Hart Beat

Hart Field-Site Group Inc
www.hartfieldsite.org.au

26th July 2012 Issue 18

NEW TRIALS AT HART IN 2012

- Canola agronomy:
  comparing the performance of commercially produced seed with farmer retained seed, and seed treatments.
- Ryegrass control in canola:
  investigating pre and post emergent herbicides and timing with regard to weather conditions.
- In-furrow liquid additions:
  demonstrating in-furrow application technologies for broad acre cropping.
- 'Crystal Green':
  a SANTFA conducted trial in lentils demonstrating the use of a potential cropping input product derived from industrial waste.
- Carbon trial:
  a DAFF collaborative trial including Hart, BCG and other cropping systems sites to investigate long term impact on soil carbon of various treatments or farming practices.
- Barley seeding depth:
  comparison of seeding depth, seed treatment and varieties.

PLEASE NOTE: The soil moisture graphs for Hart and Tarlee were incorrect in our previous newsletter. Please disregard this information.

Diary dates:

HART FIELD DAY
Tuesday 18th September 2012

Spring Twilight Walk
Tuesday 16th October 2012
5pm start
BBQ & drinks to follow

Further details:
www.hartfieldsite.org.au

Durum variety response to nitrogen fertiliser

In 2011 a trial at Hart examined durum varieties against nitrogen rate and timing, aiming to achieve 13% protein and to minimise downgrading.

The trial included 4 varieties – Caparoi, Tjilkuri, WID803 (breeders line) and Hyperno.

All the varieties and nitrogen strategies produced a similar grain yield, averaging 2.70t/ha.

Caparoi had superior grain and test weights and Hyperno had the highest protein. Hyperno and WID803 tended to have lower grain weights, resulting in higher grain screenings. WID803 produced 3.5% screenings in the nil nitrogen treatment but increased by 1% with every extra 40 kg N/ha, to reach 9.8% in the highest nitrogen treatment (160 kg N/ha).

Generally, for all the varieties, increasing the nitrogen rate at GS31 (1st node) decreased grain and test weights. However, grain protein increased with extra nitrogen.

Splitting the nitrogen between 1st node (GS31) and late flowering (GS59) did not reduce the grain or test weight to the same extent.

Variety	Grain yield (t/ha)	Grain weight (mg)	Protein (%)	Test weight (kg/hL)
Caparoi	2.70	38.8	13.8	83.0
Hyperno	2.50	32.3	14.3	78.7
Tjilkuri	2.70	34.5	13.8	79.0
WID803	2.80	28.0	13.9	78.0
LSD (0.05)	0.12	0.94	0.28	0.62

Nitrogen treatment	Grain yield (t/ha)	Grain weight (mg)	Protein (%)	Test weight (kg/hL)
Nil N	2.70	36.8	10.5	82.0
40 kgN@GS31	2.70	34.0	13.2	80.3
80 kgN@GS31	2.70	32.7	14.2	79.4
120 kgN@GS31	2.60	32.1	15.0	78.5
160 kgN@GS31	2.60	31.5	15.7	78.2
60 kgN@GS31 + 40 kgN@GS59	2.70	33.5	14.3	79.4
LSD (0.05)	ns	1.0	0.38	0.84

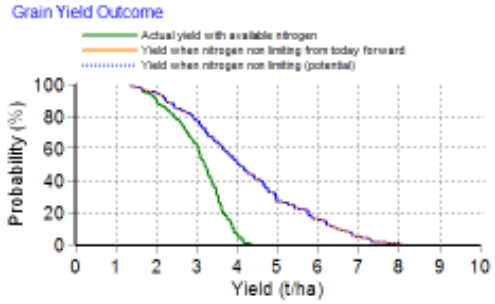
Hart

The season so far

Annual rain to date: 183mm *(27mm since last report)*
GSR to date: 105mm
GSR decile: 2.0
Current predicted PAW: 80mm

Crop growth

Variety: Gladius **Sowing date:** 30th May
Nitrogen fertiliser: 44kgN/ha



This graph shows the chance of reaching the corresponding yield given weather, soil conditions and agronomic inputs to date, and historical climate data (100yrs) to simulate remainder of the season.

Site information as of 23rd July 2012

Grain & hay yield predictions

Yield prophet estimate: (Date of report 23/07/2012)
These estimates are based on a 50% probability

Yield t/ha	Sown 30th May (see graph)	Change from last report	Sown 10th June	Change from last report
Grain	3.6	+0.1	3.3	+0.1

French & Schultz grain yield estimate:
100% WUE: 3.2t/ha, 80% WUE: 2.6/ha
This model assumes that there is 26mm stored moisture, 110mm of evaporation and decile 5 (139mm) rainfall for the rest of the season.

