



**Industry
Innovations**

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

WA Barley HRZ (FAR WAA II B25-58)

Sown: 25 April 2025

Harvested: 12 December 2025

Soil Type: Forest Gravel

Previous Crop: 2024 Canola

FAR Code: FAR WAA II B25-58

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 3.47 – 5.81t/ha.
- Neo CL, Rosalind and Ember were the highest yielding varieties with Neo CL yielding higher than Rosalind when treated with fungicide.
- There was an interaction between variety and fungicide management, which means fungicide application had significantly different influence depending on variety.
- All varieties except Minotaur, Rosalind, AGT-Bunyip IA, and Soldier CL yielded significantly higher with fungicide treatment. This was likely driven by the varying disease pressure on the other varieties, particularly high net form net blotch (NFNB) infections in varieties like RGT Planet and RGT Atlantis, and Wirrega blotch in Laureate and Firefoxx.
- The biggest influence on grain quality was driven by variety selection. Fungicide management did not affect grain protein content; however, it did increase the test weights, retention and reduce screenings. Retentions were high across the varieties, while protein was above 12.8% in Minotaur, AGT-Bunyip IA, Rosalind and Soldier CL. Test weights were mostly below 64.0 kg/hl except for Minotaur, AGT-Bunyip IA, RP19034 and RP21011.
- Mean quality results showed RP19034 and RP21011 were the only two varieties to achieve malt status according to CBH 2025/26 receival requirements.
- At the time of writing RGT Planet, Neo CL and Minotaur are malt accredited varieties while AGT-Bunyip IA, Soldier CL and RGT Atlantis have entered the Grains Australia malt accreditation program, with a target decision date in 2027.
- There was little evidence to suggest an influence of phenology on yield, with Rosalind (short-season), Neo CL (mid-season) and Ember (long-season) being all three of the top yielding varieties.

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

There were significant differences in yield and quality due to variety ($p < 0.002$), and fungicide application had a mean effect of 0.43 t/ha on yield.

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

		Yield (t/ha)					
Variety		Untreated		Plus fungicide		Mean	
1	RGT Planet	3.47	l	4.28	k	3.88	f
2	Neo CL	5.33	cde	5.81	a	5.57	a
3	Minotaur	4.65	hij	4.74	hij	4.70	de
4	Rosalind	5.56	abc	5.64	ab	5.60	a
5	AGT-Bunyip IA	4.89	fgh	5.08	efg	4.99	c
6	RGT Atlantis	3.51	l	4.55	ijk	4.03	f
7	RP19034	4.31	k	4.78	hi	4.54	e
8	RP21011	4.31	k	4.81	ghi	4.56	e
9	Ember	5.23	de	5.56	abc	5.39	ab
10	Soldier CL	5.12	def	5.42	bcd	5.27	b
11	Firefoxx	4.44	jk	4.78	hi	4.61	e
12	Laureate	4.65	hij	5.10	efg	4.88	cd
Mean		4.62	b	5.05	a	4.83	
LSD Variety $p = 0.05$		0.21		P value		<0.001	
LSD Management $p = 0.05$		0.29		P value		0.020	
LSD Variety x Man. $p = 0.05$		0.30		P value		<0.001	

