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

2025 WA Esperance Crop Technology Centre (MRZ Scaddan)

WA Wheat MRZ (FAR WAE II W25-54)

Sown: 6 May 2025
Harvested: 10 December 2025
Soil Type: Shallow sand over clay duplex soil
Previous Crop: 2024 Canola
FAR Code: FAR WAE II W25-54
GSR (Apr-Oct): 324mm

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 342mm growing season rainfall (GSR) and grain yields that ranged from 3.14– 5.10 t/ha depending on variety and fungicide input.*
- *Fungicide application did not have a significant impact on grain yield, with average yields of 4.11 t/ha in the untreated plots and 4.20 t/ha where fungicide was applied, a difference that was not statistically significant (P = 0.475).*
- *There was also no significant interaction between variety and fungicide treatment, showing that varieties responded in a similar way regardless of fungicide use.*
- *In contrast, yield varied strongly between varieties (P < 0.001). Brumby (5.10t/ha) a mid maturing spring wheat and AGT Hamelin (4.96 t/ha) a mid to slow maturing spring wheat were statistically higher yielding than all other varieties. RGT Enebro (winter wheat) was the lowest-yielding variety (3.14 t/ha) and latest to flower.*
- *Infection levels of Stagonospora nodorum blotch (SNB) and yellow leaf spot (YLS) were generally low across all varieties.*
- *Proteins in the trial averaged 12.5% with a range from 13.9% (*HI7Q3x0150SCI0-076D*) down to 11% (Brumby).*
- *Test weights also differed between varieties, with AGT Hamelin achieving the highest test weights at 81.3* kg/hL *and RGT Enebro the lowest at 75.1 kg/hL (Table 2). Screenings were generally low, although Genie produced noticeably higher screenings at 8% compared with other varieties.*
- *Grain quality was strongly affected by variety, with significant differences observed for protein, test weight and screenings (P < 0.001), while fungicide application had no effect.*

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

Table 1. Influence of fungicide application on the grain yield (t/ha) of winter and spring wheat (varieties grown plus and minus fungicide) – May 6 sown

	Management Level					
Variety	**Untreated**		**Plus fungicide**		**Mean**	
	Yield t/ha		**Yield t/ha**		**Yield t/ha**	
Scepter (s)	3.55	-	3.60	-	**3.57**	**c**
Matador (s)	3.51	-	3.74	-	**3.62**	**c**
Genie (s)	4.48	-	4.57	-	**4.53**	**b**
Rockstar (s)	4.59	-	4.55	-	**4.57**	**b**
AGT Hamelin (s)	4.93	-	4.99	-	**4.96**	**a**
AGT Rio (s)	4.41	-	4.55	-	**4.48**	**b**
RGT Ponsford (s)	4.37	-	4.31	-	**4.34**	**b**
RGT Marsh (s)	3.63	-	3.94	-	**3.79**	**c**
RGT Enebro (w)	3.12	-	3.15	-	**3.14**	**d**
HI7Q3x0150SCI0-076D (s)	3.60	-	3.54	-	**3.57**	**c**
Dale (s)	4.19	-	4.29	-	**4.24**	**b**
Brumby (s)	4.99	-	5.20	-	**5.10**	**a**
Mean	**4.11**	**-**	**4.20**	**-**	**4.16**	
LSD Variety p = 0.05	0.3		**P val**		<0.001	
LSD Management p = 0.05	ns		**P val**		0.475	
LSD Variety x Man. p = 0.05	ns		**P val**		0.992	

