INDUSTRY INNOVATIONS: PROVISIONAL HARVEST YIELD RESULTS – May Sown Wheat

2025 NSW Crop Technology Centre (Daysdale)

Sown: 7 May 2025 **Harvested:** 14 November 2025
FAR Trial Code: FAR NSW II W25-73 **Growing season rainfall:** 188.9
Rotation position: 2024 – Canola hay, 2023 -Barley
Soil type & management: Acidic red loam; soil was mixed with tine and scarifying points prior to sowing (Acid throttle management)

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.

Objectives

To assess the yield performance of a range of wheats, managed with and without fungicide against four regional controls (Scepter, LRPB Matador, Genie and Rockstar), sown in mid-May in the Daysdale (NSW) medium rainfall environment.

Key Points

- *There was very little disease pressure in the trial which has resulted in no statistical yield response to applied foliar fungicides.*
- *There were significant yield differences between varieties, with RGT Marsh (tested as H16Q3x0336.SCI-097D) being the highest yielding variety with 3.35t/ha but it was not significantly higher yielding than Scepter, Rockstar, LPB20-8165, AGT-Rio (tested as V15019-88), 19Q3H0499, Murray (tested as IGW6895) or IGW6955.*
- *Grain protein was high across all varieties ranging from 13.6% to 17.4%. Protein was unaffected by fungicide application but was significantly different between varieties with two coded lines 19Q3H0393 and 16Q2H0310 having the highest protein.*
- *Grain quality was poor across all treatments with test weight ranging from 64.3kg/hL to 73.7kg/hL and screenings ranging from 1.2% to 43.9%.*
- *Both stripe rust (Yr) and Septoria tritici blotch (STB) were present in the trial but neither were at levels to impact grain yield, although there were significant differences in genetic resistance to these diseases.*

Yield (t/ha) & quality data

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

	Management Level					
Variety	**Untreated**		**Plus fungicide**		**Mean**	
	Yield t/ha		**Yield t/ha**		**Yield t/ha**	
Scepter (s)	3.03	-	3.18	-	**3.11**	**a-d**
LRPB Matador (s)	3.14	-	3.03	-	**3.08**	**bcd**
Genie (s)	2.50	-	2.59	-	**2.55**	**h**
Rockstar (s)	3.13	-	3.36	-	**3.24**	**ab**
Mowhawk (w)	2.62	-	2.55	-	**2.58**	**h**
LRPB Major (s)	2.64	-	2.75	-	**2.69**	**fgh**
Boa (LPB19-8035) (s)	2.98	-	2.90	-	**2.94**	**c-f**
Packer (LPB19-3527) (s)	2.77	-	2.98	-	**2.87**	**d-g**
LPB20-8165 (s)	3.31	-	3.20	-	**3.25**	**ab**
AGT Rio (V15019-88) (s)	3.13	-	3.13	-	**3.13**	**a-d**
Triple2 (w)	2.64	-	2.91	-	**2.77**	**e-h**
RGT Ponsford (s)	2.98	-	2.96	-	**2.97**	**cde**
19Q3H0499 (s)	3.25	-	3.08	-	**3.16**	**abc**
19Q3H0393 (s)	2.71	-	2.63	-	**2.67**	**gh**
16Q2H0310 (s)	2.86	-	2.90	-	**2.88**	**d-g**
RGT Marsh (H16Q3x0336.SCI-097D) (s)	3.35	-	3.35	-	**3.35**	**a**
Murray (IGW6895) (s)	2.93	-	3.31	-	**3.12**	**a-d**
IGW6955 (s)	3.01	-	3.20	-	**3.10**	**a-d**
Mean	**2.94**	**-**	**3.00**	**-**		
LSD Cultivar p = 0.05	0.26			**P value**	<0.001	
LSD Management p = 0.05	ns			**P value**	0.435	
LSD Cultivar x Man. p = 0.05	ns			**P value**	0.800	