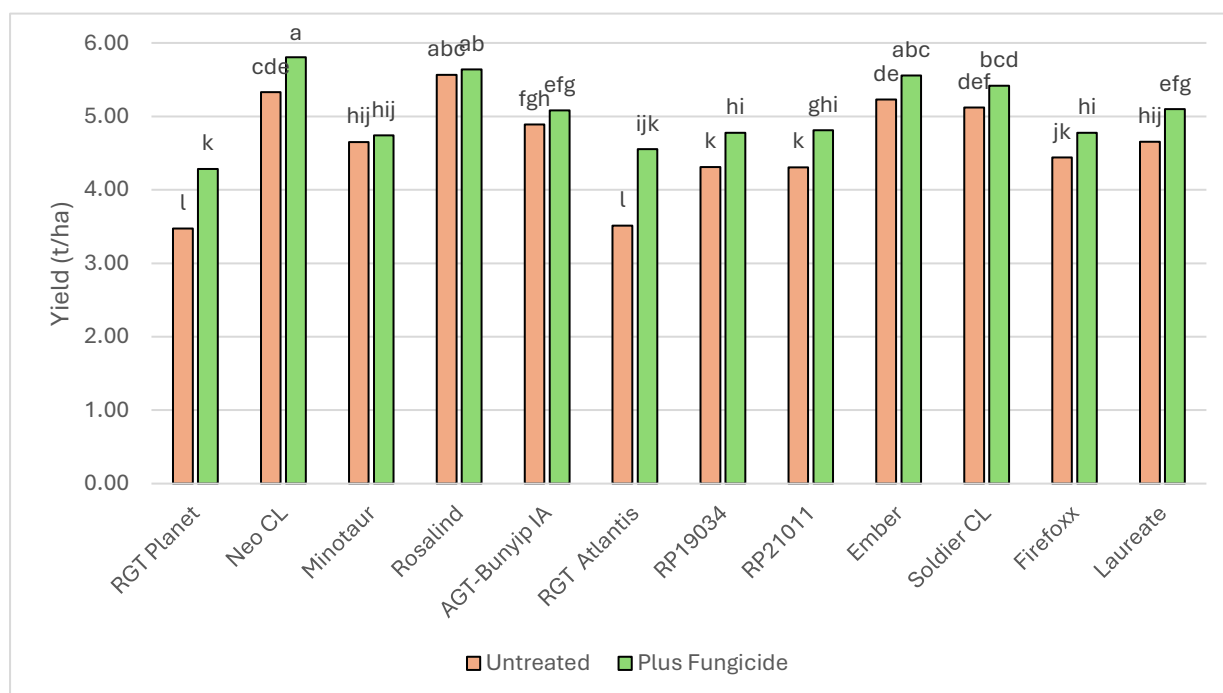


Figure 1. Influence of fungicide and variety on yield (t/ha). (P value<0.001, LSD= 0.30)

Table 2. Influence of variety and fungicide application on the grain protein (%) – 12 December harvest.

Protein (%)							
Variety		Untreated		Plus fungicide		Mean	
1	RGT Planet	12.2	-	12.1	-	12.1	cd
2	Neo CL	11.9	-	11.7	-	11.8	d
3	Minotaur	13.4	-	13.6	-	13.5	a
4	Rosalind	12.8	-	13.0	-	12.9	ab
5	AGT Bunyip IA	13.2	-	13.2	-	13.2	a
6	RGT Atlantis	12.5	-	12.6	-	12.5	bc
7	RP19034	12.4	-	12.5	-	12.4	bc
8	RP21011	12.8	-	12.5	-	12.6	bc
9	Ember	11.9	-	11.5	-	11.7	d
10	Soldier CL	12.8	-	13.0	-	12.9	ab
11	Firefoxx	12.4	-	12.0	-	12.2	cd
12	Laureate	12.5	-	12.4	-	12.4	bc
Mean		12.6	-	12.5	-	12.5	
LSD Variety p = 0.05		0.6		P Value		<0.001	
LSD Management p = 0.05		ns		P Value		0.826	
LSD Variety x Man. p = 0.05		ns		P Value		0.991	

Table 3. Influence of variety and fungicide application on the test weights (kg/hL) - 12 December harvest.

Test Weight (Kg/hL)							
Variety		Untreated		Plus fungicide		Mean	
1	RGT Planet	61.7	-	64.4	-	63.0	cd
2	Neo CL	63.1	-	62.9	-	63.0	cd
3	Minotaur	64.4	-	65.0	-	64.7	b
4	Rosalind	63.0	-	63.3	-	63.1	c
5	AGT Bunyip IA	66.6	-	66.8	-	66.7	a
6	RGT Atlantis	61.9	-	62.4	-	62.1	cd
7	RP19034	65.4	-	64.5	-	64.9	b
8	RP21011	65.0	-	64.8	-	64.9	b
9	Ember	61.3	-	62.1	-	61.7	d
10	Soldier CL	61.6	-	64.2	-	62.9	cd
11	Firefoxx	61.5	-	62.8	-	62.2	cd
12	Laureate	62.4	-	63.6	-	63.0	cd
Mean		63.2	b	63.9	a	63.5	
LSD Variety p = 0.05		1.4		P Value		<0.001	
LSD Management p = 0.05		0.5		P Value		0.016	
LSD Variety x Man. p = 0.05		ns		P Value		0.279	

