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Innovations**
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INDUSTRY INNOVATIONS 2025: PROVISIONAL HARVEST RESULTS – April Sown Wheat 2025 WA Frankland River Crop Technology Centre (HRZ)

WA Barley HRZ (FAR WAA II W25-56)

Sown: 25 April 2025

Harvested: 18 December 2025

Soil Type: Forest Gravel

Previous Crop: 2024 Canola

FAR Code: FAR WAA II W25-56

GSR (Apr-Nov): 510.6mm

The Germplasm Evaluation Network (GEN) is a FAR Australia 'Industry Innovations' initiative that tests crop variety performance across FAR Australia's national network of Crop Technology Centres. GEN sites test variety performance with and without fungicide. FAR Australia provides the control varieties and breeders enter their chosen lines for evaluation.

Key Points

- A season with an early break and a soft finish resulted in 510.6mm growing season rainfall (GSR) and grain yields ranging from 3.79-5.19t/ha.
- LRPB Vortex and Mowhawk were the highest yielding varieties, averaging 5.04 t/ha and 5.03 t/ha respectively, significantly higher yielding than all varieties except RGT Ponsford, Mammoth, Dale, RGT Enebro and the new noodle wheat IGW8247.
- RGT Waugh yielded significantly lower than other varieties, likely caused by the very slow development. Brighton also yielded significantly lower than Mowhawk despite having similar phenology. Overall, yield showed little correlation with flowering phenology.
- Stagonospora nodorum blotch (SNB) and yellow leaf spot (YLS) present at very low levels (0 - 4.8 % plot total disease), and there was no significant grain yield increase from fungicide application.
- Variety was the main factor influencing both grain yield and quality.
- Proteins in the trial averaged 10.7%, with fungicide treated varieties having significantly lower protein content. Protein content ranged from 11.7% in RW71811 to 9.1% in RGT Enebro.
- Screenings were significantly high in LRPB Vortex (6.5%), RGT Enebro (6.1%) and Dale (5.6%), but came down to 3.6% in RW71811. Test weights averaged 76.9 kg/hL, with all but RGT Enebro test weights above 74 kg/hL.

Yield (t/ha) & quality data (protein %, test weight, screenings %)

Table 1. Influence of fungicide on the grain yield (t/ha) of wheat varieties plus and minus fungicide – April 25 sown.

		Yield (t/ha)					
Variety		Untreated		Plus fungicide		Mean	
1	Brighton (w)	4.40	-	4.70	-	4.55	cd
2	Mowhawk (w)	4.98	-	5.08	-	5.03	a
3	LRPB Vortex (s)	4.89	-	5.19	-	5.04	a
4	AGT-Hamelin (s)	4.59	-	4.62	-	4.60	bcd
5	RGT Ponsford (s)	4.69	-	5.09	-	4.89	ab
6	RGT Enebro (w)	4.54	-	5.08	-	4.81	a-d
7	RGT Waugh (w)	3.79	-	4.02	-	3.90	e
8	RW 71811 (s)	4.56	-	4.64	-	4.60	bcd
9	Dale (s)	4.84	-	4.85	-	4.84	abc
10	IGW8247 (s)	4.48	-	5.16	-	4.82	abc
11	Brumby (s)	4.57	-	4.46	-	4.52	d
12	Mammoth (s)	4.76	-	4.96	-	4.86	ab
Mean		4.59	-	4.82	-	4.71	
LSD Variety p = 0.05		0.30		P value		<0.001	
LSD Management p = 0.05		ns		P value		0.079	
LSD Variety x Man. p = 0.05		ns		P value		0.561	

