

Comparison of barley varieties

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Key Findings

- Hindmarsh and Fathom were the highest yielding feed varieties at 5.5 t/ha
- Unclassified lines (currently undergoing malt accreditation) La Trobe (IGB1101) and Compass (WI4593) also yielded 5.5 t/ha.
- Commander and GrangeR were the highest yielding malt varieties yielding 5.3 t/ha and 5.1 t/ha, respectively.
- Buloke, Scope and Charger (CA412402) were the only malt varieties not to meet the minimum retention rate.

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 1.4 m x 10 m **Fertiliser** DAP (18:20) Zn 2% @ 60 kg/ha
Seeding date 18th May 2013 UAN (42:0) @ 75 L/ha, 11th 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

Hindmarsh, Fathom, and Keel were the highest yielding feed barley varieties at Hart in 2013, ranging from 5.39 - 5.52 t/ha (Table 1). The lowest yielding feed variety was Maritime at 4.52 t/ha. The average yield across all feed varieties was 5.20 t/ha.

The highest yielding malt variety was Commander, 5.25 t/ha. Both La Trobe (IGB1101) and Compass (WI4593) currently unclassified lines (undergoing malting accreditation), were not significantly different to Commander yielding 5.48 t/ha. The average yield for Hart across all malt varieties was 4.86 t/ha.

Grain protein ranged between 10.2% for Oxford and 12.0% for Flinders and Bass. There were no varieties that fell outside the allowable protein range of 9 - 12%.

All malt barley varieties except Navigator and Charger (CA412402) exceeded the minimum test weight specification of 65 kg/hL. All feed barley varieties exceeded the minimum test weight specification for F1 feed barley of 62.5kg/hL.

Barley screenings at the site were on average of 11.4%. Varieties Charger (CA412402) and La Trobe (IGB1101) produced the highest screenings at 26.8% and 21.8%, respectively.

Many of the malt barley varieties produced a retention rate greater than the required 70% for malt barley (Table 1.). Varieties with a retention rate less than 70% were Buloke, Scope, Charger (CA412402) and La Trobe (IGB1101).

Table 1. Grain yield (t/ha), protein (%), test weight (kg/hL), screenings and retention (%) of barley varieties at Hart in 2013.

Quality	Variety	Yield	% of site	Protein	% of site	Test weight	% of site	Screenings	% of site	Retention	% of site
		t/ha	average	%	average	kg/hL	average	%	average	%	average
Feed	Fathom	5.50	109	11.2	101	63.9	96	7.4	65	85.7	111
	Fleet	5.20	103	11.3	102	63.5	96	6.9	60	80.2	104
	Hindmarsh	5.52	110	10.4	93	69.4	105	13.4	118	76.2	99
	Keel	5.39	107	10.8	97	67.8	102	7.7	67	88.1	114
	Maritime	4.52	90	11.6	104	63.5	96	7.3	64	83.5	108
	Oxford	5.08	101	10.2	92	66.8	101	14.0	122	70.6	92
Malting	Buloke	4.80	95	11.2	100	66.2	100	13.9	122	59.0	77
	Commander	5.25	104	10.9	98	67.1	101	11.5	101	82.2	107
	Flagship	4.56	91	10.8	97	68.2	103	11.5	101	74.6	97
	Flinders	4.71	94	12.0	108	67.2	101	7.4	65	77.7	101
	Schooner	4.50	89	10.5	94	67.9	102	10.3	91	77.5	101
	Scope	4.78	95	11.3	102	65.9	99	12.6	111	65.0	84
	Westminster	4.75	94	11.3	101	67.6	102	5.7	50	88.4	115
	Bass	5.04	100	12.0	108	66.2	100	4.5	39	87.6	114
	Navigator	5.01	99	11.0	99	64.1	97	12.6	110	81.4	106
	Granger	5.05	100	11.2	101	66.6	100	12.1	106	73.7	96
Unclassified	Charger (CA412402)	4.98	99	11.5	104	63.3	95	26.8	235	63.7	83
	La Trobe (IGB1101)	5.48	109	10.8	97	68.0	103	21.8	191	65.1	85
	Skipper	5.26	104	11.3	101	68.3	103	11.3	99	81.6	106
	Wimmera	4.88	97	11.7	105	66.0	99	14.1	124	70.2	91
	Compass (WI4593)	5.48	109	10.7	96	65.6	99	6.8	60	86.3	112
Site Average	5.03	100	11.1	100	66.3	100	11.4	100	77.1	100	
LSD (P≤0.05)	0.24		1.05		1.67		5.99		11.8		