Table 4. Influence of variety and fungicide application on the retention (% > 2.5mm) - 12 December harvest.

Retention (%)							
Variety		Untreated		Plus fungicide		Mean	
1	RGT Planet	82.8	-	93.0	-	87.9	d
2	Neo CL	89.4	-	89.8	-	89.6	cd
3	Minotaur	90.3	-	92.7	-	91.5	bc
4	Rosalind	88.5	-	90.4	-	89.5	cd
5	AGT Bunyip IA	90.5	-	92.6	-	91.6	bc
6	RGT Atlantis	87.6	-	92.7	-	90.2	cd
7	RP19034	92.4	-	97.0	-	94.7	a
8	RP21011	92.7	-	94.4	-	93.6	ab
9	Ember	89.1	-	93.4	-	91.3	bc
10	Soldier CL	87.3	-	90.6	-	89.0	cd
11	Firefoxx	89.7	-	90.9	-	90.3	cd
12	Laureate	89.8	-	93.7	-	91.7	bc
Mean		89.2	b	92.6	a	90.9	
LSD Variety p = 0.05		2.8		P Value		<0.001	
LSD Management p = 0.05		0.9		P Value		0.001	
LSD Variety x Man. p = 0.05		ns		P Value		0.101	

Table 5. Influence of variety and fungicide application on the screenings (% < 2.2mm) - 12 December harvest.

Screenings (%)							
Variety		Untreated		Plus fungicide		Mean	
1	RGT Planet	5.0	-	1.8	-	3.4	a
2	Neo CL	2.5	-	2.5	-	2.5	a-e
3	Minotaur	2.7	-	1.9	-	2.3	b-e
4	Rosalind	2.6	-	2.2	-	2.4	b-e
5	AGT Bunyip IA	1.8	-	1.3	-	1.6	e
6	RGT Atlantis	4.3	-	1.8	-	3.1	ab
7	RP19034	2.1	-	1.1	-	1.6	e
8	RP21011	1.9	-	1.5	-	1.7	de
9	Ember	2.4	-	1.5	-	2.0	cde
10	Soldier CL	3.6	-	2.2	-	2.9	abc
11	Firefoxx	2.8	-	2.5	-	2.6	a-d
12	Laureate	2.7	-	1.6	-	2.2	b-e
Mean		2.9	a	1.8	b	2.3	
LSD Variety p = 0.05		1.0		P Value		0.002	
LSD Management p = 0.05		0.5		P Value		0.006	
LSD Variety x Man. p = 0.05		ns		P Value		0.051	

