

Crop Report

1-Sep-2017

UpperNorthFS: Barrie

Crop: Wheat Cultivar: Katana

Sowing details: 155 plants/m² on 23-May Expected maturity date: 21-Nov

Paddock Details

Initial conditions date: 23-May

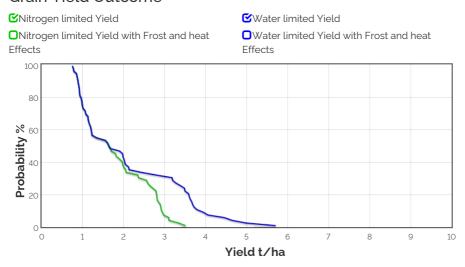
Soil: Sandy Clay Loam over Light and Medium Clay (Morchard Hill No604-YP)

800 mm max rooting depth

Stubble: 500 kg/ha of Wheat

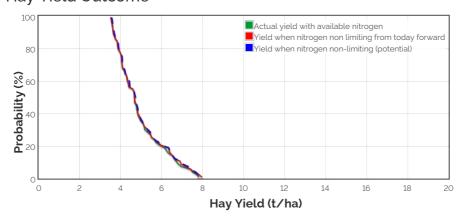
No till

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 year of the climate record. The yield results are used to produce this graph.

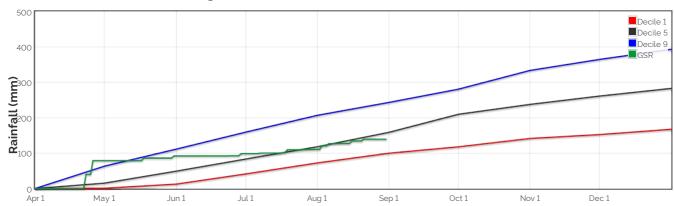
Hay Yield Outcome



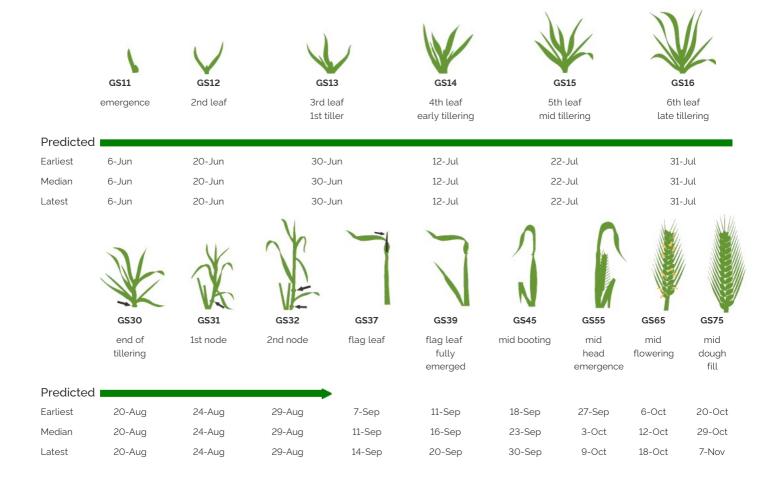
This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 3727kg/ha

The Season So Far - Growing Season Rainfall Deciles



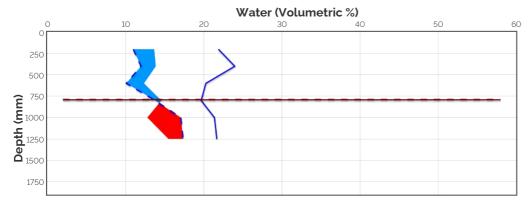
Simulated and Predicted Crop Growth Stage



Probability and Incidence of Frost and Heat Shock

Frost dama	ige during fl	owering	Heat dam	Heat damage during grain fill			
Severity Pr	robability	This Season	Severity	Probability	This Season		
mild 2 to 0°C	22%	0	mild 32 to 34°C	55%	0		
during flowering			moderate 34 to 36°C	34%	0		
moderate 0 to -2°C during flowering & early grain fill	0%	0	Severe Above 36°C	22%	0		
Severe Less than -2°C during flowering & grain fill	0%	0					