Note: w = Winter Wheat, s = Spring Wheat

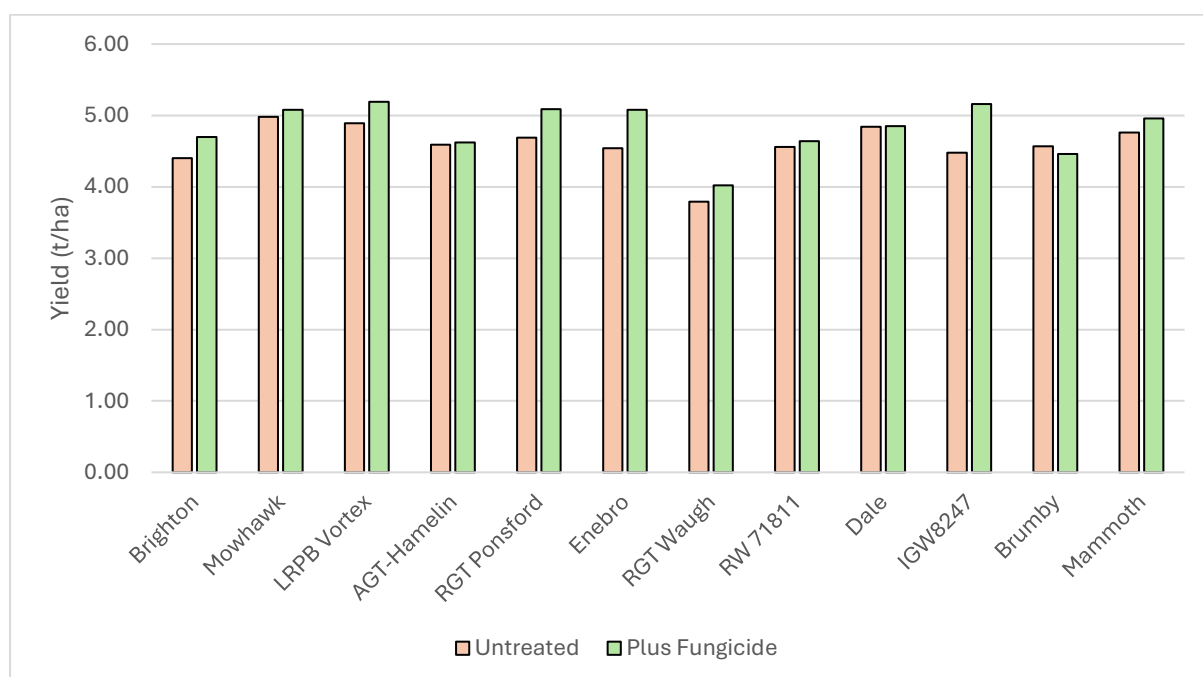


Figure 1. Influence of fungicide and variety on yield (t/ha).

Table 2. Influence of variety and fungicide application on the grain protein (%) – 18 December harvest.

Protein (%)							
Variety		Untreated		Plus fungicide		Mean	
1	Brighton	10.1	-	9.9	-	10.0	de
2	Mowhawk	11.1	-	9.5	-	10.3	cd
3	LRPB Vortex	11.2	-	10.7	-	11.0	a-d
4	AGT-Hamelin	11.1	-	10.6	-	10.9	a-d
5	RGT Ponsford	10.8	-	11.0	-	10.9	a-d
6	RGT Enebro	9.4	-	8.9	-	9.1	e
7	RGT Waugh	11.0	-	10.7	-	10.9	a-d
8	RW 71811	11.9	-	11.5	-	11.7	a
9	Dale	11.0	-	11.0	-	11.0	abc
10	IGW8247	11.6	-	10.4	-	11.0	a-d
11	Brumby	11.8	-	10.9	-	11.3	ab
12	Mammoth	11.1	-	10.0	-	10.5	bcd
Mean		11.0	a	10.4	b	10.7	
LSD Variety p = 0.05		1.0		P Value		0.010	
LSD Management p = 0.05		0.5		P Value		0.049	
LSD Variety x Man. p = 0.05		ns		P Value		0.937	

Table 3. Influence of variety and fungicide application on the test weights (kg/hL) - 18 December harvest.

Test Weight (Kg/hL)							
Variety		Untreated		Plus fungicide		Mean	
1	Brighton	78.4	-	76.7	-	77.5	abc
2	Mowhawk	75.5	-	77.6	-	76.6	bc
3	LRPB Vortex	77.6	-	79.6	-	78.6	a
4	AGT-Hamelin	77.0	-	77.7	-	77.3	abc
5	RGT Ponsford	76.5	-	75.9	-	76.2	bc
6	RGT Enebro	73.0	-	74.5	-	73.7	d
7	RGT Waugh	78.1	-	77.2	-	77.6	ab
8	RW 71811	77.2	-	77.8	-	77.5	abc
9	Dale	77.5	-	77.8	-	77.7	ab
10	IGW8247	75.9	-	78.8	-	77.4	abc
11	Brumby	76.2	-	76.4	-	76.3	bc
12	Mammoth	75.1	-	76.9	-	76.0	c
Mean		76.5	-	77.2	-	76.9	
LSD Variety p = 0.05		1.59		P Value		0.001	
LSD Management p = 0.05		ns		P Value		0.085	
LSD Variety x Man. p = 0.05		ns		P Value		0.351	

Table 4. Influence of variety and fungicide application on the screenings (% < 2.2mm) – 18 December harvest.

