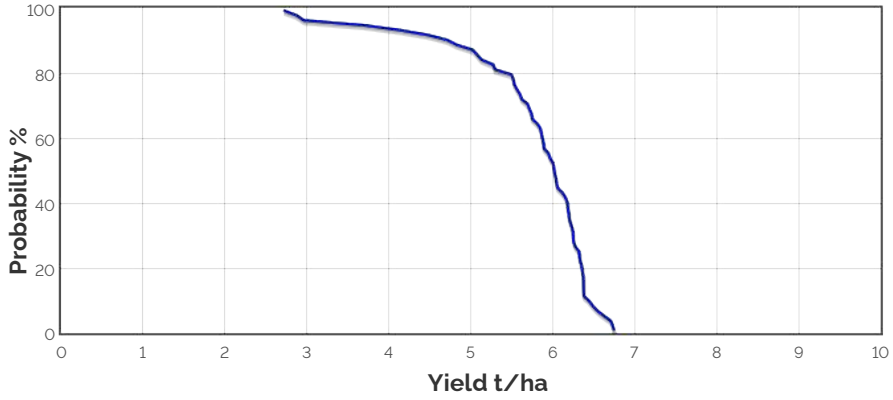
Grain Yield Outcome

☑ Nitrogen limited Yield

☐ Nitrogen limited Yield with Frost and heat Effects

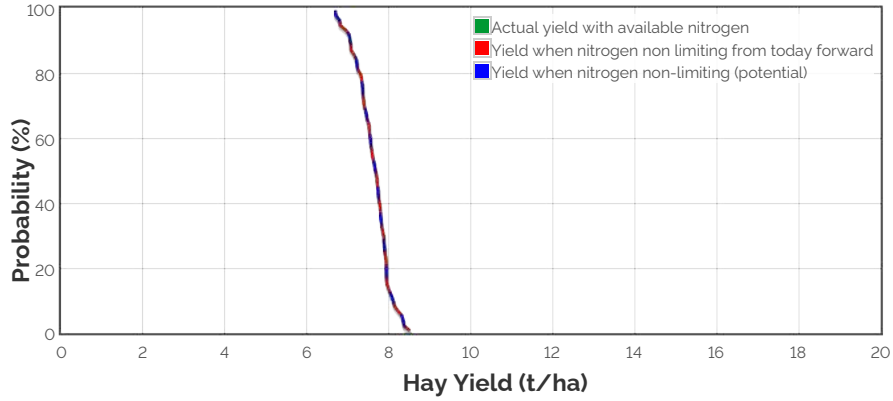
☑ Water limited Yield

☐ 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.

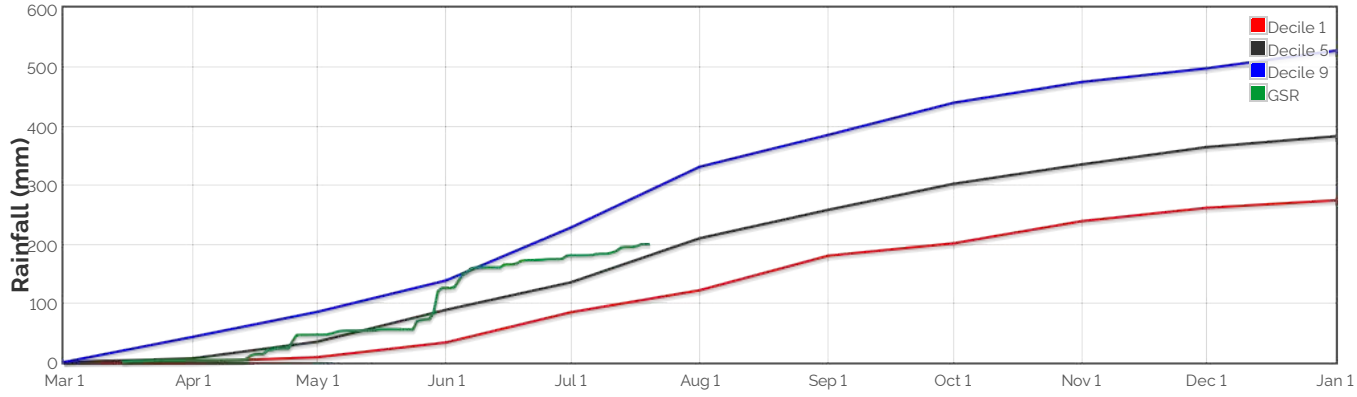
Hay Yield Outcome



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: 5357.7kg/ha

The Season So Far - Growing Season Rainfall Deciles



Simulated and Predicted Crop Growth Stage

	GS11	GS12	GS13	GS14	GS15	GS16
	emergence	2nd leaf	3rd leaf 1st tiller	4th leaf early tillering	5th leaf mid tillering	6th leaf late tillering
Predicted						
Earliest	7-May	17-May	24-May	31-May	7-Jun	15-Jun
Median	7-May	17-May	24-May	31-May	7-Jun	15-Jun
Latest	7-May	17-May	24-May	31-May	7-Jun	15-Jun