Current Distribution of PAW



PAW PAW Deficit CLL DUL Current rooting depth Final rooting depth

Current root depth = 788 mm Median final root depth = 792 mm Current crop PAW available to roots = 17 mm Total Soil PAW = 17 mm PAWC = 97 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

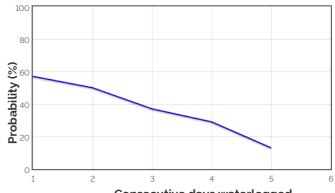
Water Budget

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:

66 mm 53.1 mm 47 mm 49 mm 0 mm 0 mm 17 mm

Probability of Future Waterlogging Events



Consecutive days waterlogged

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 since 23-May

Current N status:

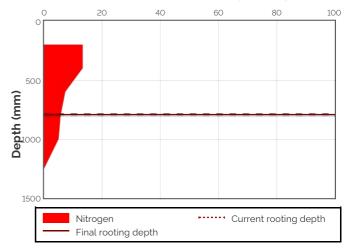
Median N mineralisation to maturity = 0.017 kg/ha Median N tie up to maturity = 1.595 kg/ha

62 kg/ha 1 kg/ha 2 kg/ha

24-May: 25 kg/ha 2-Aug : 37 kg/ha 89 kg/ha 0 kg/ha 0 kg/ha

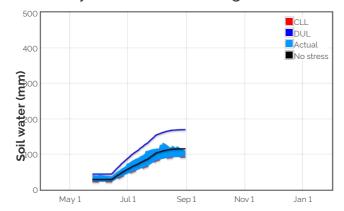
34 kg/ha

Current distribution of soil nitrogen (kg/ha)

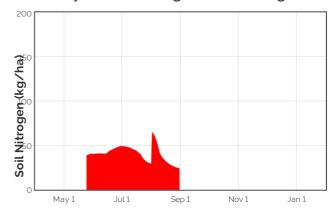


Current Crop Available N = 24 kg/ha Total Soil N = 34 kg/ha

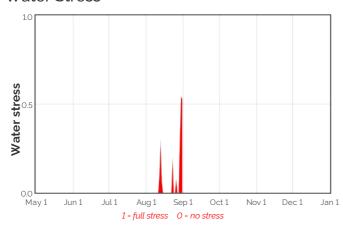
Availability of Water to Growing Roots



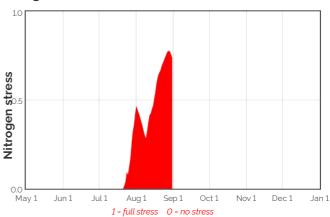
Availability of Soil Nitrogen to Growing Roots



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)		
1-Sep	33.6	0.6	0.9	0.2	-9.3	13.9	23.7	0.0	0.0
2-Sep	33.9	0.6	0.8	0.2	-10.6	12.6	23.6	0.0	0.0
3-Sep	34.3	0.6	0.7	0.1	-11.9	11.3	23.4	0.0	0.0
4-Sep	34.7	0.6	0.6	0.1	-13.0	10.2	23.2	0.0	0.0
5-Sep	35.1	0.6	0.5	0.1	-14.2	9.0	23.1	0.0	0.0
6-Sep	35.5	0.6	0.5	0.1	-15.3	8.0	23.0	0.0	0.0
7-Sep	36.0	0.5	0.4	0.1	-16.3	6.9	22.9	0.0	0.0
8-Sep	36.3	0.3	0.4	0.1	-17.O	6.2	22.8	0.0	0.0
9-Sep	36.8	0.3	0.3	0.1	-17.7	5.6	22.7	0.0	0.0
10-Sep	37.2	0.3	0.3	0.1	-18.3	5.0	22.7	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

