FAR Australia Crop Technology Centres – Germplasm Evaluation Network (GEN) 2024

FAR AUSTRALIA

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20 February, 2025

Field Applied Research (FAR) Australia
Phone 03 5265 1290
Post Shed 2/ 63 Holder Road, Bannockburn, 3331, Victoria, Australia
Website: http://www.faraustralia.com.au **ABN:** 33159209480

Contents

Objectives

To evaluate the performance of wheat and barley lines at nine FAR Crop Technology Centres, Gnarwarre VIC, Millicent SA, Bordertown SA, Wallendbeen NSW, Esperance WA, Scaddan WA, Frankland River WA & Hagley TAS.

In these GEN trials FAR Australia provides control varieties, and the breeders enter their material under their own variety names, codes or under a FAR code. We would like to acknowledge the funding support of AGF Seeds, AGT, BASF, Intergrain, KWS, LongReach, Pacific Seeds, RAGT and Trigall Australia with the entries made into the 2024 GEN trials network.

This final report covers canopy assessment data, disease assessment data, yield and quality versus FAR control cultivars. The report also carries details of fungicide program applied and the dates when products were applied along with nutrition details.

The following organisations contributed entries to the 2024 Germplasm Evaluation Network (GEN)

Values in tables and figures with different letters are statistically different. Non-significant LSD figures displayed as 'ns'.

National Yield Results 2024

Wheat – Longer Season Environments (Earlier Sowing)

Table 1: National yield result (as percentage of site mean 100%) for wheat varieties tested in longer season environments- untreated and plus fungicides.

	Untreated					Plus fungicide				
Trial site	**Gnarwarre TOS 1**	**Millicent**	**Wallendbeen**	**Hagley**	**Mean**	**Gnarwarre TOS 1**	**Millicent**	**Wallendbeen**	**Hagley**	**Mean**
State	**VIC**	**SA**	**NSW**	**Tas**		**VIC**	**SA**	**NSW**	**Tas**	
BigRed *(w)*	119	108	111	105	**111**	109	106	101	109	**106**
RGT Cesario *(w)*	93	107	75	59	**84**	108	104	95	63	**93**
RGT Accroc *(w)*	121	106	104	54	**96**	110	101	94	59	**91**
AGFWHWW2 (w)	116	113	107	132	**117**	109	115	103	133	**115**
TA0109 *(w)*	81	83	62	49	**69**	88	96	94	48	**82**
Illabo (w)	77	76	91	-	**(81)**	74	71	89	-	**(78)**
Triple 2 *(w)*	112	116	127	-	**(118)**	110	104	117	-	**(110)**
Avoca *(s)*	93	109	104	-	**(102)**	94	110	107	-	**(104)**
Brighton *(w)*	102	91	101	-	**(98)**	96	84	95	-	**(92)**
Longford *(w)*	105	118	-	129	**(117)**	105	111	-	127	**(114)**
Stockade *(s)*	89	107	117	-	**(104)**	87	107	105	-	**(100)**
Mammoth *(s)*	92	75	-	-	**(84)**	110	97	-	-	**(104)**
KWS Expectum *(s)*	-	-	-	93	**(93)**	-	-	-	88	**(88)**
Anapurna *(w)*	-	-	-	125	**(125)**	-	-	-	118	**(118)**
Reflection *(w)*	-	-	-	127	**(127)**	-	-	-	130	**(130)**
RGT Waugh *(w)*	-	-	-	128	**(128)**	-	-	-	124	**(124)**
Mean Yield (t/ha) (100 %)	**4.11**	**6.16**	**7.38**	**9.08**		**4.41**	**6.63**	**8.41**	**9.47**	

Note: w = Winter Wheat, s = Spring Wheat

Wheat – Shorter Season Environments – (Later Sowings – Untreated)

Table 2: Yield result (as percentage of site mean 100%) for wheat varieties tested in shorter season environments- **untreated with fungicides**.

