



Crop Report

10-Jul-2017

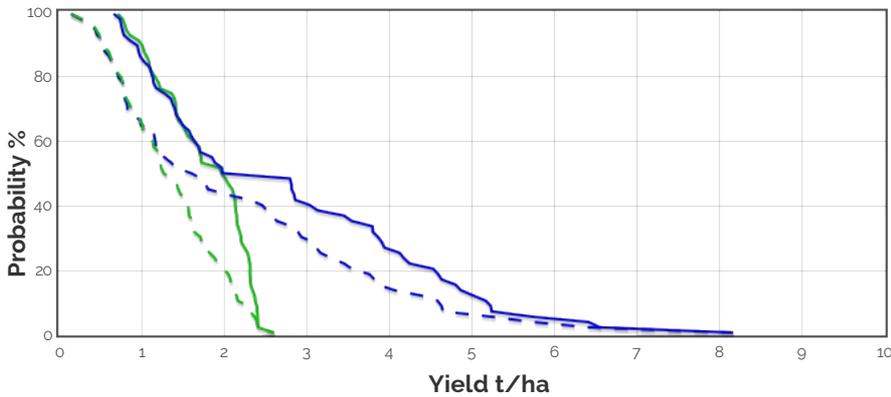
UpperNorthFS: Barrie

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 (Morchar Hill No604-YP)
 800 mm max rooting depth
 Stubble: 500 kg/ha of Wheat
 No till

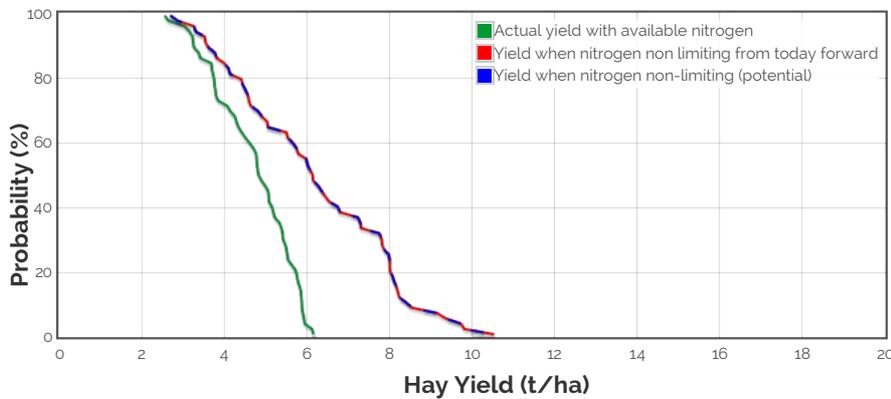
Grain Yield Outcome

- 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.

