

Comparison of wheat varieties

Key findings

- Yitpi, Correll and Mace were the highest yielding hard wheat varieties at Hart in 2010, averaging 4.59 t/ha. Pugsley, Scout, Guardian and Espada were the highest yielding APW varieties, averaging 4.53 t/ha.
- Axe produced the highest wheat grain protein (10.4%) at Hart in 2010.

Why do the trial?

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

How was it done?

Plot size	1.4m x 10m	Fertiliser	32:10 (DAP/Urea) @ 70 kg/ha UAN @ 100 L/ha 10 th August
Seeding date	14 th May 2010		

The trial was a randomised complete block design with 3 replicates and 25 varieties. Fungicides were applied as necessary to keep the crop free of disease i.e stripe rust.

Plot edge rows were removed prior to harvest. All plots were assessed for grain yield, protein, test weight and screenings (mainly cracked grains) with a 2.0 mm screen.

Results

Grain yields ranged between 3.19 t/ha (Peake) and 4.78 t/ha (Yitpi and Orion) at Hart in 2010. Soft varieties Bowie, Orion and Yenda, APW varieties Espada, Guardian, Scout and Pugsley, and hard varieties Yitpi, Correll and Mace were the highest yielding wheat varieties in 2010, averaging 4.54 t/ha (Table 1). The grain yield across all wheat varieties at Hart in 2010 was 4.1 t/ha.

Wheat grain protein levels ranged from 8.3% (Orion) to 10.4% (Axe) with an average of 9.2%.

Axe, Clearfield JNZ, Orion, Magenta, Guardian and AGT Katana, produced test weights lower than 74 kg/hL, the minimum required for maximum achievable grade.

Axe, Bowie, Catalina, Clearfield JNZ, Orion, Pugsley and Wyalkatchem produced the lowest screenings at Hart in 2010 with an average of 3.9%. Lincoln produced the highest screenings at 10.6% and the average screenings (%) across all varieties at Hart in 2010 was 6.0%.

Table 1: Grain yield (t/ha), protein (%), test weight (kg/hL) and screenings (%) of wheat varieties at Hart in 2010.

Quality	Variety	Grain yield (t/ha)		Protein (%)		Test weight (kg/hL)		Screenings (%)		% of Yitpi
		Yitpi	% of Yitpi	Yitpi	% of Yitpi	Yitpi	% of Yitpi	Yitpi	% of Yitpi	
APW	Espada	4.41	92	9.4	106	76.1	99	4.8	80	
	Guardian	4.42	93	9.0	101	72.2	94	8.7	143	
	Pugsley	4.72	99	8.7	98	76.8	100	3.0	49	
	Scout (LPB05-1164)	4.58	96	8.9	100	78.7	102	5.0	83	
	Wyalkatchem	3.91	82	8.8	99	76.6	100	4.2	69	
	Estoc (RAC1412)	4.15	87	9.6	108	78.8	102	6.0	99	
	Kord CL Plus (RAC1669R)	4.10	86	9.3	105	73.9	96	8.6	142	
ASW	Magenta	4.20	88	9.4	106	72.1	94	7.6	125	
Soft	Barham	4.18	87	9.2	104	74.0	96	4.7	76	
	Bowie	4.30	90	8.7	98	75.6	98	4.2	70	
	Yenda	4.36	91	9.5	107	73.8	96	8.4	138	
	Orion	4.78	100	8.3	93	70.2	91	3.3	54	
	Axe	3.70	77	10.4	117	69.6	90	4.4	72	
Hard	Bolac	3.27	69	9.6	108	74.8	97	8.0	131	
	Catalina	3.98	83	9.7	110	79.9	104	4.4	72	
	Correll	4.60	96	8.9	100	76.1	99	7.2	119	
	Derrimut	4.06	85	9.2	104	75.7	98	6.0	98	
	Gladius	4.10	86	9.9	111	75.4	98	4.7	77	
	Clearfield JNZ	3.27	68	9.1	102	70.2	91	3.7	61	
	AGT Katana	4.07	85	9.4	106	72.6	94	8.2	135	
	Lincoln	3.25	68	8.8	99	75.5	98	10.6	173	
	Mace	4.40	92	9.1	103	77.5	101	6.4	105	
	Peake	3.19	67	9.5	107	74.3	97	5.4	89	
	Yitpi	4.78	100	8.9	100	76.9	100	6.1	100	
	Young	3.83	80	9.7	109	77.4	101	5.4	90	
	Site mean	4.10	86	9.2	104	75.0	97	6.0	98	
	LSD (0.05)	0.54	11	0.6	7	7.1	9	1.6	26	