	GS30	GS31	GS32	GS37	GS39	GS45	GS55	GS65	GS75
	end of tillering	1st node	2nd node	flag leaf	flag leaf fully emerged	mid booting	mid head emergence	mid flowering	mid dough fill
Predicted									
Earliest	27-Jun	1-Jul	6-Jul	18-Jul	22-Jul	29-Jul	8-Aug	18-Aug	5-Sep
Median	27-Jun	1-Jul	6-Jul	18-Jul	23-Jul	31-Jul	11-Aug	22-Aug	10-Sep
Latest	27-Jun	1-Jul	6-Jul	18-Jul	23-Jul	2-Aug	15-Aug	27-Aug	17-Sep

Probability and Incidence of Frost and Heat Shock

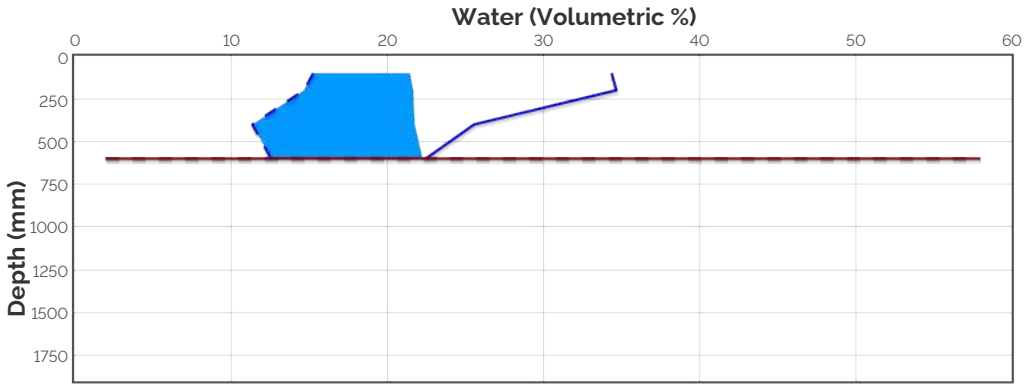
Frost damage during flowering

	Probability	This Season
mild 2 to 0°C during flowering	10%	0
moderate 0 to -2°C during flowering & early grain fill	0%	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	4%	0
moderate 34 to 36°C	0%	0
severe Above 36°C	0%	0

Current Distribution of PAW



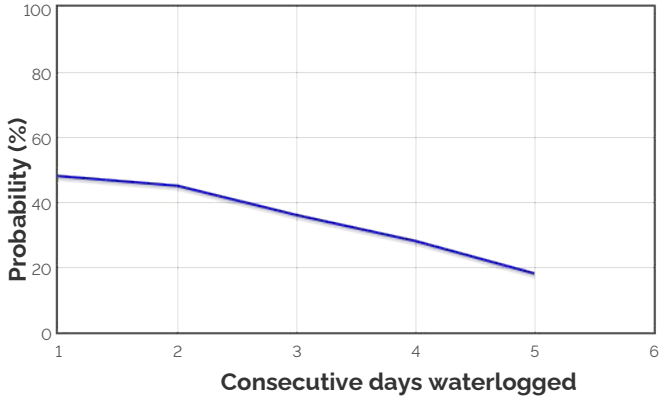
Current root depth = 600 mm
Median final root depth = 600 mm
Current crop PAW available to roots = 56 mm
Total Soil PAW = 56 mm
PAWC = 87 mm

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 @ 15-Mar	49 mm
Rainfall since 15-Mar	200 mm
Irrigations	
Evaporation since 15-Mar	94 mm
Transpiration since 15-Mar	56 mm
Deep drainage since 15-Mar	40 mm
Run-off since 15-Mar	5 mm
Current PAW status:	**56 mm**

Probability of Future Waterlogging Events

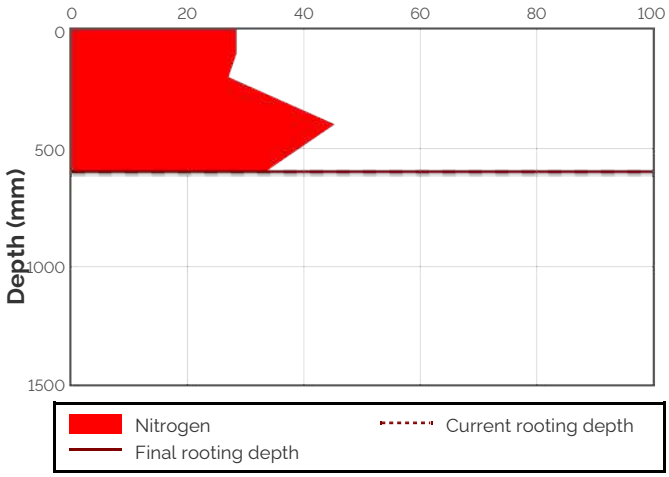


Nitrogen Budget

Initial N status @ 15-Mar	269 kg/ha
N mineralisation since 15-Mar	15 kg/ha
N tie up since 15-Mar	2 kg/ha
N applications	
	28-Apr : 8 kg/ha
	14-Jun : 27.6 kg/ha
	8-Jul : 23 kg/ha
Total N in plant	158 kg/ha
De-nitrification since 15-Mar	3 kg/ha
Leaching since 15-Mar	41 kg/ha
Current N status:	**138 kg/ha**

