



WA CROP
TECHNOLOGY
CENTRE (ESPERANCE)

Industry Innovations

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INDUSTRY INNOVATIONS 2025: PROVISIONAL HARVEST RESULTS – Late May Sown Barley

2025 WA Esperance Crop Technology Centre (Neridup)

WA Barley HRZ (FAR WAE II B25-53-02)

Sown: 30 May 2025

Harvested: 26 November 2025

Soil Type: Shallow Sandy Duplex

Previous Crop: 2024 Canola

FAR Code: FAR WAE II B25-53-02

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 growing season with almost 200mm more rain than 2024. High rainfall in the winter months lead to widespread waterlogging in the Esperance Port Zone region and at the site.
- Waterlogging occurred from late July, impacting late May sown crops much more than early (April) sown crops which were further developed.
- Yields ranged from 5.10 - 6.37 t/ha, averaging 5.37 t/ha across the trial. 1.11t/ha lower than the TOS 1 average sown on 1st May.
- Neo CL was the highest yielding variety (6.08t/ha), outyielding the next closest variety by more than 0.5 t/ha (Figure 1).
- Fungicide significantly decreased plot disease in treated plots for both Spot Form Net Blotch (SFNB) and Net Form Net Blotch (NFNB) at both times of assessment.
- Untreated RGT Atlantis was seen to have the highest levels of SFNB and NFNB across both times of assessment. However, fungicide management had no impact on yield likely due to the low level of disease present.
- AGT Bunyip IA was the only variety to achieve malt status as per CBH 2025/26 Barley Receipt Standards (although not yet classified as malt). All varieties except Neo CL were within malt range for protein (9.5-12.8%) and all varieties within range for retention (>80%) and screenings, however AGT Bunyip IA was the only variety to achieve a test weight above 64kg/hL (Table 3).

- At time of writing, AGT Bunyip IA, RGT Atlantis and Soldier CL have entered the Grains Australia malt accreditation program. Currently it is deliverable as Barley/ Feed. RGT Planet, Neo CL and Minotaur all currently have malt accreditation.

Yield (t/ha) & Quality Data (Protein %, Test Weight, Screenings %)

There was a significant difference in yield and grain quality criteria due to variety. Fungicide management significantly impacted protein but did not significantly impact yield or any other grain quality parameters. There was no interaction between fungicide and variety significantly effecting yield and quality data.

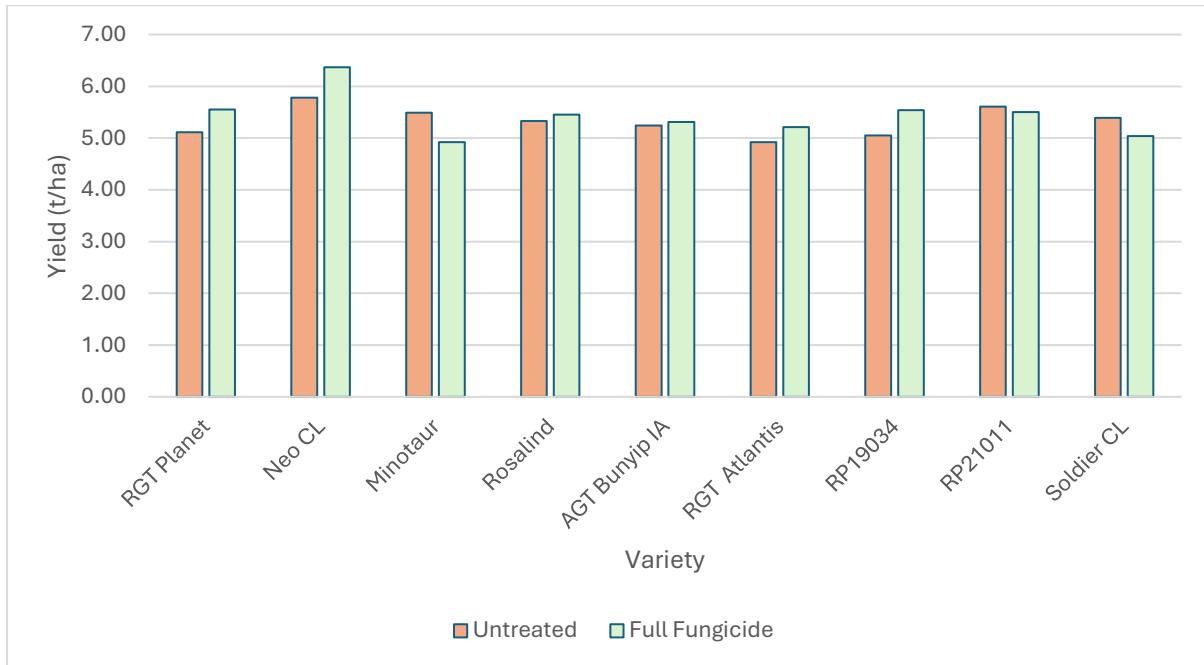


Figure 1. Influence of Fungicide and Variety on Grain Yield (t/ha) (P Value= 0.177, LSD= ns).