Screenings (%)							
Variety		Untreated		Plus fungicide		Mean	
1	Brighton	3.6	-	4.3	-	4.0	cd
2	Mowhawk	4.1	-	5.3	-	4.7	bc
3	LRPB Vortex	6.7	-	6.3	-	6.5	a
4	AGT-Hamelin	4.4	-	4.2	-	4.3	cd
5	RGT Ponsford	3.2	-	3.9	-	3.6	d
6	RGT Enebro	5.6	-	6.6	-	6.1	a
7	RGT Waugh	4.5	-	4.4	-	4.5	cd
8	RW 71811	3.7	-	3.5	-	3.6	d
9	Dale	6.6	-	4.6	-	5.6	ab
10	IGW8247	4.1	-	3.9	-	4.0	cd
11	Brumby	4.2	-	3.7	-	4.0	cd
12	Mammoth	4.3	-	4.1	-	4.2	cd
Mean		4.6	-	4.6	-	4.6	
LSD Variety p = 0.05		0.9		P Value		<0.001	
LSD Management p = 0.05		ns		P Value		0.957	
LSD Variety x Man. p = 0.05		ns		P Value		0.326	

Disease assessment data

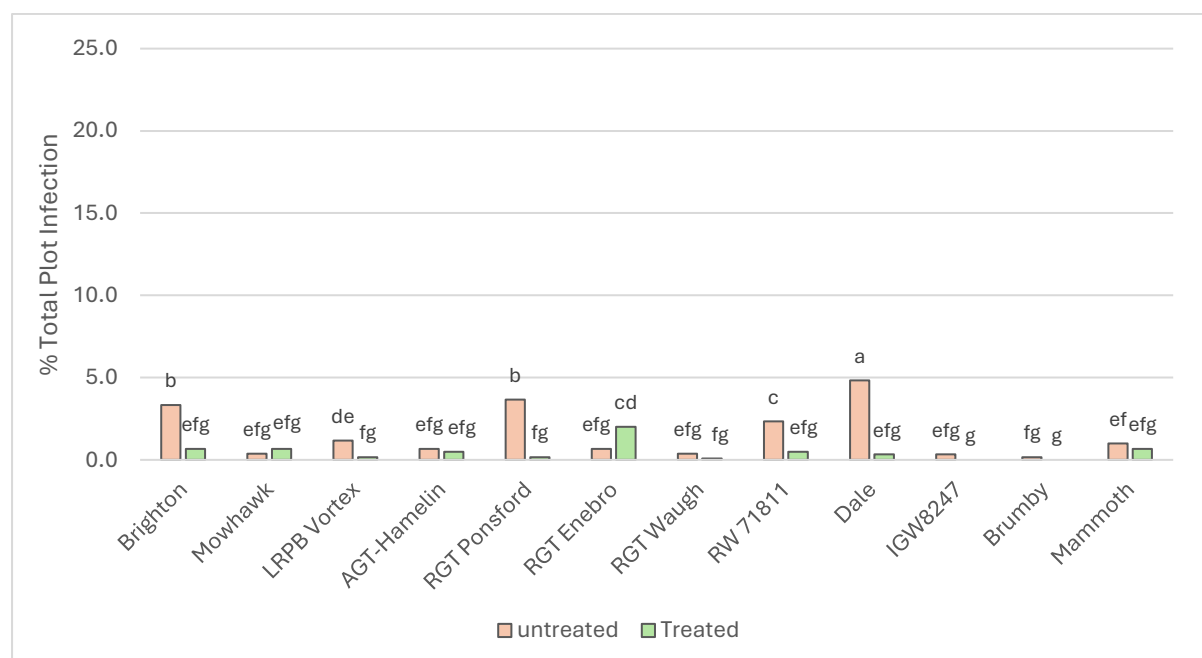


Figure 2. Influence of varieties plus and minus fungicide on total of *Stagonospora nodorum* blotch (SNB) and yellow leaf spot (YLS). Shown as % total plot infection, assessed at Zadok's growth stage 71-79 (during milk development) (P value <0.001, LSD= 1.0).

Development (phenology)

Table 5. Influence of variety on phenology (Zadoks Growth Stage, 0-99).