S – Spring wheat, W – winter wheat

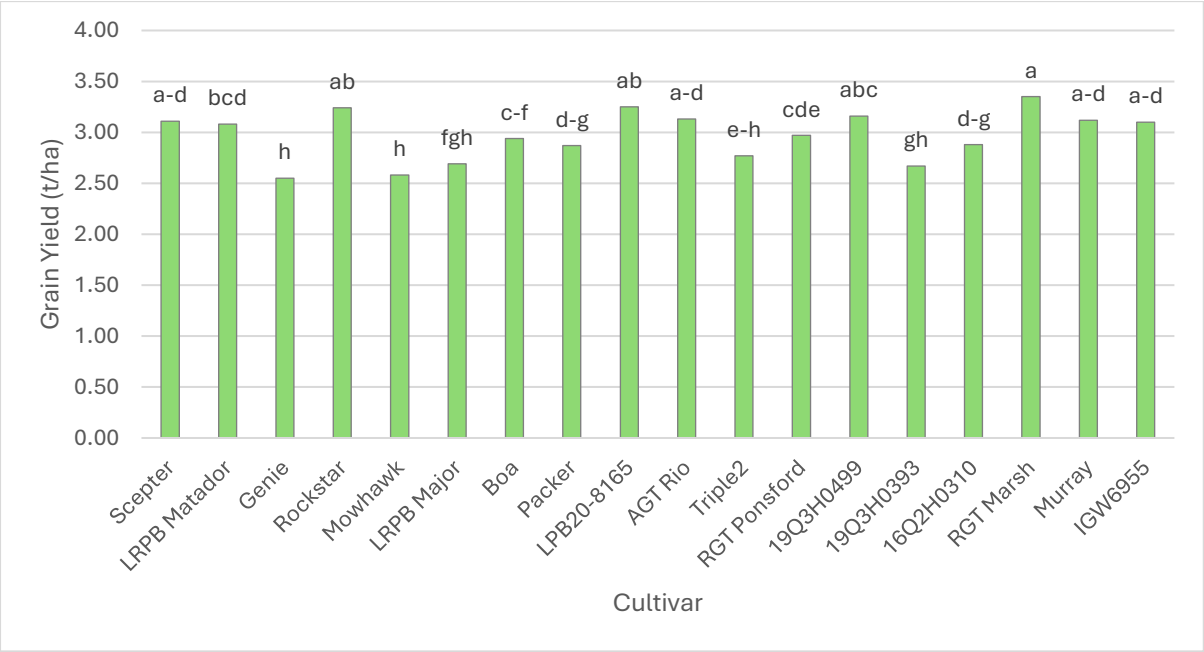

Figure 1. Influence of variety on the grain yield (t/ha) of wheat varieties (mean of plus and minus fungicide).

Table 2. Influence of fungicide application the grain quality (protein – corrected to 0% moisture, test weight and screenings) of wheat variety plus and minus fungicide.

		Grain Quality Assessments					
Fungicide Management		**Protein (%)**		**Test Weight (kg/hL)**		**Screenings (%)**	
1	Nil Fungicide	15.0	-	70.1	-	18.0	b
2	Full Fungicide	15.4	-	69.0	-	20.7	a
	Pval	0.104		0.064		0.041	
	LSD P=0.05	ns		ns		2.5	
Fungicide Management		**Protein (%)**		**Test Weight (kg/hL)**		**Screenings (%)**	
1	Scepter	14.9	e-h	71.6	ab	12.4	gh
2	LRPB Matador	15.3	def	68.9	c-f	24.2	d
3	Genie	15.6	cd	70.4	a-d	42.4	a
4	Rockstar	15.1	d-g	70.5	a-d	10.8	gh
5	Mowhawk	16.1	bc	69.4	b-f	22.6	d
6	LRPB Major	16.1	bc	69.3	b-f	25.7	cd
7	Boa	15.0	d-g	68.1	def	22.3	d
8	Packer	15.5	cde	72.2	a	11.1	gh
9	LPB20-8165	14.5	ghi	71.7	ab	13.9	fg
10	AGT Rio	14.8	f-i	70.7	abc	14.6	fg
11	Triple2*	14.2	ij	67.0	fg	1.2	i
12	RGT Ponsford	14.9	e-i	70.2	a-e	11.4	gh
13	19Q3H0499	14.3	hi	68.2	c-f	22.0	de
14	19Q3H0393	17.0	a	65.3	g	36.0	b
15	16Q2H0310	16.6	ab	67.7	efg	29.4	c
16	RGT Marsh	13.6	j	72.6	a	8.7	h
17	Murray	14.8	f-i	70.1	a-e	21.8	de
18	IGW6955	14.8	f-i	68.4	c-f	17.7	ef
	Pval	<0.001		<0.001		<0.001	
	LSD P=0.05	0.7		2.6		4.5	

*Triple2 harvested at high moisture (+20%) which affected test weight and screenings so figures should be considered in this context