Disease assessment data

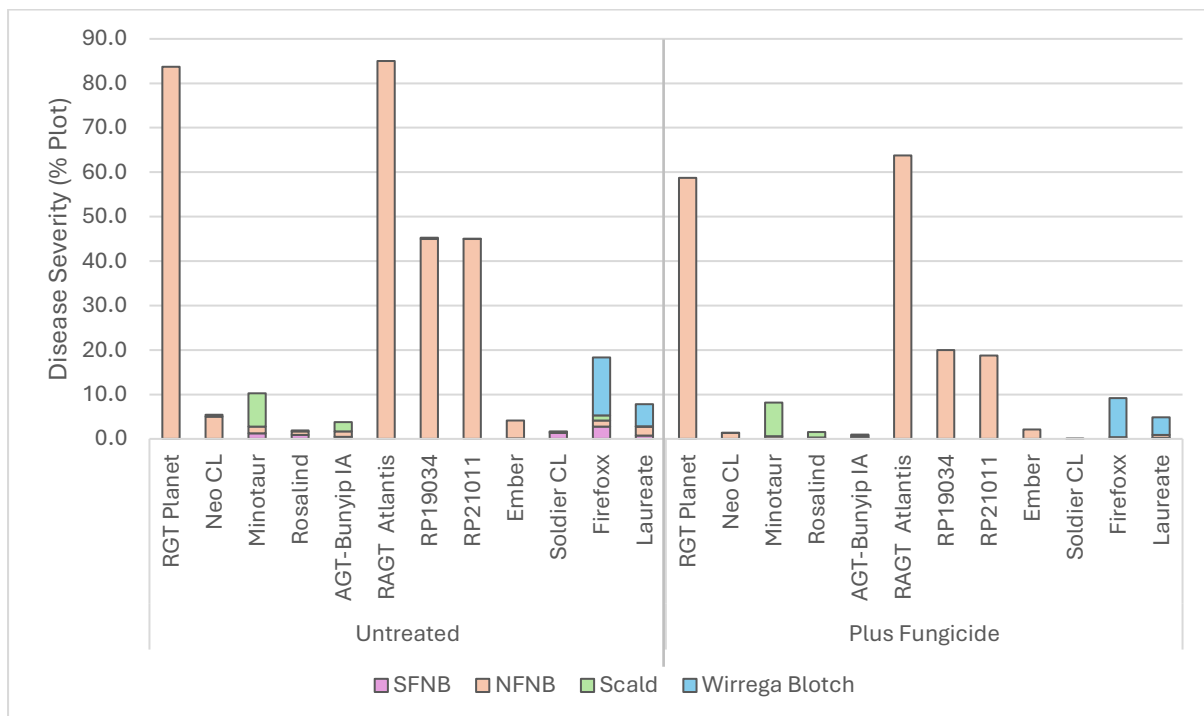


Figure 2. Influence of varieties plus and minus fungicide on spot form net form (SFNB), net form net blotch (NFNB), scald and wirrega blotch infection. Shown as % plot infection, assessed on 1st October 2025. (SFNB P value<0.001, LSD=0.8; NFNB P value<0.001, LSD=8.1; scald P value=1.000, LSD=ns; wirrega blotch P value=0.908, LSD=ns)

Development (phenology)

