

Comparison of wheat varieties

Sarah Noack, Hart Field-Site Group

Key Findings

- Cobra and Cosmick were the highest yielding AH varieties at Hart in 2014 yielding 5.17 and 5.03 t/ha, respectively.
- Corack and Trojan were the highest yielding APW varieties at 5.48 and 5.17 t/ha, respectively.
- Test weight and screening levels across the trial averaged 83.0 kg/hL and 2.7%.
- Axe produced the highest wheat grain protein at 10.6%.

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	1.75 m x 10 m	Fertiliser	DAP (18:20) + Zn 2% @ 70 kg/ha
Seeding date	8 th May 2014		UAN (42:0) @ 85 L/ha, 8 th July UAN (42:0) @ 45 L/ha, 15 th Aug

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. stripe rust.

All plots were assessed for grain yield, protein, test weight and screenings with a 2.0 mm screen.

Results and discussion

Wheat grain yields at Hart in 2014 ranged from 3.94 t/ha for RAC1843 up to 5.48 t/ha for Corack (Table 1), with an average site yield of 4.80 t/ha. Varieties which yielded above 5.0 t/ha were Corack, Cobra, Trojan (LPB08-1799), Cosmick (IGW3423) and Mace.

Wheat grain protein levels ranged from 9.13% (Corack) to 13.73% (RAC1843). The lower yield and high protein content for RAC1843 can be attributed to frost damage which occurred in August 2014. RAC1843 is an early maturing variety (slightly earlier flowering than Axe) and usually better suited to later sowing dates.

All varieties except RAC1843 fell below the protein level of 11.5% required for Hard 2. However, a number of varieties were above 10.5% (Axe, Espada, Estoc and Gladius) for APW classification.

Screening levels at the site averaged 2.7% and all varieties fell below the maximum level of 5% for APW and Hard classification.

Grain test weights across the trial averaged 83.0 kg/hL and all varieties exceeded 76 kg/hL, the minimum required for maximum grade.

Table 1. Grain yield (t/ha), protein (%), test weight (kg/hL) and screenings (%) of wheat varieties at Hart in 2014.

Quality	Variety	Grain yield t/ha	% of site average	Protein %	% of site average	Test Weight kg/hL	% of site average	Screenings %	% of site average
AH	Axe	4.53	94	10.6	105	83.6	101	2.0	75
	Catalina	4.52	94	9.8	96	84.9	102	2.0	75
	Cobra	5.17	108	9.6	95	82.0	99	2.7	98
	Correll	4.79	100	10.3	102	81.4	98	3.7	135
	Cosmick (IGW3423)	5.03	105	9.5	94	83.4	101	3.9	143
	Dart	4.41	92	10.1	100	82.9	100	3.5	130
	Emu Rock	4.93	103	9.9	98	83.7	101	4.2	155
	Gladius	4.77	99	10.6	104	82.7	100	2.3	85
	Grenade CL Plus	4.46	93	9.6	94	82.2	99	1.9	71
	AGT Katana	4.99	104	10.1	99	85.2	103	2.1	79
	Kord CL Plus	4.91	102	10.4	103	83.2	100	3.9	145
	Mace	5.01	104	9.6	94	82.2	99	2.3	86
	Phantom	4.68	97	9.8	96	82.1	99	3.2	119
	Scout	4.89	102	9.7	95	83.7	101	2.9	106
	Shield	4.86	101	10.1	100	81.1	98	3.6	134
Wallup	4.61	96	9.8	96	83.5	101	1.4	53	
APW	Espada	4.89	102	10.6	104	80.8	97	2.9	106
	Estoc	4.80	100	10.6	104	83.3	100	2.3	86
	Corack	5.48	114	9.1	90	83.6	101	1.9	71
	Trojan (LPB08-1799)	5.17	108	9.9	97	84.3	102	1.9	70
Unclassified	RAC1843	3.94	82	13.7	135	82.3	99	2.0	75
Site Average		4.80	100	10.2	100	83.0	100	2.7	100
LSD (P≤0.05)		0.46		0.6		1.0		0.7	