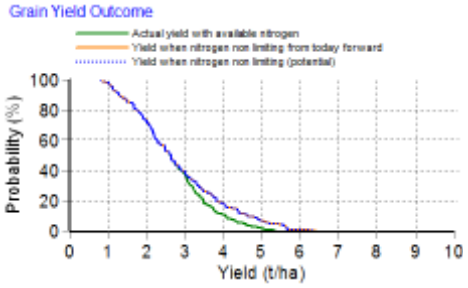
Condowie

The season so far

Annual rain to date: 196mm *(19mm since last report)*
GSR to date: 110mm
GSR decile: 4.0
Current predicted PAW: 45mm

Crop growth

Variety: Gladius **Sowing date:** 18th May
Nitrogen fertiliser: 42kgN/ha



This graph shows the chance of reaching the corresponding yield given weather, soil conditions and agronomic inputs to date, and historical climate data (100yrs) to simulate remainder of the season.

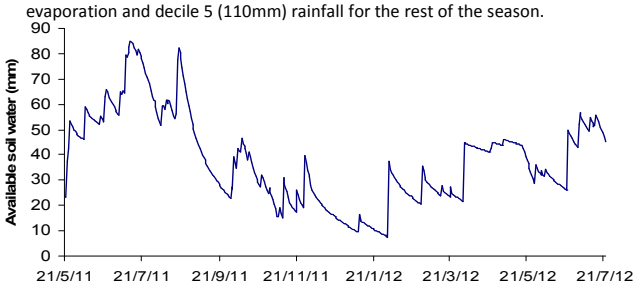
Site information as of 23rd July 2012

Grain & hay yield predictions

Yield prophet estimate: (Date of report 23/07/2012)
These estimates are based on a 50% probability

Yield t/ha	Sown 18th May (see graph)	Change from last report	Sown 5th June	Change from last report
Grain	2.6	+0.1	2.2	0.0

French & Schultz grain yield estimate:
100% WUE: 2.3t/ha, 80% WUE: 1.9/ha
This model assumes that there is 7mm stored moisture, 110mm of evaporation and decile 5 (110mm) rainfall for the rest of the season.



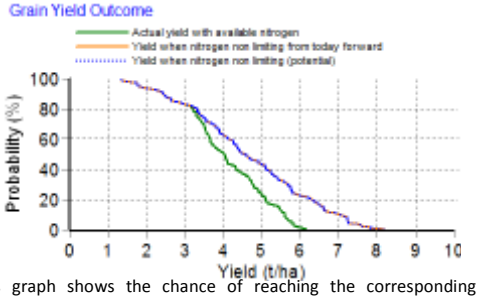
Kybunga

The season so far

Annual rain to date: 226mm *(39mm since last report)*
GSR to date: 136mm
GSR decile: 3.0
Current predicted PAW: 73mm

Crop growth

Variety: Gladius **Sowing date:** 17th May
Nitrogen fertiliser: 30kgN/ha



This graph shows the chance of reaching the corresponding yield given weather, soil conditions and agronomic inputs to date, and historical climate data (100yrs) to simulate remainder of the season.

Site information as of 23rd July 2012

Grain & hay yield predictions

Yield prophet estimate: (Date of report 23/07/2012)
These estimates are based on a 50% probability

Yield t/ha	Sown 17th May (see graph)	Change from last report	Sown 5th June	Change from last report
Grain	4.2	0.0	3.7	0.0

French & Schultz grain yield estimate:
100% WUE: 4.5t/ha, 80% WUE: 3.6/ha
This model assumes that there is 14mm stored moisture, 110mm of evaporation and decile 5 (186mm) rainfall for the rest of the season.

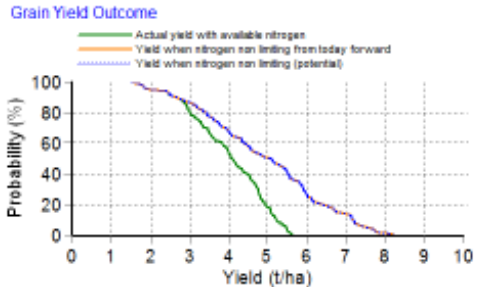
Spalding

The season so far

Annual rain to date: 209mm *(33mm since last report)*
GSR to date: 108mm
GSR decile: 2.0
Current predicted PAW: 81mm

Crop growth

Variety: Gladius **Sowing date:** 18th May
Nitrogen fertiliser: 44kgN/ha



This graph shows the chance of reaching the corresponding yield given weather, soil conditions and agronomic inputs to date, and historical climate data (100yrs) to simulate remainder of the season.