	Untreated							
Trial site	**Bordertown**	**Millicent**	**Gnarwarre TOS 2**	**Frankland River**	**Gibson TOS 1**	**Gibson TOS 2**	**Scaddan**	**Mean**
State	**SA**	**SA**	**VIC**	**WA**	**WA**	**WA**	**WA**	
Scepter *(s)*	91	70	77	96	-	108	104	**91**
LRPB Matador *(s)*	112	75	101	99	-	109	108	**101**
Genie *(s)*	101	82	103	108	-	97	90	**97**
RockStar *(s)*	101	71	90	105	-	105	98	**95**
V15019-88 (s)	111	87	117	109	-	109	103	**106**
Boa *(s)*	101	-	85	-	-	-	-	**(93)**
Brighton *(w)*	-	110	118	99	98	86	-	**(102)**
Ironbark *(s)*	101	-	112	-	-	-	-	**(107)**
LRPB Major *(s)*	98	-	109	-	-	-	-	**(104)**
LRPB Vortex *(s)*	-	-	-	98	-	119	107	**(108)**
Mammoth *(s)*	-	90	89	105	94	79	-	**(91)**
Mowhawk *(w)*	-	-	-	96	103	-	-	**(100)**
Shotgun *(s)*	100	-	-	-	-	113	112	**(108)**
TA0109 *(w)*	84	100	76	-	-	-	-	**(87)**
Triple 2 *(w)*	-	140	127	99	-	-	-	**(122)**
Illabo (w)	-	91	-	-	121	-	-	**(106)**
Wallaroo *(w)*	99	-	-	99	86	76	79	**(88)**
Avoca *(s)*	-	131	109	-	-	-	-	**(120)**
KWS Expectum *(s)*	-	123	88	-	-	-	-	**(106)**
Stockade *(s)*	-	129	-	87	-	-	-	**(108)**
Mean Yield (t/ha) 100%	**5.18**	**5.06**	**3.62**	**4.75**	**3.17**	**3.56**	**4.15**	

Note: w = Winter Wheat, s = Spring Wheat

Wheat – Shorter Season Environments – (Later Sowings - Plus Fungicides)

Table 3: National yield result (as percentage of site mean 100%) for wheat varieties tested in shorter season environments- **plus fungicides**.

	Plus fungicide							
Trial site	**Bordertown**	**Millicent**	**Gnarwarre TOS 2**	**Frankland River**	**Gibson TOS 1**	**Gibson TOS 2**	**Scaddan**	**Mean**
State	**SA**	**SA**	**VIC**	**WA**	**WA**	**WA**	**WA**	
Scepter *(s)*	94	75	94	96	-	104	107	**95**
LRPB Matador *(s)*	105	-	105	97	-	115	105	**105**
Genie *(s)*	105	91	113	101	-	96	90	**99**
RockStar *(s)*	98	78	98	110	-	104	100	**98**
V15019-88 (s)	110	83	114	107	-	108	102	**104**
Boa *(s)*	101	-	98	-	-	-	-	**(100)**
Brighton *(w)*	-	98	105	102	98	84	-	**(97)**
Ironbark *(s)*	98	-	99	-	-	-	-	**(99)**
LRPB Major *(s)*	98	-	104	-	-	-	-	**(101)**
LRPB Vortex *(s)*	-	-	-	107	-	121	106	**(111)**
Mammoth *(s)*	-	115	100	105	102	83	-	**(101)**
Mowhawk *(w)*	-	-	-	97	94	-	-	**(96)**
Shotgun *(s)*	106	-	-	-	-	111	109	**(109)**
TA0109 *(w)*	88	113	93	-	-	-	-	**(98)**
Triple 2 *(w)*	-	123	105	92	-	-	-	**(107)**
Illabo (w)	-	84	-	-	121	-	-	**(102)**
Wallaroo *(w)*	96	-	-	99	85	74	81	**(87)**
Avoca *(s)*	-	130	92	-	-	-	-	**(111)**
KWS Expectum *(s)*	-	-	80	-	-	-	-	**(80)**
Stockade *(s)*	-	126	-	88	-	-	-	**(107)**
Mean Yield (t/ha) 100%	**5.48**	**5.60**	**4.24**	**4.75**	**3.29**	**3.68**	**4.47**	

Note: w = Winter Wheat, s = Spring Wheat

Barley - Longer Season Environments (Earlier Sowing)

Table 1: National yield result (as percentage of site mean 100%) for barley varieties tested in longer season environments- **untreated and plus fungicides.**