Disease assessments

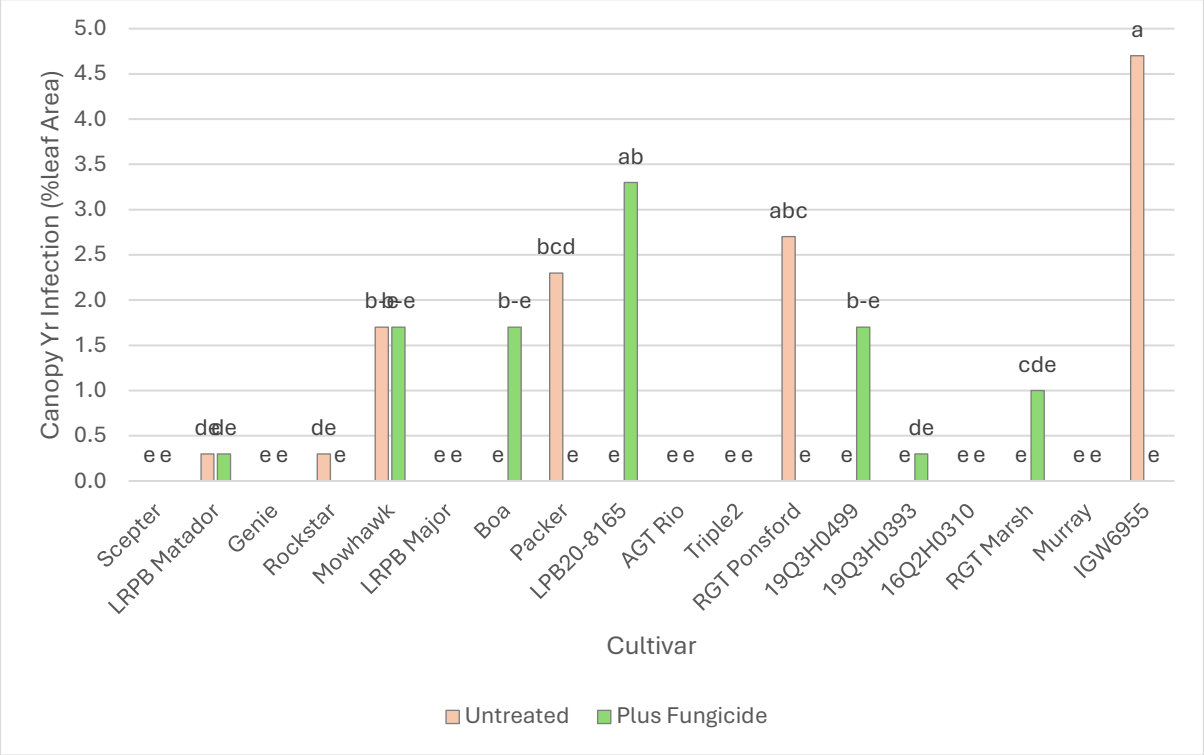

Figure 3. Influence of variety and fungicide application on stripe rust (Yr) plot infection (% plot) assessed 12 September. LSD (p=0.05) = 2.1, p = 0.019. *Note: high level of infection in treated plots is due to Yr hot-spots before first application was made and therefore plot disease score data should be used with caution.*

