Comparison of barley varieties

Key findings

- Feed varieties Hindmarsh, Fleet, Keel and Fathom; and malting varieties Commander and Buloke were the highest yielding barley varieties at Hart in 2011, averaging 3.50 t/ha.
- No varieties produced screenings in excess of 5%.
- All malting varieties achieved retention above the required 86%.

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 Zn 2% @ 90 kg/ha UAN @ 70 L/ha, 29th July
Seeding date	30th May 2011		

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

The feed varieties Hindmarsh (3.66 t/ha), Fleet (3.55 t/ha), Keel (3.50 t/ha) and Fathom (3.43 t/ha); and malting varieties Commander (3.39 t/ha) and Buloke (3.24 t/ha) were the highest yielding barley varieties at Hart in 2011 (Table 1). The average grain yield across all feed varieties was 3.18 t/ha compared to 2.97 t/ha for the malting varieties.

Grain protein ranged between 10.0% for Carl 1238 and Navigator (both unclassified) and 12.2% for the feed variety Shepherd. The average protein level for all varieties was 11.0%.

All malt varieties achieved test weights above the required 65 kg/hl minimum for malting specification, with Westminster producing the highest (70.3 kg/hl). Capstan, Fleet, Keel, Yarra, and Fathom are feed varieties which did not meet the test weight specifications for the maximum grade.

Average screenings for the trial were 0.9%.The highest variety screenings were Oxford (2.6%) and Commander (1.3%). All malting varieties produced retention greater than the required 86%.

Table1: Grain yield (t/ha), protein (%), test weight (kg/hL), screenings and retention (%) of barley varieties at Hart in 2011.

Quality	Variety	Grain yield (t/ha)	% of Sloop SA	Protein (%)	% of Sloop SA	Test weight (kg/hL)	% of Sloop SA	Screenings (%)	% of Sloop SA	Retention (%)	% of Sloop SA
Feed	Capstan	3.27	108	11.4	104	64.6	95	1.4	203	86.0	91
	Fleet	3.55	117	11.6	106	62.1	91	0.4	62	96.3	102
	Fathom (WI4483)	3.43	113	10.3	95	63.8	94	0.5	80	95.9	102
	Grange	2.67	88	11.7	107	67.3	99	1.5	217	91.6	97
	Hindmarsh	3.66	121	10.3	95	66.3	97	0.9	136	93.9	99
	Keel	3.50	116	10.5	96	63.1	93	1.6	243	91.0	96
	Macquarie	2.97	98	11.3	103	69.6	102	0.7	106	92.4	98
	Maritime	2.77	91	10.8	99	65.1	96	0.4	56	98.4	104
	Oxford	2.75	91	10.9	100	69.1	101	2.6	385	88.6	94
	Scope (VBHT0805)	3.17	105	11.6	106	66.9	98	0.6	89	92.4	98
	Shepherd	2.70	89	12.2	112	67.2	99	0.6	89	96.3	102
	Yarra	3.27	108	11.0	100	63.5	93	0.6	89	93.9	99
Malt	Buloke	3.24	107	11.1	102	66.1	97	0.6	89	89.6	95
	Commander	3.39	112	10.2	94	66.3	97	1.3	193	93.6	99
	Flagship	3.12	103	11.4	104	69.0	101	0.6	89	92.0	97
	Gairdner	2.79	92	11.2	102	69.0	101	0.7	104	92.9	98
	Schooner	2.97	98	10.4	95	66.4	98	0.6	89	93.0	99
	SloopSA	**3.03**	**100**	**10.9**	**100**	**68.1**	**100**	**0.7**	**100**	**94.4**	**100**
	Westminster	2.47	82	12.0	110	70.3	103	0.9	133	92.4	98
Yet to be classified	Carl 1238	3.04	100	10.0	91	67.2	99	0.6	89	92.3	98
	Wimmera (VBO432)	2.93	97	11.2	102	68.5	101	0.6	89	92.6	98
	Bass (WARBAR2315)	3.12	103	11.9	109	67.3	99	0.4	59	98.4	104
	WARBAR2537	2.80	92	11.2	102	68.9	101	1.3	196	95.1	101
	Navigator (WI4262)	2.80	92	10.0	91	68.4	100	0.7	101	95.4	101
	Site mean	3.06	101	11.0	101	66.8	98	0.9	129	93.3	99
	LSD (0.05)	0.26	9	1.08	10	0.88	1.3	1.1	157	3.5	4