Table 1. Influence of Variety and Fungicide on the Grain Yield (t/ha)

		Yield (t/ha)					
Variety		Untreated		Plus Fungicide		Mean	
1	RGT Planet	5.11	-	5.55	-	5.33	bc
2	Neo CL	5.78	-	6.37	-	6.08	a
3	Minotaur	5.49	-	4.92	-	5.21	bc
4	Rosalind	5.33	-	5.45	-	5.39	bc
5	AGT Bunyip IA (Tested as AGTB0530)	5.24	-	5.31	-	5.28	bc
6	RGT Atlantis	4.92	-	5.21	-	5.07	c
7	RP19034	5.05	-	5.54	-	5.29	bc
8	RP21011	5.61	-	5.50	-	5.56	b
9	Soldier CL (Tested as IGB22117)	5.39	-	5.04	-	5.21	bc
		Mean	5.32	-	5.43	-	5.37
		LSD Variety p = 0.05		0.45		P Value	0.004
		LSD Management p = 0.05		ns		P Value	0.687
		LSD Variety x Man. p = 0.05		ns		P Value	0.177

Table 2. Influence of Variety and Fungicide on the Grain Protein (%)

		Protein (%)				
Variety		Untreated		Plus Fungicide		Mean
1	RGT Planet	9.7	-	9.7	-	9.7 d
2	Neo CL	9.5	-	9.2	-	9.3 e
3	Minotaur	9.9	-	9.2	-	9.5 de
4	Rosalind	10.4	-	10.7	-	10.5 a
5	AGT Bunyip IA	10.4	-	10.1	-	10.3 ab
6	RGT Atlantis	9.7	-	9.8	-	9.8 cd
7	RP19034	10.2	-	9.9	-	10.1 bc
8	RP21011	10.0	-	9.5	-	9.8 cd
9	Soldier CL	10.3	-	9.9	-	10.1 bc
		Mean	10.0	a	9.8 b	9.9
LSD Variety p = 0.05		0.3		P Value		<0.001
LSD Management p = 0.05		0.1		P Value		0.011
LSD Variety x Man. p = 0.05		ns		P Value		0.150

Table 3. Influence of Variety and Fungicide on the Test Weight (kg/hL)

		Test Weight (kg/hL)				
Variety		Untreated		Plus Fungicide		Mean
1	RGT Planet	61.3	-	61.7	-	61.5 bcd
2	Neo CL	61.2	-	62.7	-	61.9 bcd
3	Minotaur	63.5	-	62	-	62.7 b
4	Rosalind	62.5	-	62.1	-	62.3 bcd
5	AGT Bunyip IA	66.1	-	65.8	-	65.9 a
6	RGT Atlantis	58.9	-	58.2	-	58.6 e
7	RP19034	60.9	-	61.7	-	61.3 cd
8	RP21011	61.4	-	60.8	-	61.1 d
9	Soldier CL	63.2	-	61.7	-	62.4 bc
		Mean	62.1	-	61.8	-
LSD Variety p = 0.05		1.3		P Value		<0.001
LSD Management p = 0.05		ns		P Value		0.621
LSD Variety x Man. p = 0.05		ns		P Value		0.229

Table 4. Influence of Variety and Fungicide on the Retention (% > 2.5mm)

		Retention (%)				
Variety		Untreated		Plus Fungicide		Mean
1	RGT Planet	87.6	-	90.3	-	89.0 de
2	Neo CL	94.8	-	96.2	-	95.5 a
3	Minotaur	88.3	-	88.4	-	88.3 e
4	Rosalind	91.2	-	90.2	-	90.7 cde
5	AGT Bunyip IA	92.5	-	92.6	-	92.6 abc
6	RGT Atlantis	90.4	-	91.5	-	90.9 cde
7	RP19034	85.9	-	91.8	-	88.9 de
8	RP21011	93.2	-	90.7	-	91.9 bcd
9	Soldier CL	95.9	-	92.7	-	94.3 ab
		Mean	91.1	-	91.6	-
		LSD Variety p = 0.05	3.1	P Value		<0.001
		LSD Management p = 0.05	ns	P Value		0.589
		LSD Variety x Man. p = 0.05	ns	P Value		0.166