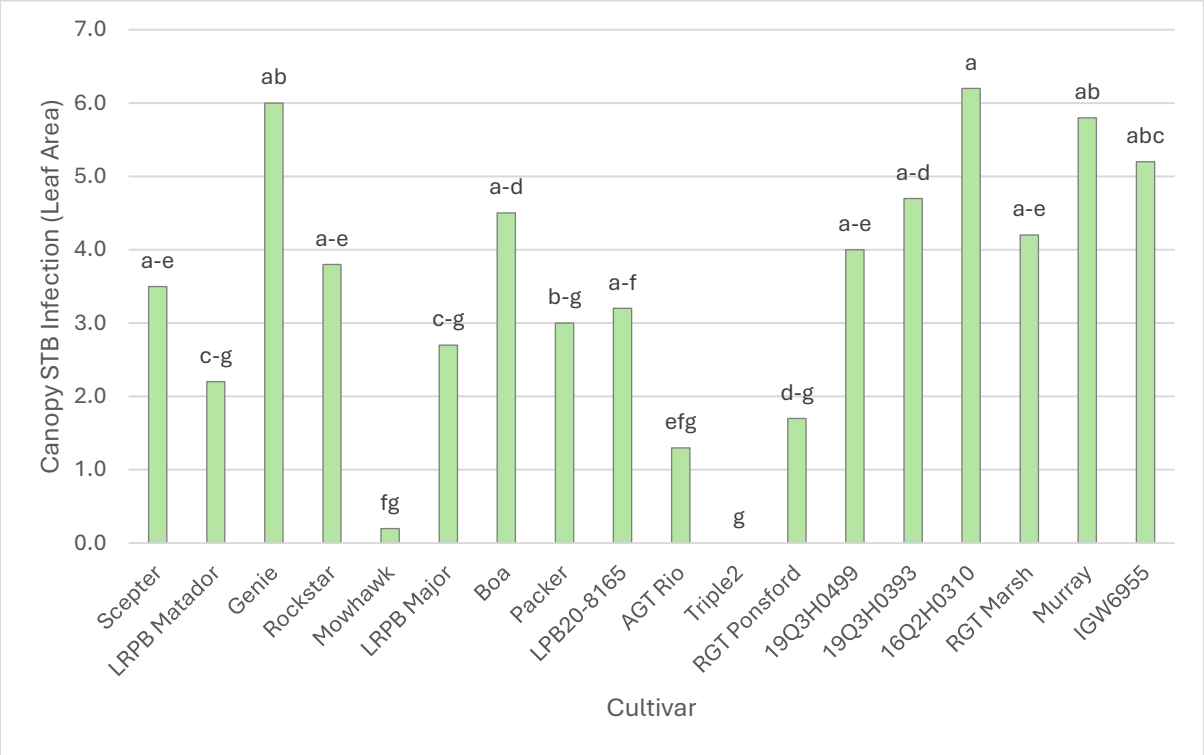

Figure 4. Influence of variety on Septoria tritici blotch (STB) plot infection (% plot) assessed 12 September. LSD (p=0.05) = 3.0, p = 0.009.

Development (Phenology)

Table 4. Phenology assessments (Zadoks stage) conducted throughout the growing season.

	17-Jul	5-Aug	2-Sep	12-Sep
Scepter	25	31	37	41
LRPB Matador	24	31	33	41
Genie	23	31	32	39
Rockstar	24	30	37	41
Mowhawk	25	25	32	39
LRPB Major	24	26 (near 30)	33	39
Boa	24	31	37	45
Packer	24	27	32/33	37
LPB20-8165	24	30-31	37	39
AGT Rio	24	30	33	39
Triple2	24	27	31	32
RGT Ponsford	24	31	32	41
19Q3H0499	23	30-31	37	45
19Q3H0393	25	30	33	39
16Q2H0310	24	31	33	41
RGT Marsh	23	31	37	45
Murray	23	30	33	41
IGW6955	23	31	37	41

Trial inputs

Table 5. Trial input and management details.

Sowing date:		**7 May**	
Harvest date:		**14 November**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	7 May	80 kg MAP	
Pre-em herbicide:	7 May	Treflan 2L/ha	
		Glyphosate 450 2L/ha	
		Boxer Gold 2.5L/ha	
Post-em herbicide:	23 July	Danadim 0.5L/ha	
	14 Aug	MCPA Amine 750 750mL/ha	
		Lontrel 750 SG 80g/ha	
		BS1000 0.2%	
Nitrogen:	23 July	Urea 217 kg/ha (100kg N/ha)	
	28 Aug	Urea 109 kg/ha (50kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 300 mL/ha Wetter 1000 0.2%
	GS39	----	Radial 840mL/ha

