



Crop Report

24-Jul-2017

UpperNorthFS: Kuerschner

Crop: Wheat Cultivar: Mace

Sowing details: 150 plants/m² on 25-Apr Expected maturity date: 4-Nov

Paddock Details

Initial conditions date: 23-May

Loam over clay loam over sandy clay

loam (Morchard Hill No604)

700 mm max rooting depth Stubble: 1000 kg/ha of Medic

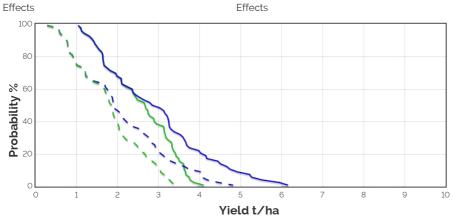
No till

Grain Yield Outcome

Nitrogen limited YieldNitrogen limited Yield with Frost and heat

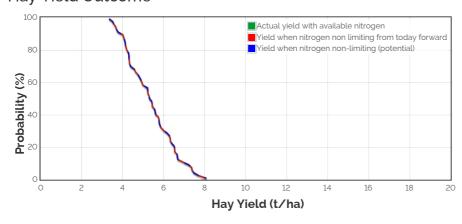
☑Water limited Yield

☑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.

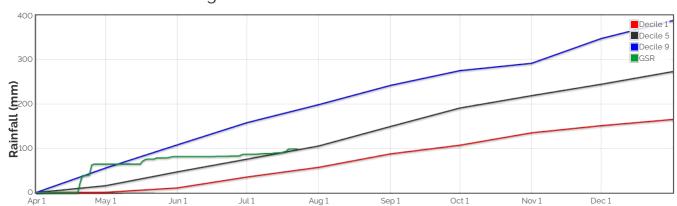
Hay Yield Outcome



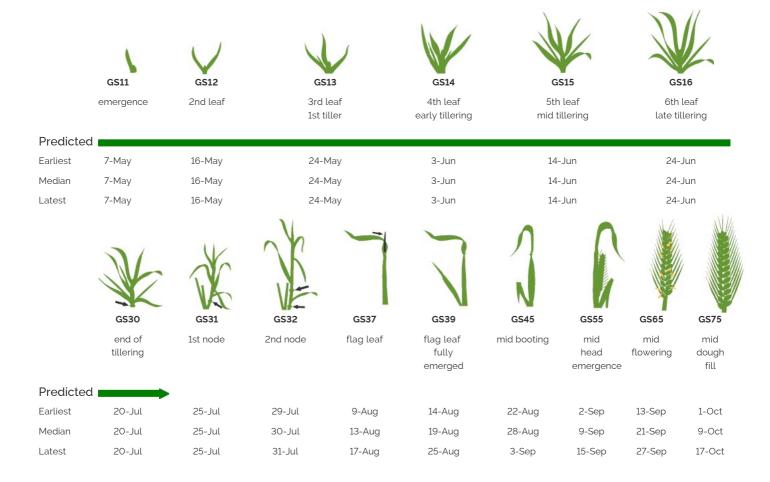
This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 2863.4kg/ha

The Season So Far - Growing Season Rainfall Deciles



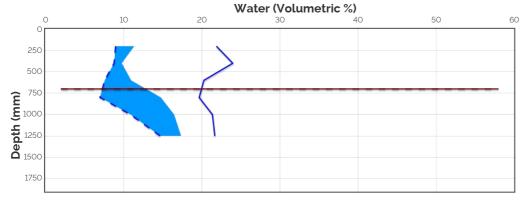
Simulated and Predicted Crop Growth Stage



Probability and Incidence of Frost and Heat Shock

Frost damage during	Heat damage during grain fill				
Severity Probability	This Season		Severity	Probability	This Season
mild 2 to 0°C 83%	0		mild 32 to 34°C	36%	0
during flowering			moderate 34 to 36°C	9%	0
moderate 0 to -2°C during flowering & early grain fill	0		severe Above 36°C	3%	0
Severe 0% Less than -2°C during flowering & grain fill	o				

