



## 2016 GRDC Barley NVT

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ACKNOWLEDGEMENTS: Living Farm and GRDC

<b>Purpose:</b>	To independently assess the potential for current, newly released and varieties close to commercial release in various locations and environments.
<b>Location:</b>	Dandaragan – West Midlands Group Main Field day site.
<b>Soil Type:</b>	Brown grey sand to yellow brown sand at depth.
<b>Soil Test Results:</b>	
<b>0-10cm</b>	
Nitrate Nitrogen	35mg/kg
Ammonium Nitrogen	3mg/kg
P	20mg/kg
K	30mg/kg
S	4.8mg/kg
Organic Carbon (%)	0.88%
Conductivity (EC)	0.094 ds/m
pH (water)	6.1
pH (CaCl <sub>2</sub> )	5.5
<b>10-30cm</b>	
Nitrate Nitrogen	7mg/kg
Ammonium Nitrogen	1mg/kg
P	12mg/kg
K	15mg/kg
S	3.5mg/kg
Boron	0.22mg/kg
Organic Carbon (%)	0.29%
Conductivity (EC)	0.021 ds/m
pH (water)	5.8
pH (CaCl <sub>2</sub> )	4.8
<b>Rotation:</b>	2015 Lupins
<b>Growing Season Rainfall (April- October 2015):</b>	572mm

### BACKGROUND SUMMARY

The aim of the National Variety Trial (NVT) program is to generate independent information for growers and industry about recently released or those due to be released varieties of winter field crops relative to the current commercial varieties grown in the area. Trial data can be compared by year/s, location and variety. This data is an important decision support

tool for growers when assessing if they are growing the right varieties for their farm business.

## TRIAL DESIGN

NVT trials are replicated three times (6 ranges, 2 ranges in each replicate) and randomized.

**Plot size:** 1.52m x 10m

**Machinery use:** Small plot seeder (row spacing 25.4cm)

**Repetitions:** 3 replicates

**Crop type and varieties used:** Various barley varieties

**Seeding rates and dates:** Trial was sown on the 9/05/16 at 65kg/ha

**Fertilizer rates and dates:**

**At seeding:** Gusto Gold 100kg/ha + Urea 50kg/ha

**Post-emergent:** Flexi-N 40L/ha 7/07/16 + Flexi-N 60L 25/07/16

**Herbicide rates and dates:**

**Pre-emergent:** Diuron 250g/ha + Treflan 2L/ha + Sprayseed 2L/ha + Talstar 200ml/ha + Lorsban 500ml/ha 9/05/16

Post-emergent: Velocity 670ml/ha 22/06/16

**Other applications/ treatment rates and dates:**

**Fungicide:**

Prosaro 150ml/ha 22/06/16

Prosaro 150ml/ha 25/07/16

## TRIAL LAYOUT

	Range 1	Range 2	Range 3	Range 4	Range 5	Range 6
Row 1	Filler	La Trobe	WI4896	Baudin	Hindmarsh	Rosalind
Row 2	Granger	HV3	Maltstar	Compass	Navigator	Scope
Row 3	Commander	Alestar	Buloke	IGB1506	IGB1305	EB1401
Row 4	SMBA16-1581	HV16	Spartacus CL	9516-01	IGB1467	SFR85-014
Row 5	IGB1602T	Bass	HV8	Flinders	Litmus	WI4950
Row 6	WI4933	Charger	Gairdner	SMBA15-4557	SMBA15-2354	SFR85-017
Row 7	Topstar	Fathom	La Trobe	Rosalind	WI4933	SMBA15-4557
Row 8	Spartacus CL	Flinders	Charger	Topstar	WI4896	IGB1602T
Row 9	WI4950	Buloke	SMBA16-1581	SMBA15-2354	HV3	Fathom
Row 10	IGB1506	SFR85-014	Litmus	Bass	Commander	Maltstar
Row 11	IGB1467	Compass	EB1401	Granger	HV16	HV8
Row 12	Scope	Hindmarsh	Filler	Alestar	Gairdner	9516-01
Row 13	Baudin	IGB1305	SFR85-017	Navigator	Spartacus CL	Alestar
Row 14	SFR85-017	Maltstar	HV16	WI4933	IGB1506	Topstar
Row 15	Rosalind	Gairdner	IGB1305	Fathom	Granger	SMBA16-1581
Row 16	HV8	SMBA15-2354	Scope	Commander	La Trobe	Compass
Row 17	Navigator	EB1401	IGB1602T	IGB1467	Flinders	Filler
Row 18	Litmus	9516-01	HV3	WI4950	Baudin	Charger
Row 19	SMBA15-4557	WI4896	SFR85-014	Hindmarsh	Bass	Buloke

