INDUSTRY INNOVATIONS 2025: PROVISIONAL HARVEST RESULTS – Early May Sown Wheat

2025 WA Esperance Crop Technology Centre (HRZ Neridup)

WA Wheat HRZ (FAR WAE II W25-50-01)

Sown: 01 May 2025
Harvested: 11 December 2025
Soil Type: Shallow Sandy Duplex

Previous Crop: 2024 Canola
FAR Code: FAR WAE II W25-50-01
GSR (Apr-Oct): 442mm

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 wetter season overall resulted in 442mm growing season rainfall (GSR) and grain yields that ranged from 3.97 – 6.47/ha depending on variety and fungicide input.*
- *There was no significant response to the three-spray fungicide programme although there was trend in spring wheats suggesting that treated crops tended to be higher yielding than untreated crops, although again there was no statistically significant interaction between variety and fungicide interaction.*
- *AGT Hamelin (6.32 t/ha) a mid to slow maturing spring wheat was statistically higher yielding than all other varieties other than LRPB Vortex (6.04t/ha) (mid maturing spring) which performed strongly in 2024.*
- *In general spring wheats were earlier flowering and higher yielding than winter wheats at this 1st May sowing date, with AGT Hamelin being slower than LRPB Vortex, RGT Ponsford and HI7Q3x0150SCI0-076D , suggesting the spring varieties were better suited to this sowing date. Inversely, the slower developing winter wheats and long spring Mammoth which flowered later were lower yielding.*
- *Infection levels of Stagonospora nodorum blotch (SNB) and yellow leaf spot (YLS) were low in all varieties and difficult to discriminate, although infection levels varied.*
- *Proteins in the trial averaged 9.9% with a range from 10.3% (Brighton) down to 9.5% (AGT Hamelin) suggesting that the level of nitrogen input was below optimum. Screenings averaged 2.5% ranging from 1.3% (RGT Ponsford) to 3.3% (Mowhawk). Test weights averaged 75.4 kg/hL.*
- *Although no statistically significant interactions were detected between variety and fungicide, nor effects of fungicide alone on grain quality parameters, variety had a significant influence on grain protein, test weight, and screenings.*

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

There were significant differences in yield and quality due to variety (p=<0.001), but fungicide application had no statistically significant effects.

Table 1. Influence of fungicide application on the grain yield (t/ha) of winter and spring wheat (varieties grown plus and minus fungicide) – May 1 sown

	Management Level					
Variety	**Untreated**		**Plus fungicide**		**Mean**	
	Yield t/ha		**Yield t/ha**		**Yield t/ha**	
Brighton (w)	4.45	-	4.59	-	**4.52**	**d**
Mowhawk (w)	4.93	-	4.87	-	**4.90**	**c**
LRPB Vortex (s)	5.79	-	6.29	-	**6.04**	**ab**
AGT Hamelin (s)	6.17	-	6.47	-	**6.32**	**a**
RGT Ponsford (s)	5.73	-	6.24	-	**5.98**	**b**
RGT Enebro (w)	3.98	-	3.84	-	**3.91**	**e**
HI7Q3x0150SCI0-076D (s)	5.76	-	6.06	-	**5.91**	**b**
Mammoth (s)	4.81	-	4.66	-	**4.73**	**cd**
Mean	**5.20**	**-**	**5.38**	**-**	**5.29**	
LSD Variety p = 0.05	0.33		**P val**		<0.001	
LSD Management p = 0.05	ns		**P val**		0.287	
LSD Variety x Man. p = 0.05	ns		**P val**		0.237	

