

Comparison of barley varieties

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Key Findings

- Fathom and Keel were the highest yielding feed barley varieties at Hart averaging 5.3 t/ha.
- GrangeR was the highest yielding malt variety at 5.13 t/ha.
- Unclassified line Compass (undergoing malt accreditation) yielded similarly at 5.27 t/ha.

Why do the trial?

To compare the performance of new barley varieties and lines against the current industry standards.

How was it done?

Plot size	1.75 m x 10 m	Fertiliser	DAP (18:20) + Zn 2% @ 70 kg/ha
Seeding date	15 th May 2014		UAN (42:0) @ 85 L/ha, 8 th July

The trial was a randomised complete block design with 3 replicates and 21 varieties. Fungicides were applied as necessary to keep the crop canopy free of disease ie. net blotch.

All plots were assessed for grain yield, protein, test weight, screenings with a 2.2 mm screen and retention with a 2.5 mm screen.

Results and discussion

Fathom and Keel were the highest yielding feed barley varieties at Hart in 2014, averaging 5.3 t/ha (Table 1). The site average yield across all feed varieties was 4.88 t/ha. The lowest yielding feed variety was Maritime at 3.97 t/ha.

The highest yielding malt variety was GrangeR at 5.13 t/ha. Compass, currently undergoing malt accreditation was not significantly different to GrangerR yielding 5.27 t/ha. These varieties were closely followed by Charger, Commander, and unclassified lines Skipper and La Trobe. The average yield across all malt varieties at Hart was 4.63 t/ha.

Grain protein for all barley varieties ranged between 12.7% for Scope and 15.3% for Flinders. There was no significant difference in protein content for any varieties. All varieties were above the allowable protein range of 9-12% for malt classification.

All malt varieties except Navigator (also seen at Hart in 2013) exceeded the minimum test weight specification of 65 kg/hL. Wimmera (undergoing malt accreditation) was also below the minimum test weight at 64.6 kg/hL. All feed barley varieties exceeded the minimum test weight specification for F1 feed barley of 62.5 kg/hL (Table 1).

Screening levels across the trial averaged 12.2%. Varieties Wimmera, Flagship and Oxford produced the highest screenings at 25.0, 22.4 and 20.3%, respectively.

GrangeR was the only malt variety to produce a retention (76.7%) greater than the required 70% for malt 1 barley (Table 1). Compass (undergoing malt accreditation) also had a high retention percentage at 81.6%.

Table 1. Grain yield (t/ha), protein (%), test weight (kg/hL), screenings and retention (%) of barley varieties at Hart 2014.

Quality	Variety	Yield t/ha	% of site average	Protein %	% of site average	Test wt kg/hL	% of site average	Screenings %	% of site average	Retention %	% of site average
Feed	Fathom	5.35	113	14.1	102	69.0	102	4.8	39	76.0	146
	Fleet	5.04	106	13.5	98	66.4	98	5.2	43	70.3	135
	Hindmarsh	4.89	103	14.0	101	68.6	101	14.7	121	38.9	75
	Keel	5.30	112	13.8	100	69.5	103	8.3	68	69.6	133
	Maritime	3.97	84	14.1	102	67.4	100	6.0	49	65.7	126
	Oxford	4.74	100	13.5	98	65.8	97	20.3	167	28.9	55
Malting	Bass	4.71	99	14.1	102	68.4	101	11.9	98	50.7	97
	Buloke	4.74	100	13.3	96	68.1	101	14.9	122	35.9	69
	Charger	5.04	106	14.1	102	66.0	98	16.0	132	52.9	101
	Commander	4.99	105	13.2	95	68.8	102	8.8	72	68.1	131
	Flagship	4.08	86	15.0	108	67.5	100	22.4	184	30.8	59
	Flinders	4.18	88	15.3	111	66.2	98	18.3	150	33.5	64
	GrangeR	5.13	108	13.4	97	68.9	102	5.4	44	76.7	147
	Navigator	4.80	101	13.6	99	64.4	95	9.9	81	56.5	108
	Schooner	4.11	87	14.7	107	68.8	102	14.7	121	41.0	79
	Scope	4.58	97	12.7	92	67.4	100	13.9	114	34.9	67
Westminster	4.61	97	13.6	99	68.7	102	4.6	38	68.5	131	
Pending malt accreditation	Compass	5.27	111	12.9	94	68.1	101	3.9	32	81.6	157
	La Trobe	4.99	105	13.1	95	68.9	102	16.7	137	28.6	55
	Skipper	5.01	106	13.9	101	69.7	103	9.8	81	63.1	121
	Wimmera	4.01	85	14.0	101	64.6	95	25.0	205	22.7	44
	Site Average	4.74	100	13.8	100	67.7	100	12.2	100	52.1	100
	LSD (P<0.05)	0.24		1.76		1.36		6.46		10.65	