	Untreated			Plus Fungicide		
Trial site	**Millicent**	**Gnarwarre TOS 1**	**Mean**	**Millicent**	**Gnarwarre TOS 1**	**Mean**
State	**SA**	**Vic**		**SA**	**Vic**	
Neo CL *(s)*	113	114	**114**	122	110	**116**
RGT Planet *(s)*	108	74	**91**	107	77	**92**
Minotaur *(s)*	107	102	**105**	103	97	**100**
Rosalind *(s)*	92	76	**84**	90	85	**88**
AGTB0318 *(s)*	117	94	**106**	116	86	**101**
IGB21130 *(s)*	99	118	**109**	108	115	**112**
IGB22117 *(s)*	99	105	**102**	98	97	**98**
KW 2-1918 *(2r w)*	100	127	**114**	94	124	**109**
KW 2-1958 *(2r w)*	80	105	**93**	86	107	**97**
KWS Donau *(2r w)*	58	108	**83**	62	103	**83**
KWS Faro *(6r w)*	90	129	**110**	91	127	**109**
KWS Tardis *(2r w)*	104	104	**104**	99	115	**107**
KWS Wallace *(6r w)*	81	98	**90**	78	104	**91**
RGT Asteroid *(s)*	114	71	**93**	117	78	**98**
RGT Orbiter *(s)*	111	81	**96**	109	83	**96**
KWS Thalis *(s)*	107	-	**(107)**	105	-	**(105)**
KWS Willis *(s)*	112	-	**(112)**	107	-	**(107)**
KWS 18/3518 *(s)*	108	-	**(108)**	108	-	**(108)**
AGFBA021022 *(s)*	-	95	**(95)**	-	92	**(92)**
Mean Yield (t/ha) 100%	**6.52**	**3.62**		**7.19**	**3.95**	

Note: w = Winter barley, s = Spring barley. KWS lines either 2r (two row) or 6r (six row).

Barley - Shorter Season Environments (Later Sowings - Untreated)

Table 2: Yield result (as percentage of site mean 100%) for barley varieties tested in shorter season environments- **untreated with fungicides**.

	Untreated						
Trial site	**Border -town**	**Gnarwarre TOS 2**	**Frankland River**	**Gibson TOS 1**	**Gibson TOS 2**	**Scaddan**	**Mean**
State	**SA**	**Vic**	**WA**	**WA**	**WA**	**WA**	
Neo CL *(s)*	106	115	103	103	110	102	**107**
RGT Planet *(s)*	106	93	90	98	90	80	**93**
Minotaur *(s)*	100	109	109	104	107	105	**106**
Rosalind *(s)*	94	91	103	100	105	100	**99**
AGTB0667 *(s)*	94	-	-	-	105	102	**(100)**
AGTB0669 *(s)*	95	-	-	-	111	109	**(105)**
Cyclops *(s)*	92	-	-	-	105	102	**(100)**
IGB21130 *(s)*	-	111	105	98	97	-	**(103)**
IGB22117 *(s)*	-	94	102	97	99	-	**(98)**
KWS 18/3518 *(2r s)*	101	103	100	-	99	-	**(101)**
KWS Thalis *(2r s)*	95	92	95	-	94	-	**(94)**
KWS Willis *(2r s)*	100	84	102	-	96	-	**(96)**
RGT Asteroid *(s)*	104	-	98	-	90	-	**(97)**
RGT Orbiter *(s)*	105	-	93	-	92	-	**(97)**
AGFBA021022 *(s)*	109	-	-	-	-	-	**(109)**
AGTB0318 *(s)*	-	107	-	-	-	-	**(107)**
Mean Yield (t/ha) 100%	**6.85**	**4.76**	**5.47**	**5.24**	**5.17**	**5.02**	

Note: w = Winter barley, s = Spring barley. KWS lines either 2r (two row) or 6r (six row).

Barley - Shorter Season Environments (Later Sowings – Plus Fungicides)

Table 3: Yield result (as percentage of site mean 100%) for barley varieties tested in shorter season environments- **Plus fungicides**.

	Plus Fungicide						
Trial site	**Border -town**	**Gnarwarre TOS 2**	**Frankland River**	**Gibson TOS 1**	**Gibson TOS 2**	**Scaddan**	**Mean**
State	**SA**	**Vic**	**WA**	**WA**	**WA**	**WA**	
Neo CL *(s)*	107	112	105	104	105	101	**106**
RGT Planet *(s)*	102	96	92	94	97	85	**94**
Minotaur *(s)*	106	107	102	106	105	104	**105**
Rosalind *(s)*	90	94	102	100	105	103	**99**
IGB21130 *(s)*	-	111	106	96	93	-	**(102)**
IGB22117 *(s)*	-	96	102	100	96	-	**(99)**
KWS 18/3518 *(2r s)*	101	105	103	-	99	-	**(102)**
KWS Thalis *(2r s)*	104	88	97	-	97	-	**(97)**
KWS Willis *(2r s)*	96	86	98	-	97	-	**(94)**
AGTB0667 *(s)*	97	-	-	-	104	101	**(101)**
AGTB0669 *(s)*	91	-	-	-	102	108	**(100)**
Cyclops *(s)*	96	-	-	-	112	98	**(102)**
RGT Asteroid *(s)*	104	-	95	-	94	-	**(98)**
RGT Orbiter *(s)*	104	-	98	-	95	-	**(99)**
AGFBA021022 *(s)*	102	-	-	-	-	-	**(102)**
AGTB0318 *(s)*	-	105	-	-	-	-	**(105)**
Mean Yield (t/ha) 100%	**6.93**	**4.93**	**5.76**	**5.34**	**5.43**	**5.19**	

Note: w = Winter barley, s = Spring barley. KWS lines either 2r (two row) or 6r (six row).