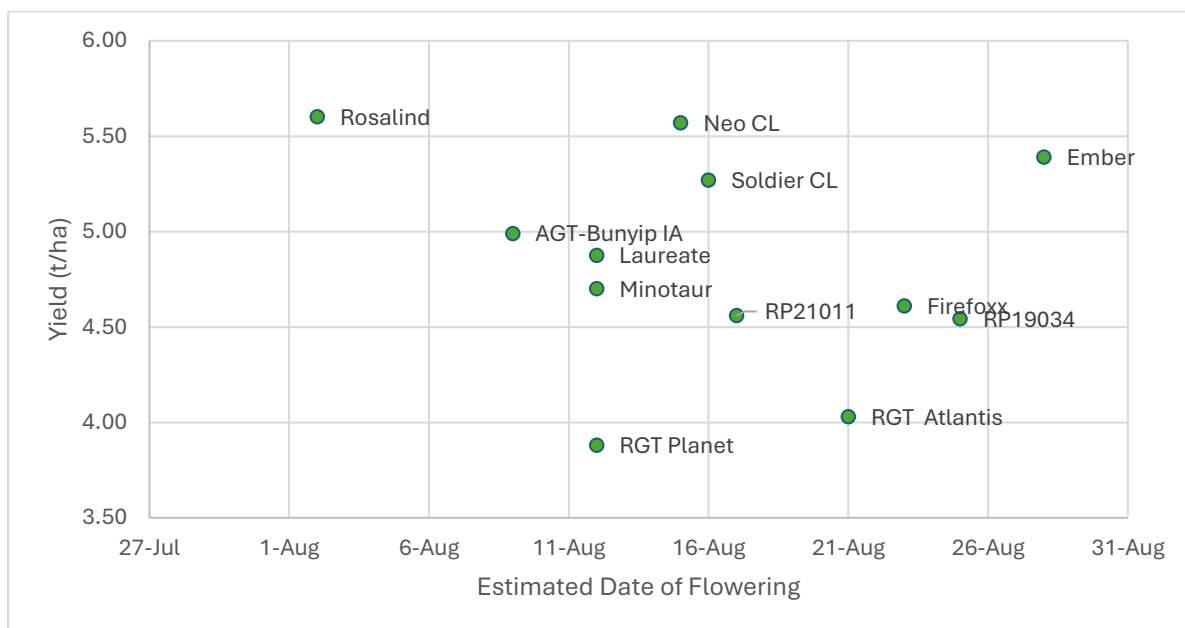


Figure 3. Influence of flowering date of different varieties on yield. Estimated flowering date is based off Zadok's score 49 (awn emergence).

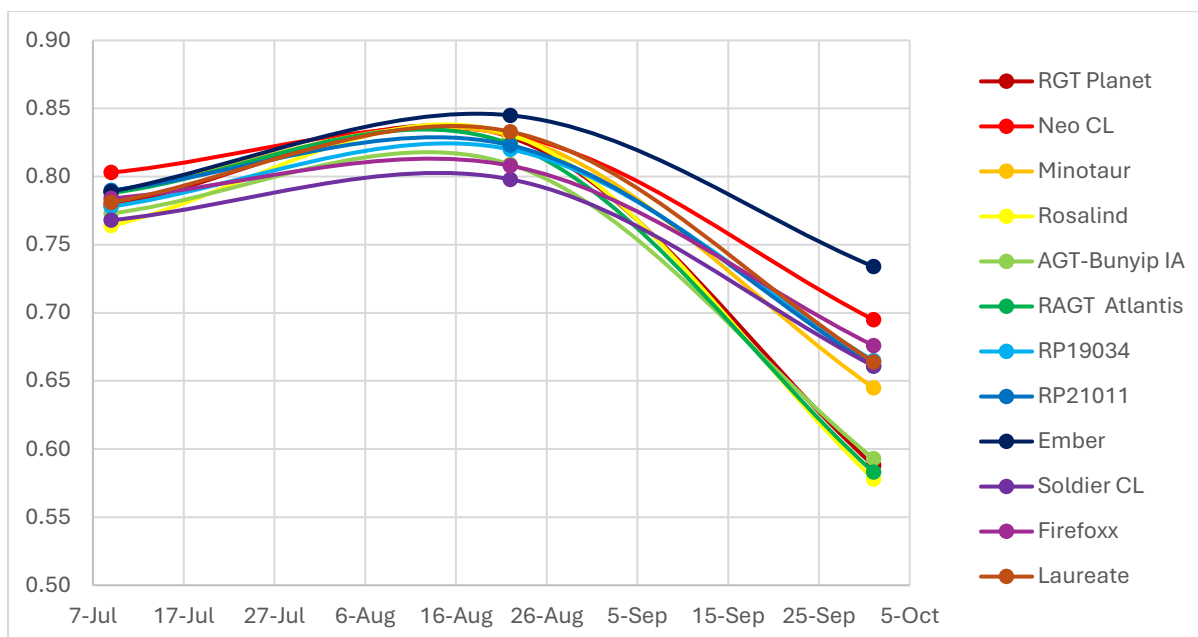


Figure 4. Influence of variety on Normalised Difference Vegetation Index (NDVI, 0-1).

Trial inputs

Table 6. Trial input and management details.

Sowing date:		25-Apr	
Harvest date:		12-Dec	
Seed rate:		200 seeds/m2	
Basal fertiliser:	25-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	
	mid July	Urea 110 kg/ha	
	5-Aug	Urea 60 kg/ha	
	18-Aug	Rapidol Manganese 1kg/ha	
		Untreated	Plus Fungicide
Fungicide:	GS 31	--	Prosaro 300ml/ha
	GS 39	--	Aviator 500 ml/ha