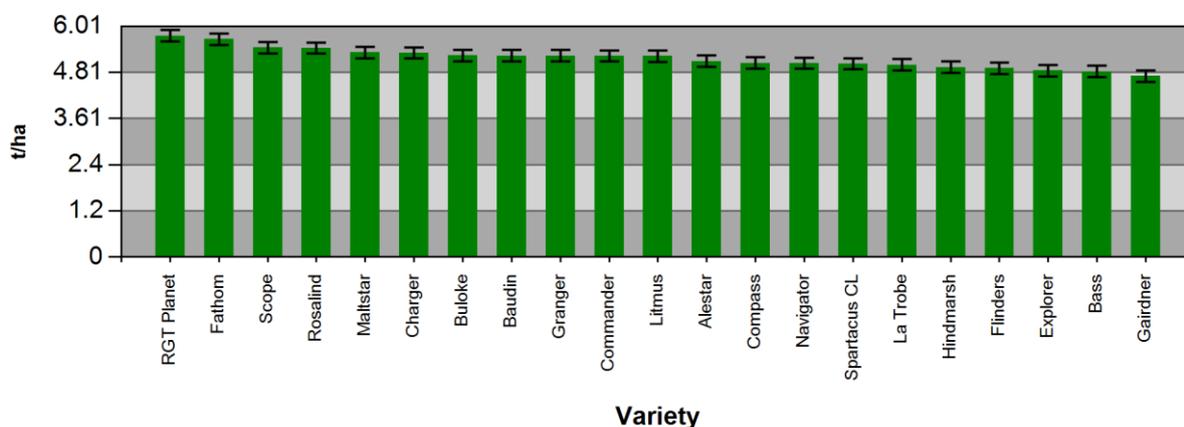


## RESULTS

### Analysis and Receival Standards

	Analysis		Receival Standards			
	13/01/2017		4/11/2016			
	Predicted Yield	Hectolitre Weight	Protein	Screenings (<2.2mm sieve)	Plump Grain (>2.5 mm sieve)	Grain Brightness (Colour)
	tonnes/ha	kg/hectolitre	%	%	%	Units
RGT Planet	5.76	69.84	9.90	0.40	97.80	59.60
Fathom	5.67	66.65	10.80	0.50	97.00	56.70
Scope	5.45	66.30	10.70	0.90	92.50	59.70
Rosalind	5.44	69.60	11.20	1.40	93.00	54.80
Maltstar	5.33	70.16	10.00	1.10	94.90	61.80
Charger	5.31	68.55	10.50	0.50	97.70	59.90
Baudin	5.24	71.30	10.60	0.40	98.00	60.70
Buloke	5.24	66.74	11.20	1.40	90.20	60.10
Commander	5.24	68.04	10.30	1.70	94.40	60.20
Granger	5.24	69.82	11.20	0.50	97.40	59.40
Litmus	5.23	70.65	11.90	0.70	93.70	56.90
Alestar	5.10	70.43	10.80	0.60	97.50	60.60
Compass	5.05	69.53	10.80	0.60	96.70	57.80
Navigator	5.05	67.46	10.70	0.40	97.60	62.90
Spartacus CL	5.03	70.05	11.30	1.10	92.80	57.30
La Trobe	5.00	70.13	11.00	0.90	93.80	56.80
Hindmarsh	4.94	71.01	11.20	1.30	93.30	57.40
Flinders	4.91	70.24	10.90	0.40	98.40	59.10
Explorer	4.85	67.46	10.50	0.60	97.20	56.30
Bass	4.83	69.22	11.40	0.30	98.80	61.00
Gairdner	4.71	70.24	11.50	1.00	94.50	60.80

Variety Yields



**Site Mean: 5.23t/ha**  
**LSD: 0.29t/ha**  
**CV: 3.2%**  
**Probability: <0.001**

## **DISCUSSION**

This trial was sown into warm and moist soil on the 9<sup>th</sup> May, providing excellent conditions for establishment. The rainfall received was excellent (572mm GSR) and was consistent throughout the growing season, setting the trial up for a good yield potential.

### Variety Summary

RGT Planet is a new variety released for 2017 from SeedForce and was the highest yielding variety at 5.76t/ha. It is a mid-season maturity and is under assessment for malting classification here in Australia but it is not clear when a decision will be made. It has a good disease package and will be a variety to assess in future seasons.

Fathom is a mid-maturity feed (only) barley variety that yielded a close second in this trial (5.67t/ha). It shows a good resistance profile to a range of diseases.

Scope CL is a medium maturity variety and currently the only Imi tolerant barley with a malting classification. It has been a reasonable variety with good yields (as seen here), however some of its' susceptibility to headloss has meant that many growers are looking for an alternative Imi tolerant line. Scope out yielded the other imi tolerant variety Spartacus CL by 0.4t/ha.

Rosalind (tested as IGB 1302) has in previous years' trials out yielded Hindmarsh which was the previous yield benchmark and which is the only food variety sold in the export market. The NVT MET data shows that Rosalind has a 3-7% yield advantage over Hindmarsh in Agzones 2-6. It has a good disease package for all diseases except STNB.

When considering feed varieties vs malt varieties, in this trial Fathom and Rosalind out yielded Latrobe by 0.67t/ha and 0.44t/ha respectively so depending on price feed varieties could be considered.

Maltstar performed well, with a long season that suited its maturity length well. It has a good disease resistance package especially to powdery mildew as it has the ml011 gene which provides genetic resistance to this disease.

When considering the performance of malt varieties in this trial, Baudin was the highest yielding variety and this could have attributed to a good spring and being protected from disease pressure with fungicide applications. Another consideration is that the area planted to Baudin is falling and there will be a reduced number of segregations for the 2017/18 harvest. Latrobe yielded 0.24t/ha less however is the preferred malt variety with market demand growing.

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