W = winter wheat, S = spring wheat

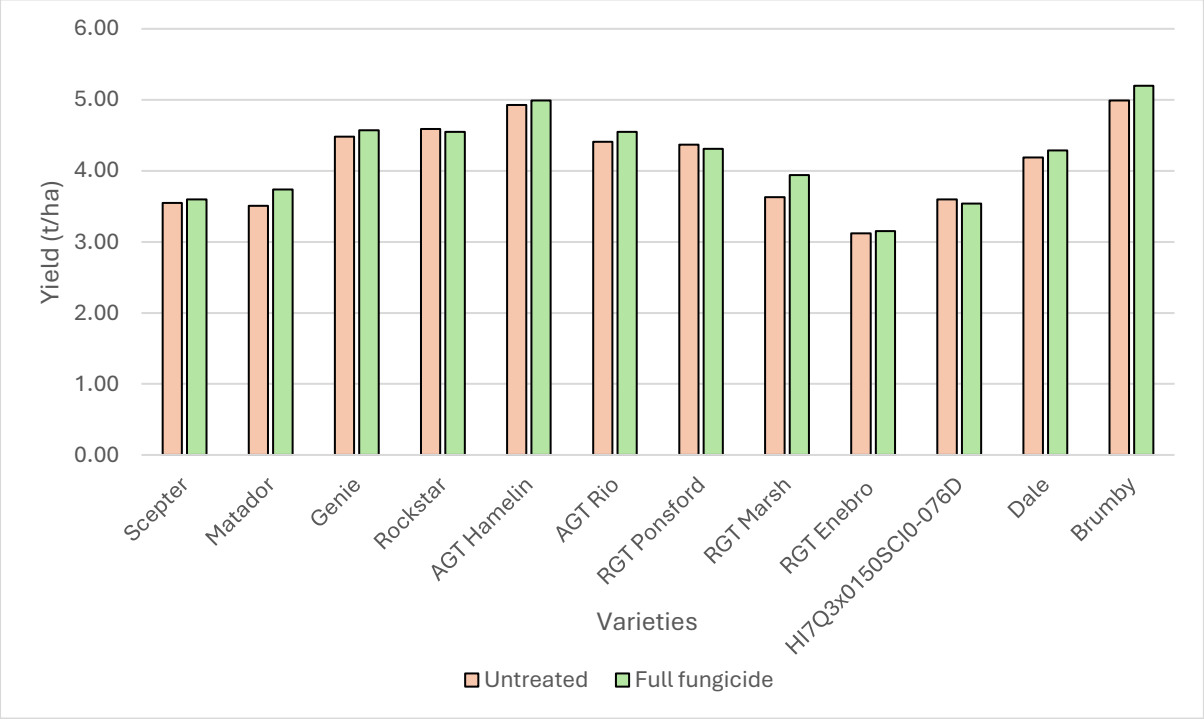

Figure 1. Influence of variety and fungicide on grain yield (t/ha). All fungicide differences are not statistically significant – May 6 sown

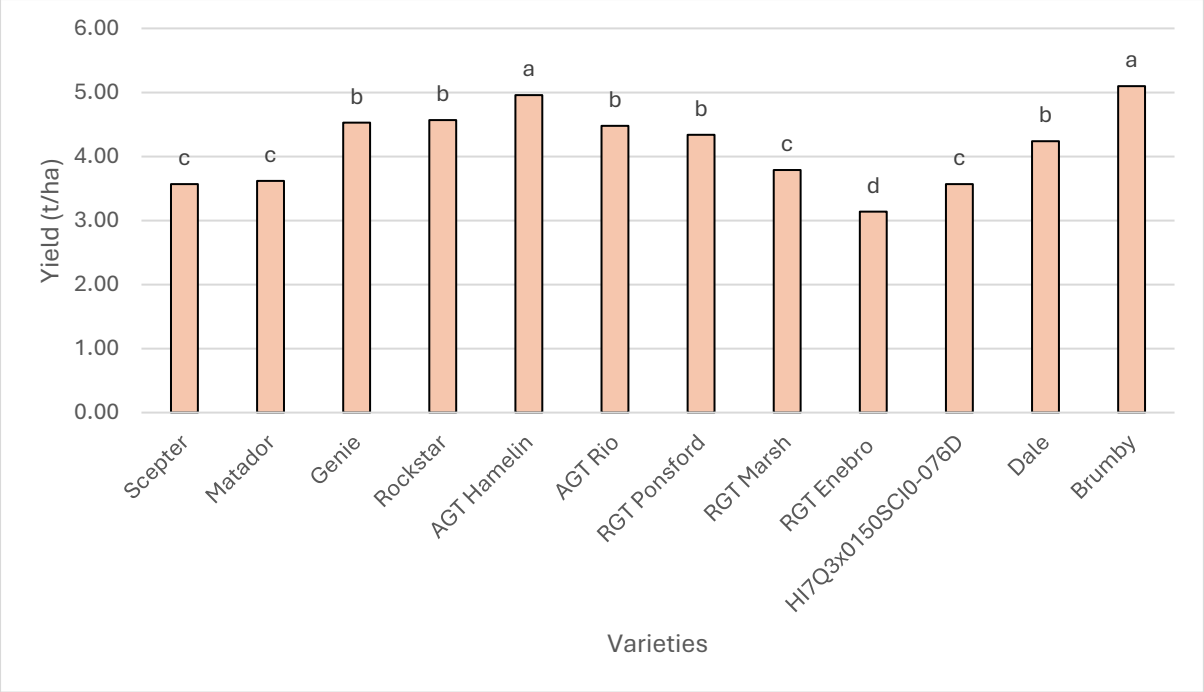

Figure 2. Influence of variety and fungicide on mean grain yield (t/ha).