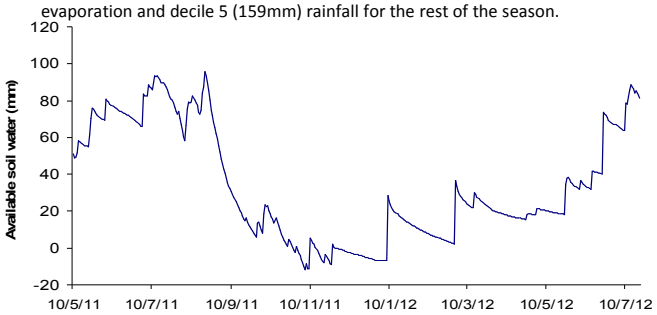
Site information as of 23rd July 2012

Grain & hay yield predictions

Yield prophet estimate: (Date of report 23/07/2012)
These estimates are based on a 50% probability

Yield t/ha	Sown 18th May (see graph)	Change from last report	Sown 5th June	Change from last report
Grain	4.5	+0.2	3.9	+0.1

French & Schultz grain yield estimate:
100% WUE: 3.6t/ha, 80% WUE: 2.9/ha
This model assumes that there is 22mm stored moisture, 110mm of evaporation and decile 5 (159mm) rainfall for the rest of the season.



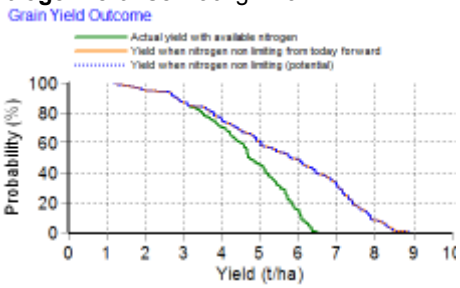
Farrell Flat

The season so far

Annual rain to date: 192mm *(43mm since last report)*
GSR to date: 118mm
GSR decile: 1.5
Current predicted PAW: 75mm

Crop growth

Variety: Scout **Sowing date:** 15th May
Nitrogen fertiliser: 30kgN/ha



This graph shows the chance of reaching the corresponding yield given weather, soil conditions and agronomic inputs to date, and historical climate data (100yrs) to simulate remainder of the season.

Site information as of 23rd July 2012

Grain & hay yield predictions

Yield prophet estimate: (Date of report 23/07/2010)
These estimates are based on a 50% probability

Yield t/ha	Sown 15th May (see graph)	Change from last report	Sown 5th June	Change from last report
Grain	5.3	+0.3	4.3	+0.3

French & Schultz grain yield estimate:
100% WUE: 3.9t/ha, 80% WUE: 3.1/ha
This model assumes that there is 15mm stored moisture, 110mm of evaporation and decile 5 (170mm) rainfall for the rest of the season.

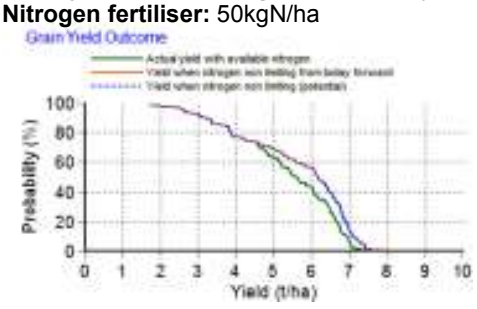
Tarlee

The season so far

Annual rain to date: 235mm *(42mm since last report)*
GSR to date: 152mm
GSR decile: 3.0
Current predicted PAW: 82mm

Crop growth

Variety: Scout **Sowing date:** 12th May
Nitrogen fertiliser: 50kgN/ha



This graph shows the chance of reaching the corresponding yield given weather, soil conditions and agronomic inputs to date, and historical climate data (100yrs) to simulate remainder of the season.

Site information as of 23rd July 2012

Grain & hay yield predictions

Yield prophet estimate: (Date of report 23/07/2012)
These estimates are based on a 50% probability

Yield t/ha	Sown 12th May (see graph)	Change from last report	Sown 5th June	Change from last report
Grain	5.8	-0.7	5.3	-0.2

French & Schultz grain yield estimate:
100% WUE: 4.8t/ha, 80% WUE: 3.9/ha
This model assumes that there is 25mm stored moisture, 110mm of evaporation and decile 5 (175mm) rainfall for the rest of the season.

Hart Beat

Hart Winter Walk – *Tuesday 24th July 2012*

Rohan Kimber, SARDI, spoke about the spore trap on site at Hart

Fiona Hill, Sumitomo, involved in discussions on new herbicide options for marshmallow & other weed control

Rainfall and water soil characteristics for WUE sites

Site	Average annual rainfall (mm)	Soil type	Pre-sowing soil moisture (0-90cm)(mm)	Pre-sowing soil nitrogen (0-90cm)(kg/ha)	Plant Available Water Capacity (mm)
Condowie	350	Sandy loam	13	114	127
Hart	400	Sandy clay loam	15	65	201
Spalding	430	Red brown earth	36	94	150
Tarlee	470	Clay loam over clay on rock	95	170	163
Kybunga	428	Friable clay loam	10	159	263
Farrell Flat	474	Red clay loam over clay	31	87	173

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