Meteorological Data

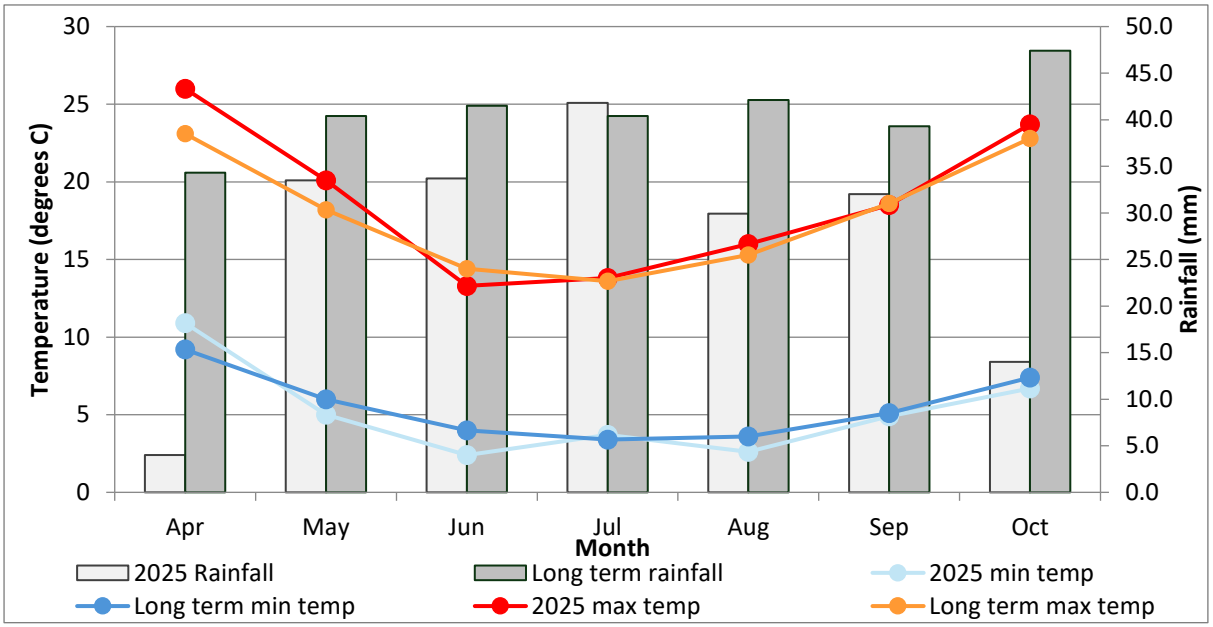

Figure 5. 2025 growing season rainfall recorded on site and long-term rainfall recorded at Oaklands General Store (1925 to 2025) and 2025 minimum and maximum temperatures and long-term mean recorded at Yarrawonga (1993 to 2025) for the growing season (April-October). *Rainfall April to October = 188.9mm*.

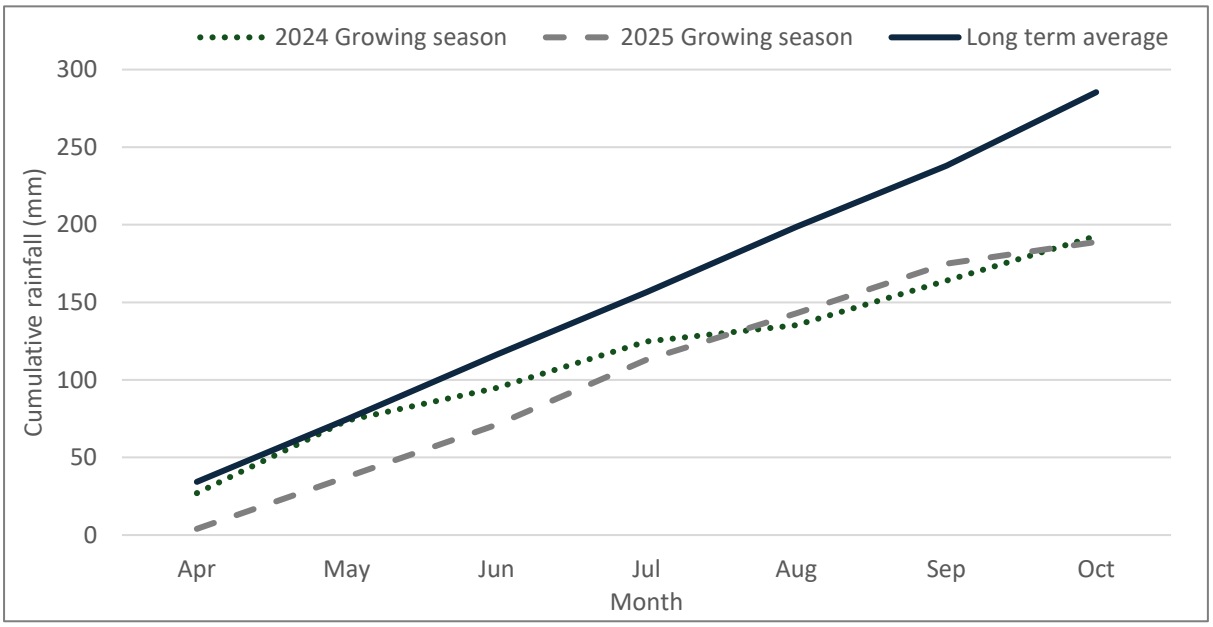

Figure 6. Cumulative growing season rainfall for 2024, 2025 and the long-term average recorded on site (2025) and at Oaklands General Store (2024 and long-term).

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