Table 2. Influence of variety and fungicide on the grain protein (%) and test weights (kg/hL) – December 10 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**	
Scepter	12.8	-	13.2	-	**13.0**	**bc**	78.4	-	77.3	-	**77.8**	**bcd**
Matador	13.4	-	13.5	-	**13.4**	**ab**	78.9	-	79.0	-	**79.0**	**bc**
Genie	11.8	-	11.9	-	**11.8**	**d**	76.9	-	77.4	-	**77.1**	**de**
Rockstar	12.3	-	12.4	-	**12.3**	**d**	76.0	-	76.2	-	**76.1**	**ef**
AGT Hamelin	11.8	-	11.8	-	**11.8**	**d**	81.0	-	81.6	-	**81.3**	**a**
AGT Rio	12.0	-	11.8	-	**11.9**	**d**	77.4	-	78.0	-	**77.7**	**bcd**
RGT Ponsford	12.0	-	12.1	-	**12.1**	**d**	79.6	-	78.8	-	**79.2**	**b**
RGT Marsh	12.5	-	12.3	-	**12.4**	**cd**	78.1	-	79.3	-	**78.7**	**bc**
RGT Enebro	13.7	-	13.5	-	**13.6**	**a**	75.0	-	75.3	-	**75.1**	**f**
HI7Q3x0150SCI0-076D	14.0	-	13.9	-	**13.9**	**a**	77.4	-	77.8	-	**77.6**	**cde**
Dale	11.9	-	11.9	-	**11.9**	**d**	79.0	-	79.4	-	**79.2**	**b**
Brumby	11.4	-	10.7	-	**11.0**	**e**	76.5	-	77.1	-	**76.8**	**de**
Mean	**12.5**	**-**	**12.4**	**-**	**12.5**		**77.8**	**-**	**78.1**	**-**	**77.9**	
Variety	**LSD p = 0.05**		0.6	**P val**	<0.001		**LSD p = 0.05**		1.5	**P val**	<0.001	
Management	**LSD p = 0.05**		ns	**P val**	0.773		**LSD p = 0.05**		ns	**P val**	0.718	
Var. x Man.	**LSD p = 0.05**		ns	**P val**	0.971		**LSD p = 0.05**		ns	**P val**	0.978	

Table 3. Influence of variety and fungicide on the screenings (% < 2.0 mm) – December 10 harvest.

	Management Level					
Variety	**Untreated**		**Plus fungicide**		**Mean**	
	Screenings %		**Screenings %**		**Screenings %**	
Scepter	1.0	-	1.1	-	**1.0**	**cde**
Matador	1.0	-	1.2	-	**1.1**	**b-e**
Genie	7.9	-	8.1	-	**8.0**	**a**
Rockstar	1.6	-	1.2	-	**1.4**	**bcd**
AGT Hamelin	0.9	-	0.9	-	**0.9**	**e**
AGT Rio	1.6	-	1.5	-	**1.5**	**bc**
RGT Ponsford	0.9	-	0.8	-	**0.9**	**e**
RGT Marsh	0.7	-	0.8	-	**0.7**	**e**
RGT Enebro	1.7	-	1.5	-	**1.6**	**b**
HI7Q3x0150SCI0-076D	0.9	-	0.9	-	**0.9**	**de**
Dale	1.0	-	1.2	-	**1.1**	**cde**
Brumby	1.6	-	1.5	-	**1.5**	**bc**
Mean	**1.7**	**-**	**1.7**	**-**	**1.7**	
LSD Variety p = 0.05	0.5		**P val**		<0.001	
LSD Management p = 0.05	ns		**P val**		0.997	
LSD Variety x Man. P = 0.05	ns		**P val**		0.997	

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

		NDVI (0-1)					
	Variety	**9-June**		**18-August**		**6-October**	
1	**Scepter**	0.35	bc	0.76	-	0.35	c
2	**Matador**	0.32	e	0.75	-	0.35	c
3	**Genie**	0.33	cde	0.77	-	0.39	b
4	**Rockstar**	0.39	a	0.76	-	0.36	bc
5	**AGT Hamelin**	0.35	bc	0.76	-	0.38	bc
6	**AGT Rio**	0.37	ab	0.75	-	0.35	c
7	**RGT Ponsford**	0.35	bcd	0.76	-	0.37	bc
8	**RGT Marsh**	0.35	bcd	0.76	-	0.36	bc
9	**RGT Enebro**	0.27	f	0.76	-	0.64	a
10	**HI7Q3x0150SCI0-076D**	0.35	b	0.77	-	0.34	c
11	**Dale**	0.32	de	0.75	-	0.37	bc
12	**Brumby**	0.35	bcd	0.75	-	0.37	bc
	Mean	**0.34**		**0.76**		**0.39**	
	LSD Variety p = 0.05 (9-June)	0.03		**P value**		<0.001	
	LSD Variety p = 0.05 (18-August)	ns		**P value**		0.246	
	LSD Variety p = 0.05 (6-October)	0.04		**P value**		<0.001	

