

Comparison of barley varieties

Key findings

- Capstan, Fleet, Lockyer, Commander and Oxford were the highest yielding barley varieties at Hart in 2009, averaging 4.94 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	1.4m x 10m	Fertiliser	DAP @ 60 kg/ha + 2% Zn Urea @ 50 kg/ha 10 th August
Seeding date	12 th May 2009		

The trial was a randomised complete block design with 3 replicates and 21 varieties.

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

The feed varieties Capstan (5.20 t/ha), Fleet (4.97 t/ha) and Lockyer (5.02 t/ha) and malting varieties Commander (4.76 t/ha) and Oxford (4.72 t/ha) were the highest yielding barley varieties at Hart in 2009 (Table 1).

The average grain yield across all feed varieties was 4.52 t/ha compared to 4.33 t/ha for the malting varieties, a difference of 4.5%. In the year of 2005 with average yields of 3.6 t/ha the difference was 8.5% and in lower yielding seasons (2007 and 2008) with average yields of 1.3 t/ha the difference was 21%, the feed varieties were higher yielding in all seasons.

The feed variety Roe had the greatest grain protein (13.1%) and malting variety Oxford, which was one of the highest yielding varieties, had the lowest grain protein (11.0%).

Varieties Fleet and Keel had the lowest test weights, both measuring 66.8 kg/hL, however, this was still above the minimum test weight for the maximum allowable grade.

All varieties except Finniss (a hull-less variety) had screenings less than 2% and retention greater than 93%.

Table 1: Grain yield (t/ha), protein (%), test weight (kg/hL), screenings (%) and retention (%) for barley varieties at Hart in 2009.

Quality	Variety	Grain yield (t/ha)		Protein (%)		Test weight (kg/hL)		Screenings (%)		Retention (%)	
		% of Sloop SA	% of Sloop SA	% of Sloop SA	% of Sloop SA	% of Sloop SA	% of Sloop SA	% of Sloop SA	% of Sloop SA		
Feed	Capstan	5.20	127	11.2	91	69.8	100	1.7	169	93.6	96
	Fleet	4.97	121	12.1	98	66.8	96	0.6	63	97.3	100
	Hannan (WA2321)	4.69	114	11.5	93	71.9	103	0.4	45	98.5	102
	Hindmarsh	4.52	110	12.2	99	69.7	100	0.8	81	97.2	100
	Keel	4.18	102	11.6	94	66.8	96	1.3	129	97.0	100
	Lockyer (WA2288)	5.02	122	12.2	99	70.9	102	0.5	53	98.5	101
	Maritime	4.00	98	12.9	105	68.1	98	0.8	84	97.1	100
	Roe (WA2310)	3.90	95	13.1	106	69.6	100	0.6	58	97.8	101
	VBHT0805	4.28	104	12.0	98	68.5	98	1.1	112	96.4	99
	Yarra	4.41	108	11.4	93	69.8	100	0.4	35	99.0	102
	Baudin	4.26	104	12.0	97	69.5	100	0.5	50	97.8	101
	Buloke	4.26	104	11.7	95	69.9	100	0.9	91	96.4	99
	Commander (W13416)	4.76	116	11.1	90	69.1	99	1.1	106	97.1	100
	Flagship	3.91	95	12.4	100	69.7	100	1.1	110	96.7	100
Malting	Gairdner	4.47	109	11.7	95	70.6	101	1.1	110	96.1	99
	Oxford	4.72	115	11.0	89	69.8	100	3.8	377	94.7	98
	Schooner	4.23	103	12.1	98	70.0	100	1.1	113	95.0	98
	SloopSA	4.10	100	12.3	100	69.8	100	1.0	99	97.0	100
	Shepherd	4.33	106	12.3	100	69.3	99	0.7	72	98.3	101
Hull-less	Finniss (W13930)	4.29	105	12.9	105	78.2	112	13.3	1331	53.0	55
Yet to be classified	W14262	4.58	112	12.2	99	69.5	100	0.9	94	97.8	101
	Site mean	4.43	108	12.0	97	69.9	100	1.6	161	94.9	98
	LSD (0.05)	0.46	11	0.9	7	1.2	2	0.7	70	3.0	3