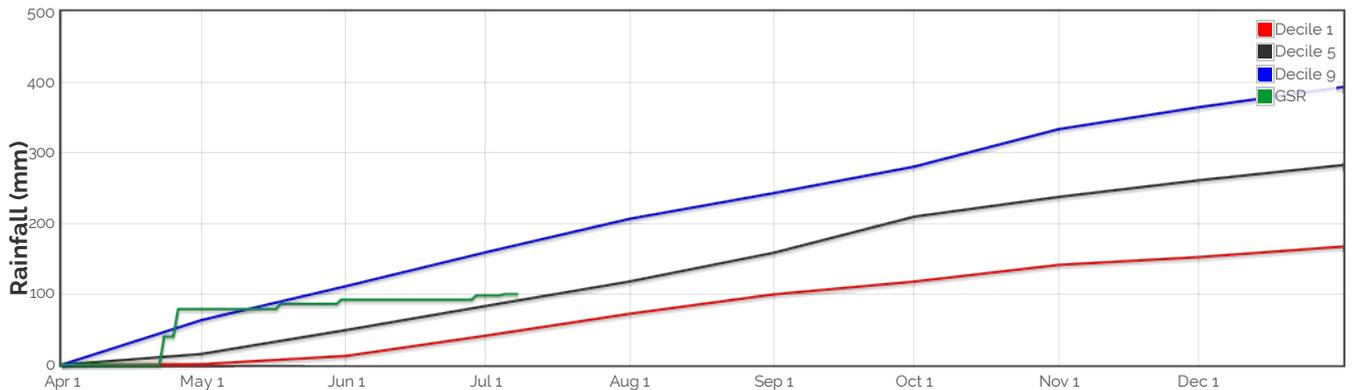
Hay Yield Outcome



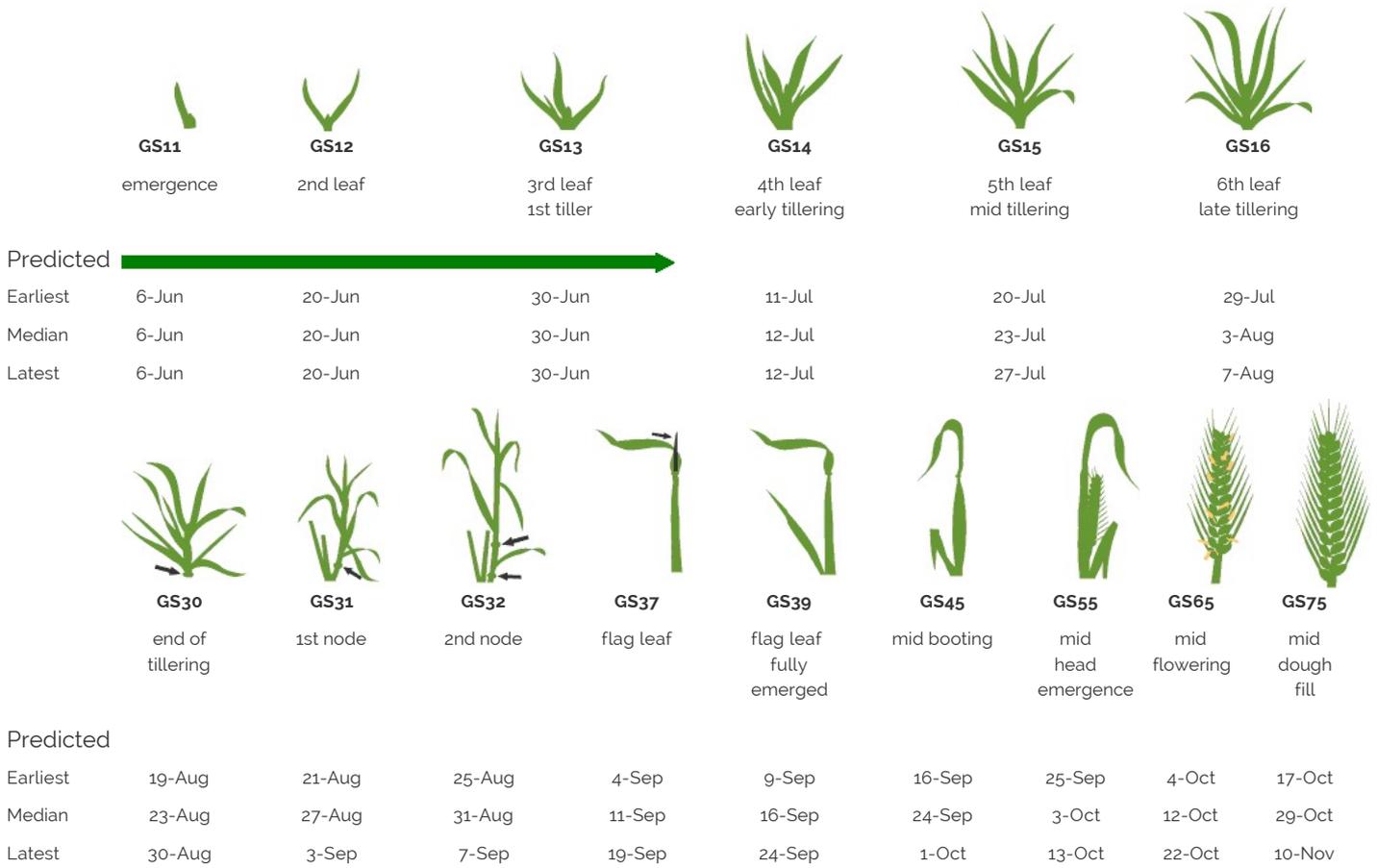
This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is 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: 221.2kg/ha