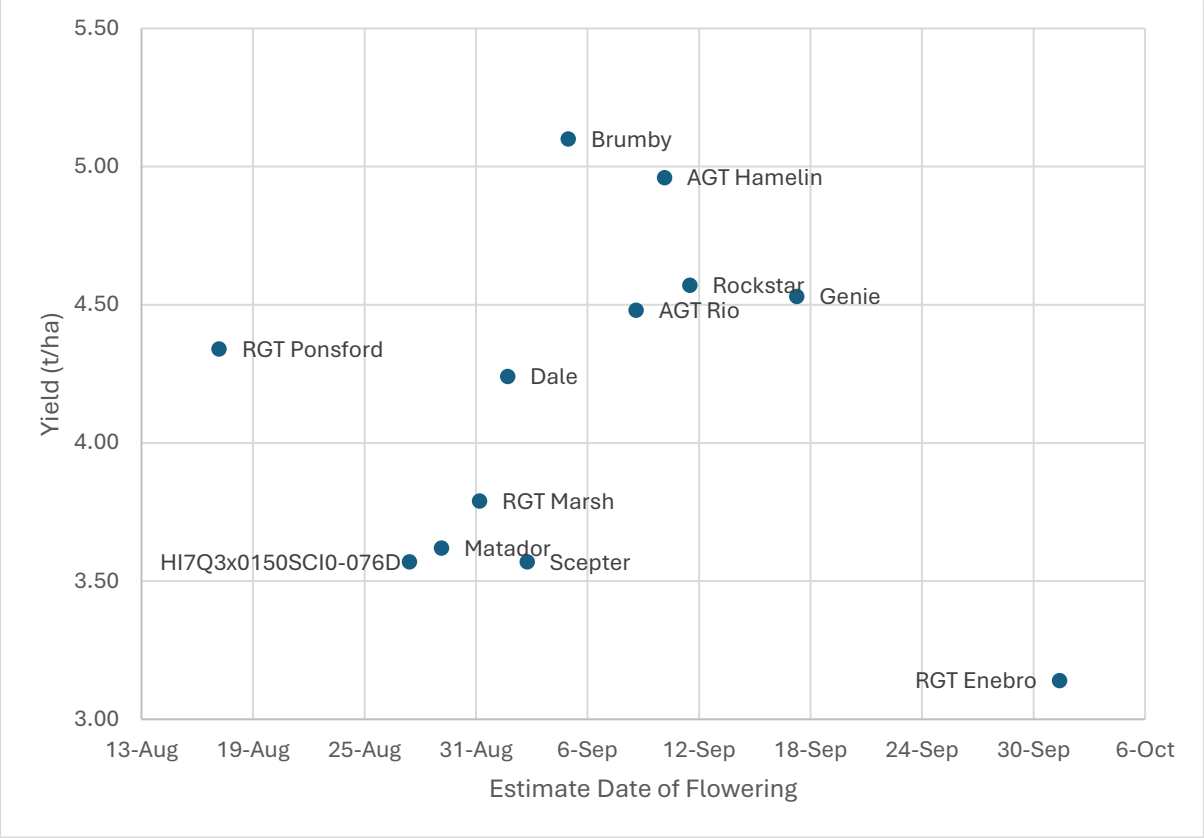

Figure 3. Grain yield in relation to flowering timing across wheat varieties.

Trial Inputs

Table 5. Trial input and management details.

Sowing date:		**6 May 2025**	
Harvest date:		**10 December 2025**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	6 May	80 kg/ha Agflow Manganese (14.4kg P/ha and 8.48kg N/ha)	
Pre-em herbicide:	6 May	TriflurX 2.00 L/ha	
		Overwatch 1.2 L/ha	
Post-em herbicide:	30 Jun	Saracen 0.1 L/ha	
		MCPA 570 LVE 0.5 L/ha	
Insecticide	30 Jun	Trojan 0.013 L/ha	
Nitrogen:	2 Jul	Urea Sustain 86kg/ha (39.6kg N/ha)	
	14 Jul	Urea Sustain 45kg/ha (20.7kg N/ha)	
	30 Jul	Urea Sustain 45kg/ha (20.7kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator 0.50 L/ha