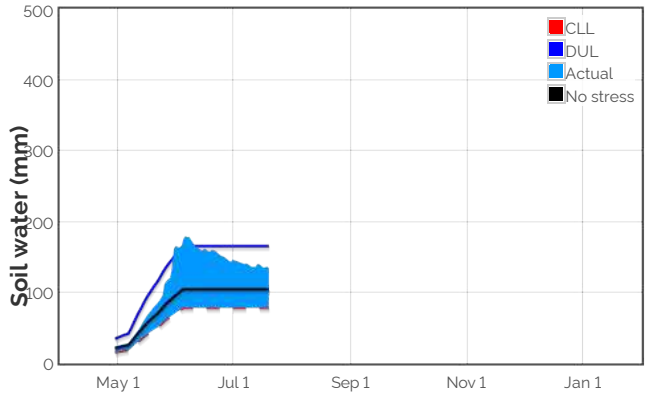
Median N mineralisation to maturity = 2.458 kg/ha
Median N tie up to maturity = 0 kg/ha

Current distribution of soil nitrogen (kg/ha)

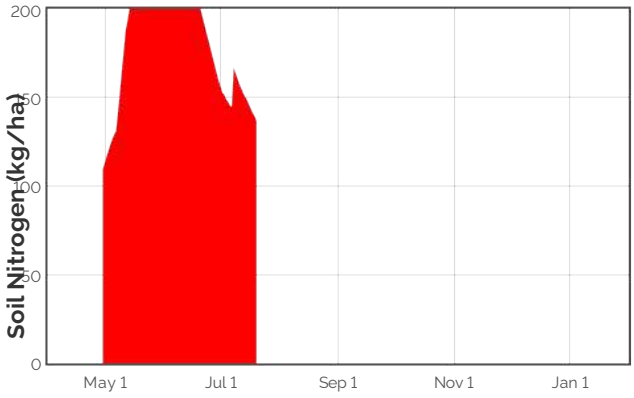


Current Crop Available N = 137 kg/ha
Total Soil N = 138 kg/ha

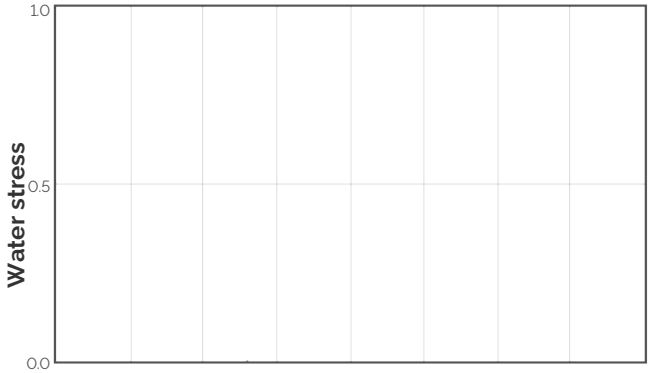
Availability of Water to Growing Roots



Availability of Soil Nitrogen to Growing Roots

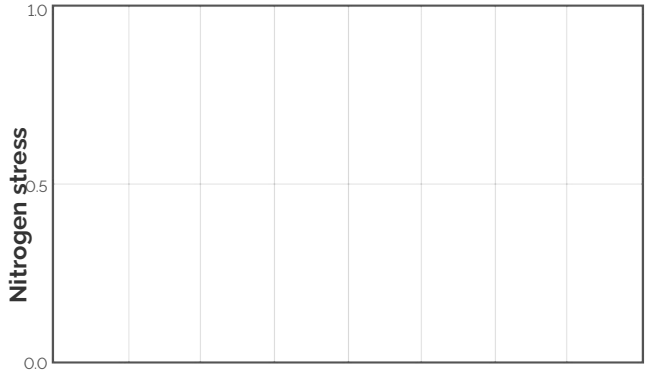


Water Stress



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)
22-Jul	39.2	0.3	1.3	1.5	24.6	50.8	131.4	0.1	0.0
23-Jul	39.7	0.4	1.2	1.4	23.2	49.3	130.0	0.1	0.0
24-Jul	40.2	0.4	1.2	1.3	21.4	47.6	128.6	0.1	0.0
25-Jul	41.0	0.4	1.1	1.3	20.0	46.2	127.6	0.1	0.0
26-Jul	41.9	0.4	1.1	1.1	18.6	44.8	126.8	0.1	0.0
27-Jul	42.8	0.4	1.2	0.7	17.1	43.3	126.0	0.1	0.0
28-Jul	43.7	0.4	1.1	0.8	15.8	42.0	125.2	0.0	0.0
29-Jul	44.6	0.4	1.2	0.9	14.4	40.5	124.5	0.0	0.0
30-Jul	45.4	0.4	1.2	0.6	12.8	39.0	123.5	0.0	0.0
31-Jul	46.3	0.4	1.2	0.7	11.2	37.4	122.8	0.0	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