Table 5. Influence of Variety and Fungicide on the Screenings (% < 2.2mm)

		Screenings (%)				
Variety		Untreated		Plus Fungicide		Mean
1	RGT Planet	2.4	-	1.7	-	2.0 bc
2	Neo CL	1.3	-	1	-	1.2 c
3	Minotaur	2.6	-	4.1	-	3.3 a
4	Rosalind	1.7	-	2.0	-	1.9 bc
5	AGT Bunyip IA	1.5	-	1.4	-	1.5 bc
6	RGT Atlantis	2.1	-	2.1	-	2.1 bc
7	RP19034	3.2	-	1.6	-	2.4 ab
8	RP21011	1.2	-	1.6	-	1.4 bc
9	Soldier CL	1.4	-	2.0	-	1.7 bc
		Mean	1.9	-	2.0	-
		LSD Variety p = 0.05	1.0	P Value		0.006
		LSD Management p = 0.05	ns	P Value		0.979
		LSD Variety x Man. p = 0.05	ns	P Value		0.213

Disease Assessment Data

Table 6. Influence of Barley Variety on the Net Form of Net Blotch (NFNB)- Assessed on 18 September 2025.

Net Form of Net Blotch plot infection %							
Variety		Untreated		Plus fungicide		Mean	
1.	RGT Planet	0.1	b	0.0	b	0.1	b
2.	Neo CL	0.0	b	0.0	b	0.0	b
3.	Minotaur	0.1	b	0.0	b	0.0	b
4.	Rosalind	0.0	b	0.0	b	0.0	b
5.	AGT Bunyip IA	0.0	b	0.0	b	0.0	b
6.	RGT Atlantis	2.0	a	0.2	b	1.1	a
7.	RP19034	0.0	b	0.1	b	0.0	b
8.	RP21011	0.0	b	0.0	b	0.0	b
9.	Soldier CL	0.0	b	0.0	b	0.0	b
Mean		0.2	a	0.0	b	0.1	
LSD Variety p = 0.05		0.2		P value		<0.001	
LSD Management p = 0.05		0.2		P value		0.044	
LSD Variety x Man. p = 0.05		0.3		P value		<0.001	

Table 7. Influence of barley variety on the Net Form of Net Blotch (NFNB)- assessed on 8 October 2025.

Net Form of Net Blotch plot infection %							
Variety		Untreated		Plus fungicide		Mean	
1.	RGT Planet	1.4	-	0.6	-	1.0	b
2.	Neo CL	0.0	-	0.0	-	0.0	d
3.	Minotaur	0.4	-	0.0	-	0.2	cd
4.	Rosalind	0.0	-	0.0	-	0.0	d
5.	AGT Bunyip IA	0.0	-	0.0	-	0.0	d
6.	RGT Atlantis	5.3	-	4.0	-	4.6	a
7.	RP19034	0.3	-	0.0	-	0.1	d
8.	RP21011	1.3	-	0.3	-	0.8	bc
9.	Soldier CL	0	-	0.0	-	0.0	d
Mean		0.9	a	0.5	b	0.7	
LSD Variety p = 0.05		0.6		P value		<0.001	
LSD Management p = 0.05		0.4		P value		0.043	
LSD Variety x Man. p = 0.05		ns		P value		0.313	

Table 8. Influence of Barley Variety on the Spot Form of Net Blotch (SFNB)- Assessed on 18 September 2025.

Spot Form of Net Blotch plot infection %							
Variety		Untreated		Plus fungicide		Mean	
1.	RGT Planet	1.4	a	0.2	bc	0.8	a
2.	Neo CL	0.3	bc	0.0	c	0.1	b
3.	Minotaur	0.3	bc	0.1	bc	0.2	b
4.	Rosalind	0.4	bc	0.1	bc	0.3	b
5.	AGT Bunyip IA	0.1	bc	0.0	c	0.0	b
6.	RGT Atlantis	1.7	a	0.4	bc	1.1	a
7.	RP19034	0.3	bc	0.1	bc	0.2	b
8.	RP21011	0.5	b	0.1	bc	0.3	b
9.	Soldier CL	0.3	bc	0.1	bc	0.2	b
Mean		0.6	a	0.1	b	0.3	
LSD Variety p = 0.05		0.3		P value		<0.001	
LSD Management p = 0.05		0.3		P value		0.013	
LSD Variety x Man. p = 0.05		0.5		P value		0.001	

Table 9. Influence of Barley Variety on the Spot Form of Net Blotch (SFNB)- Assessed on 8 October 2025.