W = winter wheat, S = spring wheat

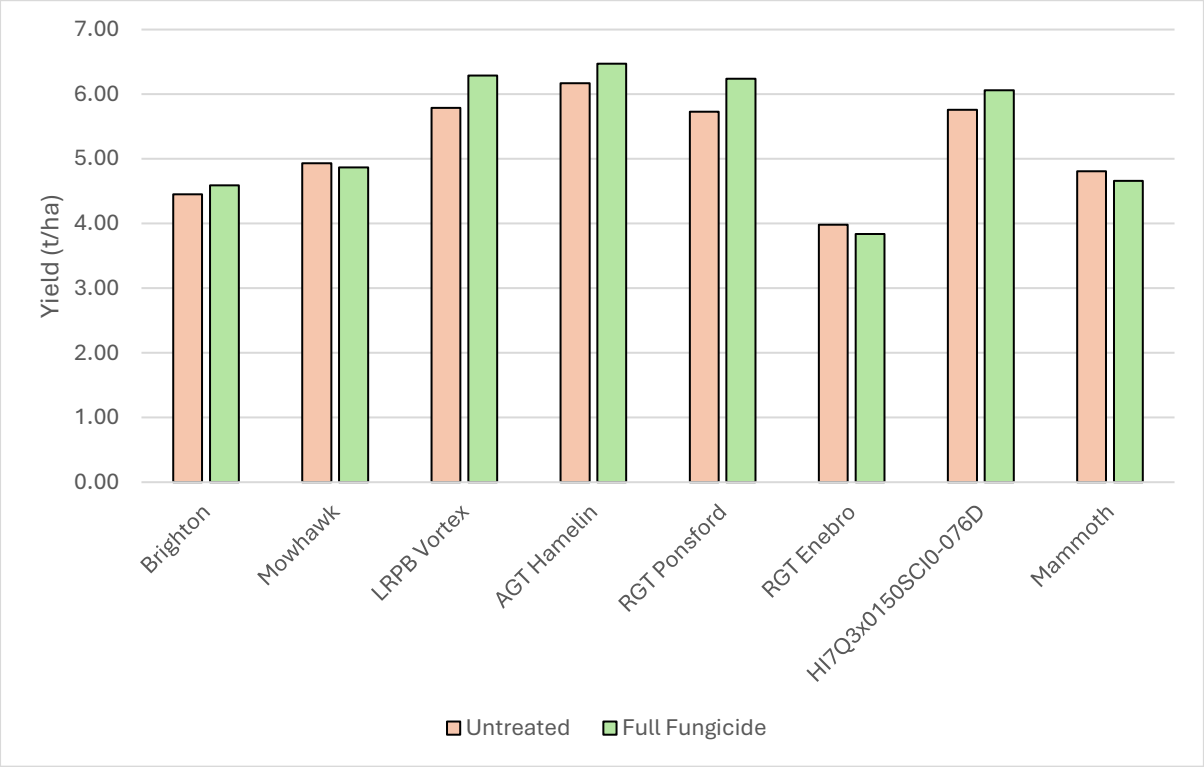

Figure 1. Influence of variety and fungicide on grain yield (t/ha). All fungicide differences are not statistically significant – May 1 sown

Table 2. Influence of variety and fungicide on the grain protein (%) and test weights (kg/hL) – December 11 harvest.

	Management Level											
Variety	**Untreated**		**Plus fungicide**		**Mean**		**Untreated**		**Plus fungicide**		**Mean**	
	Protein %		**Protein %**		**Protein %**		**Test weight kg/hL**		**Test weight kg/hL**		**Test weight kg/hL**	
Brighton	10.3	-	10.3	-	**10.3**	**a**	75.7	-	76.3	-	**76.0**	**b**
Mowhawk	10.0	-	10.1	-	**10.0**	**ab**	75.9	-	74.6	-	**75.2**	**bc**
LRPB Vortex	10.0	-	9.9	-	**9.9**	**bc**	77.0	-	77.9	-	**77.4**	**a**
AGT Hamelin	9.5	-	9.5	-	**9.5**	**d**	77.8	-	78.0	-	**77.9**	**a**
RGT Ponsford	9.8	-	9.6	-	**9.7**	**cd**	77.3	-	77.9	-	**77.6**	**a**
RGT Enebro	10.0	-	10.5	-	**10.2**	**ab**	68.0	-	65.9	-	**67.0**	**d**
HI7Q3x0150SCI0-076D	10.1	-	10.2	-	**10.2**	**ab**	77.0	-	78.3	-	**77.6**	**a**
Mammoth	9.9	-	10.2	-	**10.0**	**ab**	74.4	-	73.5	-	**73.9**	**c**
Mean	**9.9**	**-**	**10.0**	**-**	**9.9**		**75.4**	**-**	**75.3**	**-**	**75.4**	
Variety	**LSD p = 0.05**		0.3		**P val**	<0.001	**LSD p = 0.05**		1.4		**P val**	<0.001
Management	**LSD p = 0.05**		ns		**P val**	0.624	**LSD p = 0.05**		ns		**P val**	0.826
Var. x Man.	**LSD p = 0.05**		ns		**P val**	0.336	**LSD p = 0.05**		ns		**P val**	0.168

Table 3. Influence of variety and fungicide on the screenings (% < 2.0 mm) – December 11 harvest.