The Season So Far - Growing Season Rainfall Deciles



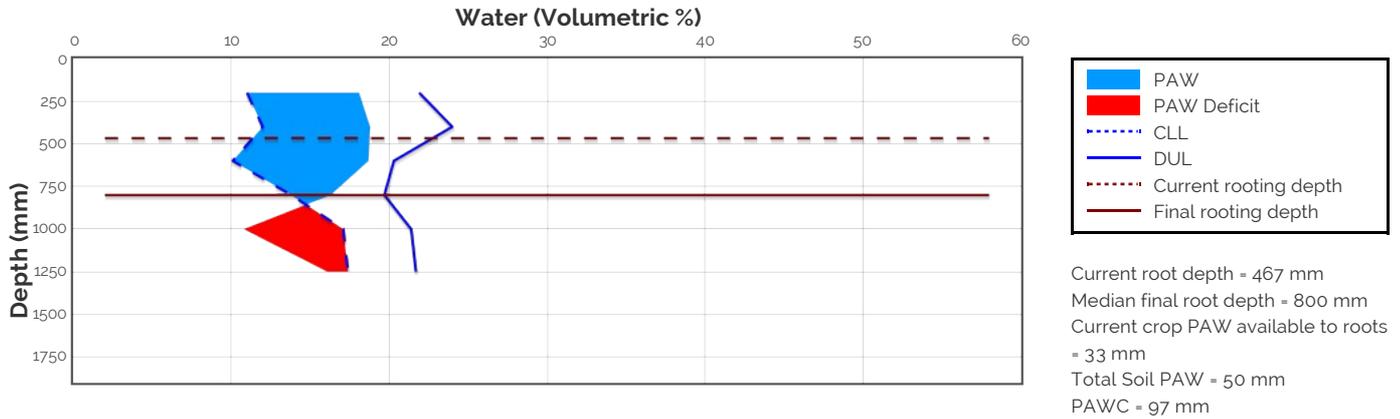
Simulated and Predicted Crop Growth Stage



Probability and Incidence of Frost and Heat Shock

Frost damage during flowering				Heat damage during grain fill			
Severity	Probability	This Season		Severity	Probability	This Season	
mild 2 to 0°C during flowering	 21%	0		mild 32 to 34°C	 52%	0	
moderate 0 to -2°C during flowering & early grain fill	0%	0		moderate 34 to 36°C	 32%	0	
severe Less than -2°C during flowering & grain fill	0%	0		severe Above 36°C	 19%	0	

Current Distribution of PAW



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

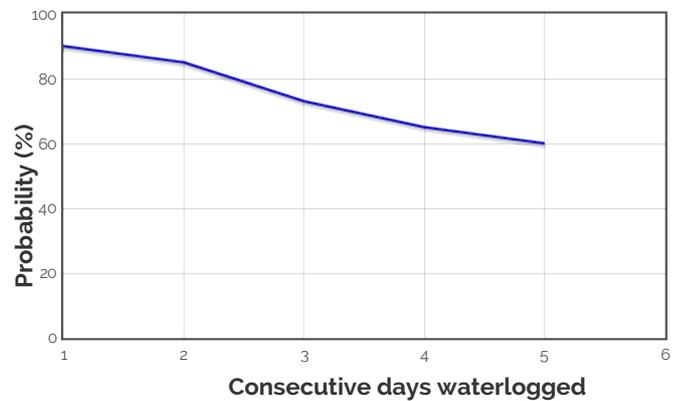
Water Budget

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

66 mm
 100.2 mm
 55 mm
 3 mm
 0 mm
 15 mm
50 mm

Current PAW status:

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

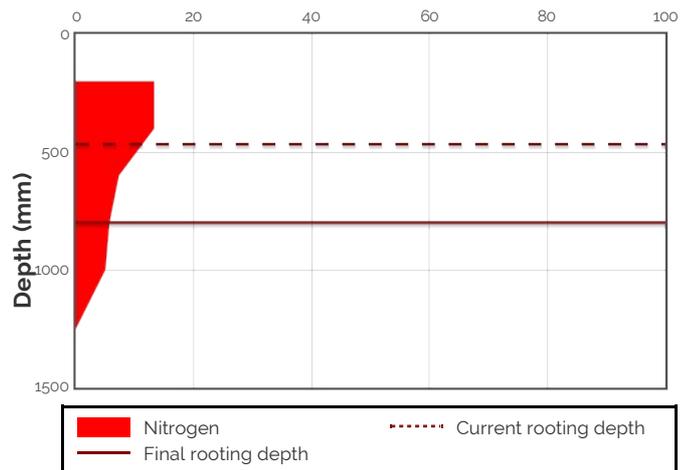
62 kg/ha
 3 kg/ha
 2 kg/ha
 24-May : 25 kg/ha
 14 kg/ha
 0 kg/ha
 0 kg/ha
74 kg/ha

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

Current N status:

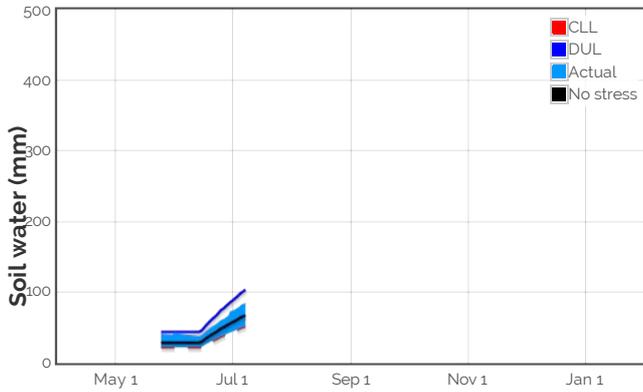
Median N mineralisation to maturity = 0.593 kg/ha
 Median N tie up to maturity = 1.59 kg/ha

Current distribution of soil nitrogen (kg/ha)

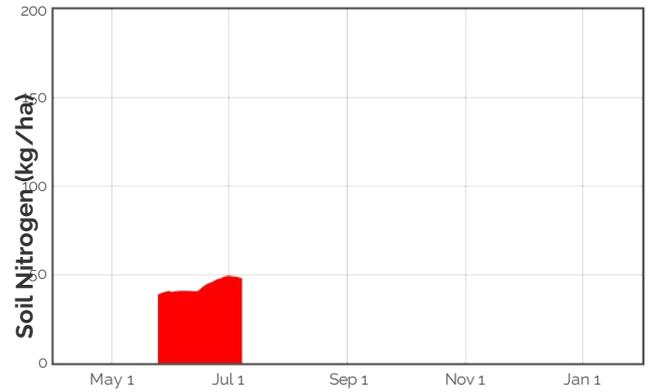


Current Crop Available N = 48 kg/ha
 Total Soil N = 74 kg/ha

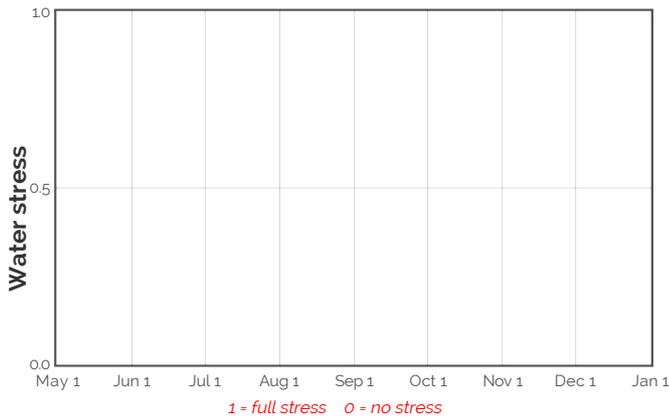
Availability of Water to Growing Roots



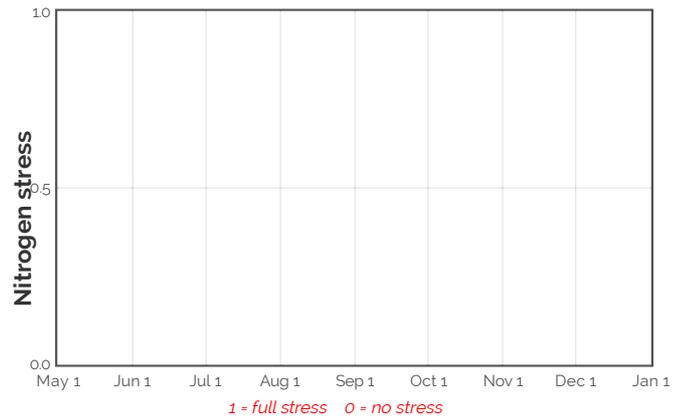
Availability of Soil Nitrogen to Growing Roots



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)
10-Jul	14.0	0.2	0.2	1.0	18.0	34.4	46.9	0.0	0.0
11-Jul	14.1	0.2	0.1	1.0	18.1	34.8	46.4	0.0	0.0
12-Jul	14.2	0.2	0.1	1.0	18.2	35.2	46.0	0.0	0.0
13-Jul	14.3	0.2	0.2	1.1	18.3	35.7	45.3	0.0	0.0
14-Jul	14.4	0.2	0.1	1.1	18.4	36.0	44.8	0.0	0.0
15-Jul	14.4	0.2	0.2	1.2	18.5	36.3	44.2	0.0	0.0
16-Jul	14.5	0.2	0.2	1.4	18.6	36.7	43.1	0.0	0.0
17-Jul	14.6	0.2	0.2	1.6	18.6	37.1	42.1	0.0	0.0
18-Jul	14.7	0.2	0.2	1.4	18.6	37.4	41.1	0.0	0.0
19-Jul	14.8	0.2	0.2	1.5	18.7	37.7	40.5	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

