

## Comparison of barley varieties

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### Key Findings

- Fathom (WI4483) was the highest yielding feed variety at 3.3t/ha
- Commander and Buloke were the highest yielding malt varieties, averaging 2.94t/ha
- Oxford produced the highest screenings of 37.4%
- Commander was the only malt variety 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?

<b>Plot size</b>	1.4m x 10m	<b>Fertiliser</b>	DAP Zn 2% @ 70kg/ha
<b>Seeding date</b>	1 <sup>st</sup> June 2012		UAN @ 80L/ha, 24 <sup>th</sup> July

The trial was a randomised complete block design with 3 replicates and 24 varieties. Fungicides were applied as necessary to keep the crop canopy free of disease ie. net blotch.

Plot edge rows were removed prior to harvest. 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

Fathom, Fleet, Hindmarsh and Keel were the highest yielding feed barley varieties at Hart in 2012, averaging 3.2t/ha (Table 1). The average yield across all feed varieties was 2.78t/ha. The lowest yielding feed variety was Grange at 2.05t/ha.

The highest yielding malt varieties were Commander and Buloke, averaging 2.94t/ha (Table 1). The average yield across all malt varieties was 2.61t/ha. The lowest yielding malt variety was Westminster at 1.75t/ha.

Grain protein ranged between 10.1% for Keel and 12.5% for Oxford. The only variety to fall outside the allowable protein range of 9 to 12% for malt barley was Westminster at 13.3%. Grain protein generally decreased with increasing grain yields.

All malt varieties exceeded the minimum test weight specification of 65kg/hl. All feed varieties exceeded the minimum test weight specification for F1 feed barley of 62.5kg/hl.

Barley screenings at the site were generally high with an average of 23.9%. Oxford produced the highest screenings at 37.4%.

Commander and WI4593 were the only varieties that produced a retention rate greater than the required 70% for malt barley. Westminster had the lowest retention at 46%.

Table 1: Grain yield (t/ha), protein (%), test weight (kg/hL), screenings and retention (%) of barley varieties at Hart in 2012.

Quality	Variety	Grain yield (t/ha)		% of Sloop		Protein (%)	% of Sloop		Test weight (kg/hL)	Screenings (%)		Retention (%)		% of Sloop SA
		SA	SA	SA	SA		SA	SA		SA				
Feed	Barque	2.63	102	12.1	102	64.5	92	23.2	97	65.2	104			
	Capstan	2.84	111	11.0	92	67.0	95	31.6	133	38.3	61			
	Fathom (WI4483)	3.30	128	10.3	87	69.1	98	18.0	76	75.2	120			
	Fleet	3.22	125	10.9	92	67.4	96	19.2	81	70.0	111			
	Hindmarsh	3.19	124	10.4	87	72.1	102	22.6	95	63.7	101			
	Keel	3.08	120	10.1	85	67.6	96	16.7	70	70.4	112			
	Maritime	2.80	109	11.5	97	69.9	99	5.4	23	91.3	145			
	Oxford	2.15	84	12.5	105	72.5	103	37.4	157	50.8	81			
	Scope CL	2.55	99	11.3	95	71.4	101	23.7	100	64.8	103			
	Malt	Buloke	2.93	114	10.6	89	71.0	101	22.1	93	61.5	98		
Commander		2.95	115	10.5	88	69.8	99	14.6	61	76.8	122			
Flagship		2.73	106	10.6	89	72.6	103	27.8	117	62.6	100			
Flinders		2.65	103	11.7	98	71.3	101	26.7	112	55.1	88			
Gairdner		2.70	105	11.6	97	71.5	102	27.4	115	52.2	83			
Schooner		2.58	100	11.7	98	72.0	102	27.2	114	64.0	102			
<b>SloopSA</b>		<b>2.57</b>	<b>100</b>	<b>11.9</b>	<b>100</b>	<b>70.4</b>	<b>100</b>	<b>23.8</b>	<b>100</b>	<b>62.8</b>	<b>100</b>			
Westminster		1.75	68	13.3	112	71.2	101	30.8	129	46.0	73			
Bass (WARBAR2315)		2.46	96	12.5	105	69.9	99	21.8	92	62.9	100			
Navigator (WI4262)		2.97	116	11.2	94	70.3	100	22.0	92	67.5	107			
Unclassified	IGB1101	2.78	108	11.1	93	69.6	99	29.2	123	52.1	83			
	Grange	2.05	80	12.4	104	71.6	102	35.6	150	50.0	80			
	Skipper (WI4446)	2.71	105	11.3	95	69.2	98	25.8	108	55.2	88			
	Wimmera (VBO432)	2.30	89	12.3	103	71.9	102	24.7	104	67.5	107			
	WI4593	2.95	115	11.3	95	69.1	98	15.6	66	76.0	121			
	Site mean	2.70	105	11.4	96	70.2	100	23.9	100	62.6	100			
	LSD (0.05)	0.38	15	1.1	9	2.1	3.0	9.6	40	16.8	27			