	Management Level					
Variety	**Untreated**		**Plus fungicide**		**Mean**	
	Screenings %		**Screenings %**		**Screenings %**	
Brighton	3.3	-	2.7	-	**3.0**	**bc**
Mowhawk	3.1	-	3.5	-	**3.3**	**b**
LRPB Vortex	2.8	-	2.4	-	**2.6**	**cd**
AGT Hamelin	1.5	-	1.3	-	**1.4**	**e**
RGT Ponsford	1.4	-	1.3	-	**1.3**	**e**
RGT Enebro	2.6	-	3.0	-	**2.8**	**bc**
HI7Q3x0150SCI0-076D	2.4	-	1.9	-	**2.1**	**d**
Mammoth	3.9	-	4.0	-	**3.9**	**a**
Mean	**2.6**	**-**	**2.5**	**-**	**2.55**	
LSD Variety p = 0.05	0.6		**P val**		<0.001	
LSD Management p = 0.05	ns		**P val**		0.391	
LSD Variety x Man. p = 0.05	ns		**P val**		0.579	

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

	Management Level					
Variety	NDVI					
	11 June		**18 August**		**2 October**	
Brighton	0.46	b	0.60	d	0.56	b
Mowhawk	0.49	a	0.63	cd	0.58	ab
LRPB Vortex	0.47	ab	0.66	abc	0.43	d
AGT Hamelin	0.47	ab	0.70	a	0.57	b
RGT Ponsford	0.46	b	0.70	a	0.50	c
RGT Enebro	0.36	c	0.64	bcd	0.59	a
HI7Q3x0150SCI0-076D	0.48	ab	0.69	ab	0.45	d
Mammoth	0.38	c	0.65	a-d	0.58	ab
Mean	**0.44**		**0.66**		**0.53**	
Var. LSD p = 0.05 (NDVI 11 June)	0.03		**P val**		<0.001	
Var. LSD p = 0.05 (NDVI 18 August)	0.04		**P val**		0.016	
Var. LSD p = 0.05 (NDVI 2 October)	0.03		**P val**		<0.001	

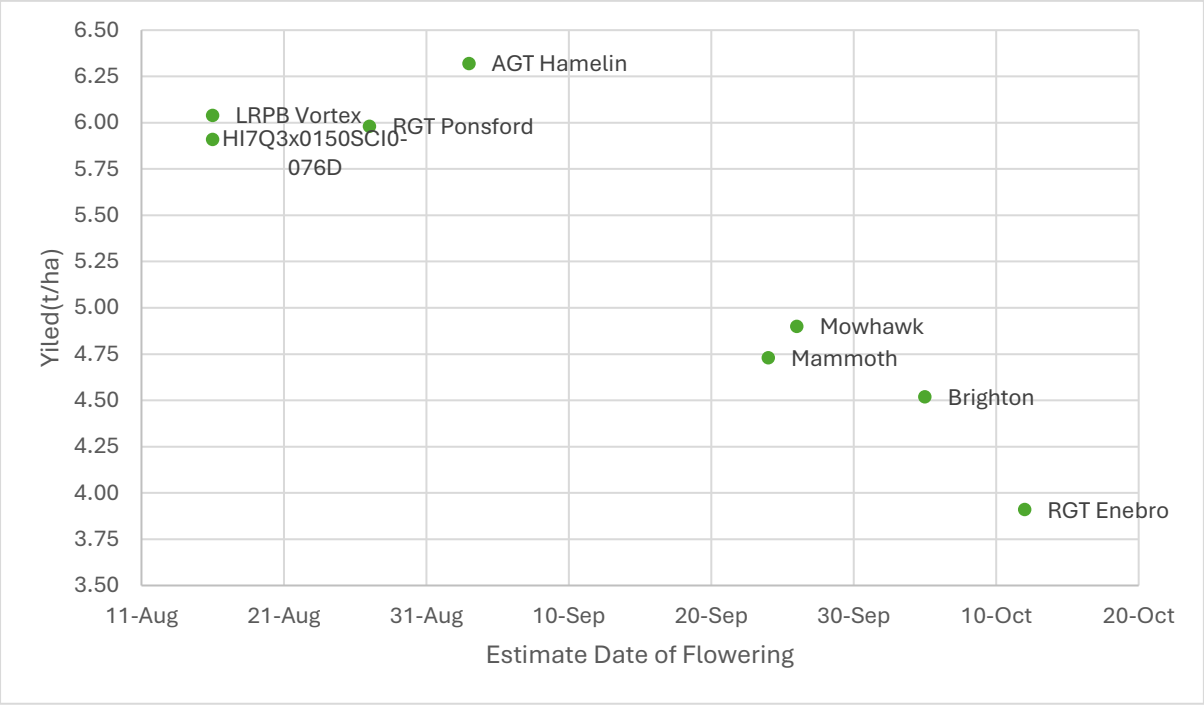

Figure 3. Grain yield in relation to flowering timing across wheat varieties.