Current Distribution of PAW



PAW
PAW Deficit
CLL
DUL
Current rooting depth
Final rooting depth

Current root depth = 700 mm Median final root depth = 700 mm Current crop PAW available to roots = 22 mm Total Soil PAW = 48 mm

PAWC = 146 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

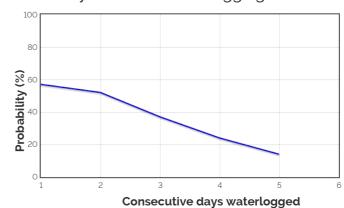
Water Budget

Initial PAW status @ 23-May Rainfall since 23-May Irrigations Evaporation since 23-May Transpiration since 23-May Deep drainage since 23-May Run-off since 23-May

Current PAW status:

81 mm 20.5 mm 18 mm 36 mm 0 mm 0 mm

Probability of Future Waterlogging Events



Nitrogen Budget

Initial N status @ 23-May N mineralisation since 23-May N tie up since 23-May N applications

Total N in plant De-nitrification since 23-May Leaching

Current N status:

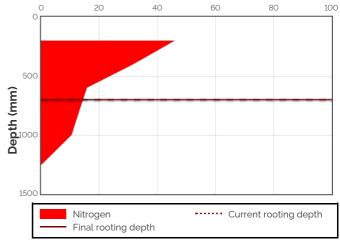
Median N mineralisation to maturity = 0 kg/ha Median N tie up to maturity = 6.353 kg/ha

135 kg/ha O kg/ha 3 kg/ha

25-May : 11.5 kg/ha 92 kg/ha 0 kg/ha 0 kg/ha

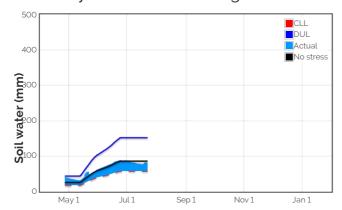
57 kg/ha

Current distribution of soil nitrogen (kg/ha)



Current Crop Available N = 43 kg/ha Total Soil N = 57 kg/ha

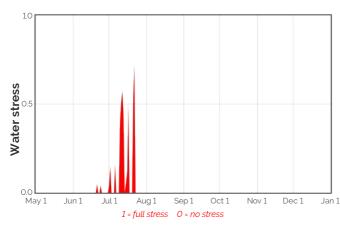
Availability of Water to Growing Roots



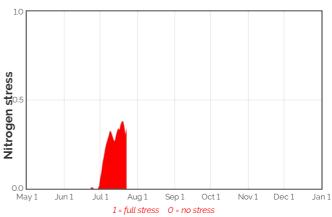
Availability of Soil Nitrogen to Growing Roots



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	Evap.	Water	N use	Water avail. to roots	Water avail. to roots	N avail.	MineralisationN tie up	
	Stage	(mm)	use	(kg/ha)	above stress threshold	above CLL (mm)	to roots	(kg/ha)	(kg/ha)
			(mm)		(mm)		(kg/ha)		
24-Jul	31.2	0.3	0.8	0.7	-7.8	20.5	41.9	0.0	0.1
25-Jul	31.4	0.2	0.7	0.6	-8.5	19.8	41.3	0.0	0.1
26-Jul	31.7	0.2	0.7	0.5	-9.0	19.2	40.7	0.0	0.1
27-Jul	31.9	0.2	0.7	0.5	-9.7	18.6	40.2	0.0	0.1
28-Jul	32.0	0.2	0.6	0.4	-10.3	18.0	39.8	0.0	0.1
29-Jul	32.4	0.2	0.6	0.4	-10.9	17.4	39.4	0.0	0.1
30-Jul	32.8	0.2	0.6	0.3	-11.4	16.9	39.0	0.0	0.1
31-Jul	33.1	0.2	0.5	0.3	-11.9	16.4	38.6	0.0	0.1
1-Aug	33.4	0.2	0.5	0.3	-12.4	15.9	38.3	0.0	0.1
2-Aug	33.7	0.2	0.5	0.3	-12.8	15.4	38.1	0.0	0.1

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