Spot Form of Net Blotch plot infection %							
Variety		Untreated		Plus fungicide		Mean	
1.	RGT Planet	1.3	-	1.1	-	1.2	ab
2.	Neo CL	0.1	-	0.1	-	0.1	d
3.	Minotaur	2.0	-	1.0	-	1.5	a
4.	Rosalind	1.1	-	0.5	-	0.8	bc
5.	AGT Bunyip IA	0.1	-	0.0	-	0.1	d
6.	RGT Atlantis	2.1	-	0.6	-	1.4	a
7.	RP19034	0.5	-	0.3	-	0.4	cd
8.	RP21011	1.8	-	0.9	-	1.3	ab
9.	Soldier CL	0.6	-	0.4	-	0.5	cd
Mean		1.1	a	0.5	b	0.8	
LSD Variety p = 0.05		0.6		P value		<0.001	
LSD Management p = 0.05		0.3		P value		0.016	
LSD Variety x Man. p = 0.05		ns		P value		0.131	

Table 10. Influence of Barley Variety on the Powder Mildew (PM)- Assessed on 8 October 2025.

Powdery Mildew plot infection %							
Variety		Untreated		Plus fungicide		Mean	
1.	RGT Planet	0.0	-	0.0	-	0.0	-
2.	Neo CL	0.0	-	0.0	-	0.0	-
3.	Minotaur	0.4	-	0.0	-	0.2	-
4.	Rosalind	3.5	-	0.0	-	1.8	-
5.	AGT Bunyip IA	6.3	-	0.0	-	3.2	-
6.	RGT Atlantis	0.0	-	0.0	-	0.0	-
7.	RP19034	0.0	-	0.0	-	0.0	-
8.	RP21011	0.0	-	0.0	-	0.0	-
9.	Soldier CL	0.0	-	0.0	-	0.0	-
		Mean	1.1	-	0	-	0.8
LSD Variety p = 0.05		ns		P value		0.057	
LSD Management p = 0.05		ns		P value		0.120	
LSD Variety x Man. p = 0.05		ns		P value		0.057	

Phenology

There was no significant difference in NDVI caused by fungicide management. There were however significant differences in NDVI data of the different varieties.

Table 11. Influence of Barley Variety on Normalised Difference Vegetation Index (NDVI) (0-1).

		NDVI (0-1)					
Variety		29-July		8-Oct		27-Oct	
1.	RGT Planet	0.65	b	0.57	ab	0.20	cd
2.	Neo CL	0.70	a	0.54	c	0.18	e
3.	Minotaur	0.66	ab	0.56	bc	0.19	de
4.	Rosalind	0.60	c	0.45	e	0.22	abc
5.	AGT Bunyip IA	0.63	bc	0.49	d	0.22	ab
6.	RGT Atlantis	0.65	ab	0.58	ab	0.21	bc
7.	RP19034	0.66	ab	0.59	a	0.20	bcd
8.	RP21011	0.66	ab	0.59	a	0.20	cd
9.	Soldier CL	0.60	c	0.47	de	0.23	a
		Mean		0.646		0.536	
		LSD p = 0.05		0.04		0.03	
		P Value		<0.001		<0.001	
						0.004	

Trial Inputs

Table 12. Trial Input and Management Details.

Sowing Date:	30 May 2025		
Harvest Date:	26 November 2025		
Seed Rate:	200 seeds/m ²		
Basal Fertiliser:	30 May	80 kg/ha Agflow Manganese (14.4kg P/ha and 8.48kg N/ha)	
Pre-Em Herbicide:	29 May	Mateno Complete 750 mL/ha	
Post-Em Herbicide:	11 July	Velocity 1L/ha Uptake Oil 0.5%v/v	
Insecticide	29 May	Trojan 10 mL/ha	
Nitrogen:	3 Jul	78.2kg N/ha Urea	
	23 Jul	34.96kg N/ha Urea	
Fungicide:		Untreated	Fungicide Protection
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator 0.50 L/ha
	GS45	----	Elatus Ace 0.5L/ha

** All varieties but Rosalind 2nd spray at GS45 with Elatus Ace due to developmental differences pushing spray timings into periods with very limited spray opportunities which delayed applications. Rosalind was sprayed at GS39 with Aviator 0.50 L/ha.