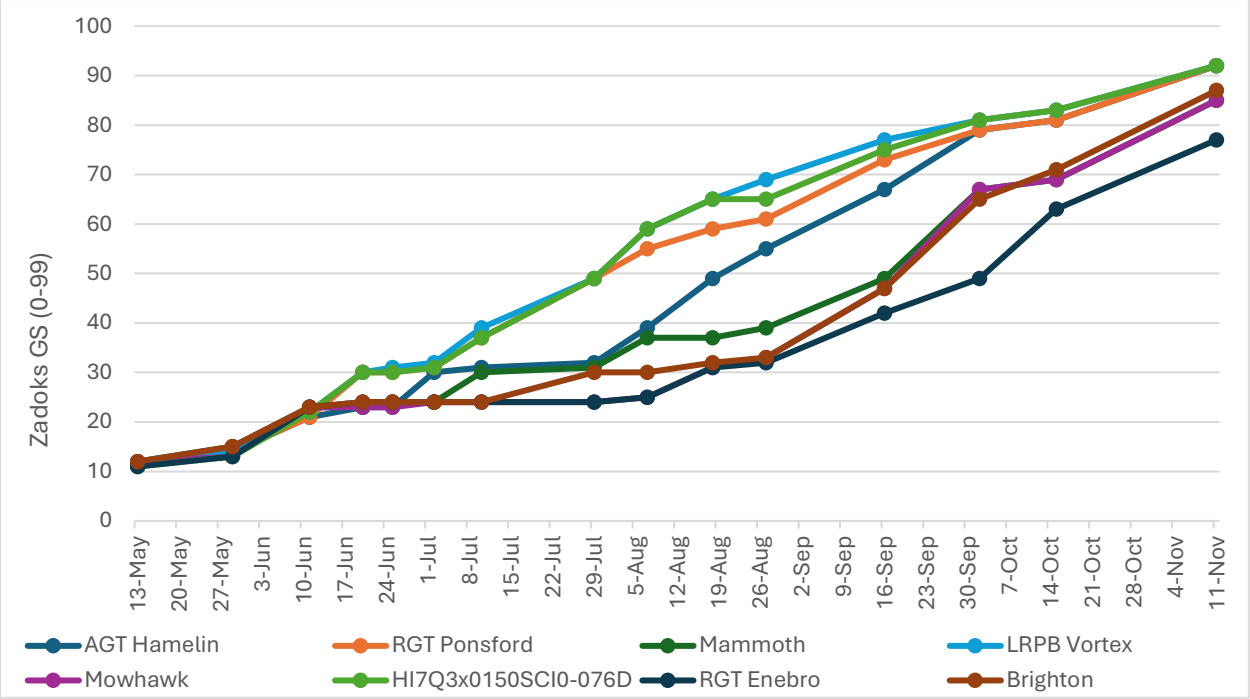

Figure 4. Influence of variety on phenology.

(Note: Up to the 16th of September Mowhawk and Brighton are on the same line and post the 30th of September Mammoth and Mowhawk are on the same line)

Table 5. Trial input and management details**.**

Sowing date:		**1 May 2025**	
Harvest Date:		**11 December 2025**	
Seed Rate:		200 seeds/m^2	
Basal Fertiliser:	1 May	80 kg/ha Agflow Manganese (14.4kg P/ha and 8.48kg N/ha)	
Pre-Em Herbicide:	30 April	Paraquat 360 1.67 L/ha	
		Trifluralin 480 2 L/ha	
Post-Em Herbicide:	29 May	Mateno Complete 0.75 L/ha	
Insecticide	30 April	Trojan 0.04 L/ha	
	29 May	Trojan 0.01 L/ha	
Nitrogen:	3 Jul	170kg/ha Urea (78.2kg N/ha)	
	23 Jul	76 kg/ha Urea (35 kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator 0.50 L/ha
	GS45	----	Elatus Ace 0.50L/ha

Brighton, Mowhawk sprayed at GS45 and Enebro sprayed at GS42 with Elatus Ace due to developmental differences pushing spray timings into periods with very limited spray opportunities which delayed applications. All other varieties were sprayed at GS39 with Aviator 0.50 L/ha.