	12-Jun	25-Jun	8-Jul	22-Jul	5-Aug	11-Aug	28-Aug	16-Sep	30-Sep	20-Oct
Brighton	24	25	31	31	31	32	33	49	65	83
Mowhawk	23	24	30	31	32	32	39	49	65	83
LRPB Vortex	30	31	33	45	57	59	67	77	82	88
AGT-Hamelin	22	30	32	37	41	45	59	71	81	86
RGT Ponsford	22	30	32	33	39	41	57	69	75	86
RGT Enebro	23	27	29	30	31	32	37	41	55	76
RGT Waugh	23	29	29	29	29	29	29	31	33	51
RW 71811	22	31	37	45	49	55	67	73	83	88
Dale	22	31	37	41	49	55	63	72	81	88
IGW8247	23	31	32	37	41	45	59	71	82	88
Brumby	22	30	32	39	45	51	61	77	79	87
Mammoth	22	23	30	32	33	32	37	45	58	77

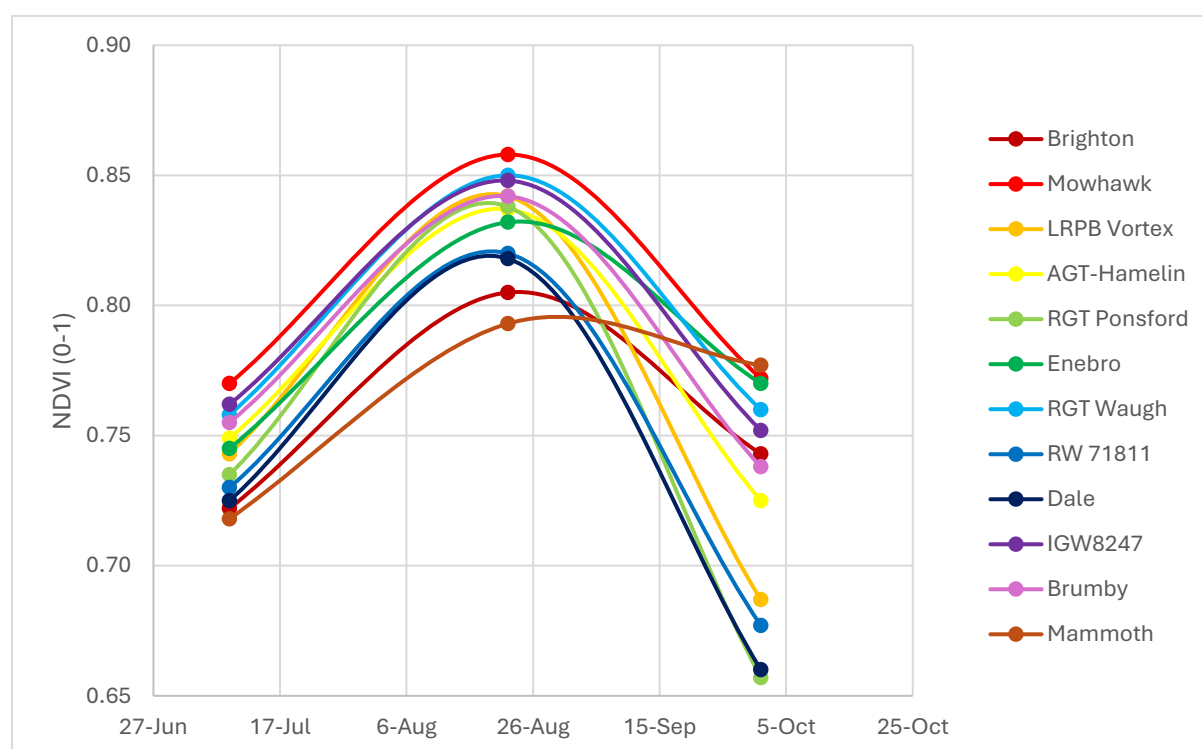


Figure 4. Influence of variety on Normalised Difference Vegetation Index (NDVI, 0-1).

Trial inputs

Table 6. Trial input and management details.

Sowing date:		24-Apr	
Harvest date:		18-Dec	
Seed rate:		200 seeds/m ²	
Basal fertiliser:	24-Apr	125 kg/ha MAP/MOP (80/20) blend	
Seed Treatment		Rancona Dimension 320ml/100 kg	
		Cruiser 350 200 ml/ha	
Pre-em herbicide:	24-Apr	Diuron 300g/ha	
		Voraxor 50ml/ha	
		Overwatch 670g/ha	
		Trifluralin 2.5 L/ha	
		Paraquat 2.5 L/ha	
Post-em herbicide:	22-May	Bromoxynil 800ml/ha	
	2-Jul	MCPA Amine 750 600ml/ha	
Insecticide:	22-May	Trojan 10ml/ha	
Nutrition:	3-Jun	Urea/mop 65:35 110 kg/ha	
	1-Jul	Urea 110 kg/ha (50.6 kg N/ha)	
	14 July	Urea 110 kg/ha (50.6 kg N/ha)	
	5-Aug	Urea 60 kg/ha (27.6 kg N/ha)	
	18-Aug	Rapidol Manganese 1kg/ha	
		Untreated	Plus Fungicide
Fungicide:	GS 31	--	Prosaro 300ml/ha
	GS 39	--	Opera 1.0 L/ha