Table 4: Yield result (as percentage of site mean) for **spring sown** barley varieties- **untreated and plus fungicides.**

	Untreated	Plus Fungicide	
Trial Site	**Hagley**	**Hagley**	**Mean**
State	**Tas**	**Tas**	
RGT Planet *(s)*	89	94	**92**
Neo CL *(s)*	98	100	**99**
Minotaur *(s)*	98	99	**99**
Rosalind *(s)*	111	108	**109**
Laureate *(s)*	97	88	**92**
KWS Thalis *(2r s)*	98	103	**100**
KWS Willis *(2r s)*	92	96	**94**
KWS 18/3518 *(2r s)*	107	107	**107**
AGFBA021022 *(s)*	112	105	**108**
RGT Asteroid *(s)*	96	100	**98**
RGT Orbiter *(s)*	102	102	**102**
Mean Yield (t/ha)	**10.58**	**10.92**	

Note: w = Winter barley, s = Spring barley. KWS lines either 2r (two row) or 6r (six row).

Canola

Table 1: National yield result (as percentage of mean) for canola varieties- untreated and plus fungicides.

	Untreated			Plus Fungicide		
Trial Site	**Gnarwarre**	**Millicent**	**Mean**	**Gnarwarre**	**Millicent**	**Mean**
State	**VIC**	**SA**		**VIC**	**SA**	
Pioneer PY525G RR	96	99	**97**	87	102	**94**
Nuseed Eagle TF	103	110	**106**	107	105	**106**
45Y95 CL	115	96	**105**	111	103	**107**
Hyola Blazer TT	93	91	**92**	104	90	**97**
Hyola Continuum CL	94	88	**91**	103	87	**95**
Hyola Regiment XC	103	91	**97**	108	90	**99**
AN23LR014	105	111	**108**	98	107	**102**
RGT65-074CL	92	116	**104**	82	118	**100**
Mean Yield (t/ha) 100%	**2.87**	**3.6**		**2.83**	**3.83**	

Cultivar Entries and Distribution

Wheat Entries

Table 1: List of FAR Control wheat varieties and lines/varieties entered by breeders in GEN trials across 9 FAR Crop Technology Centres (CTC)

Supplier	Cultivar	Gnarwarre	Millicent	Bordertown	Wallendbeen	Hagley	Frankland River	Esperance	Scaddan
		VIC HRZ	SA HRZ	SA MRZ	NSW HRZ	TAS HRZ	WA HRZ	WA HRZ	WA MRZ
FAR Control	Anapurna					✓			
	BigRed	✓	✓		✓	✓			
	Denison						✓		
	Genie	✓	✓	✓				✓	✓
	Illabo	✓	✓		✓		✓	✓	
	LRPB Matador	✓	✓	✓			✓	✓	✓
	Mowhawk						✓	✓	
	Reflection					✓			
	RGT Accroc	✓	✓		✓	✓			
	RGT Cesario	✓	✓		✓	✓			
	RGT Waugh					✓			
	RockStar	✓	✓	✓			✓	✓	✓
	Scepter	✓	✓	✓			✓	✓	✓
AGF Seeds	Triple 2 (AGFWH010222)	✓	✓		✓		✓		
	AGFWHWW2	✓	✓		✓	✓			
	Longford	✓	✓			✓			
	Stockade						✓		
AGT	Avoca (L12049-044)	✓	✓		✓				
	Shotgun (RAC3227)			✓				✓	✓
	Ironbark (V14035-125)	✓		✓					
	Brighton (V14051-172)	✓	✓		✓		✓	✓	
	V15019-88	✓	✓	✓			✓	✓	✓
Intergrain	Mammoth (IGW6755)	✓	✓				✓	✓	
KWS	KWS Expectum	✓	✓			✓			
LongReach	Boa (LPB19-8035)	✓		✓					
	LRPB Major	✓		✓					
	LRPB Vortex						✓	✓	✓
	Stockade	✓	✓		✓				
Trigall Australia	TA0109	✓	✓	✓	✓	✓			
	Wallaroo			✓			✓	✓	✓

Barley Entries

Table 2: List of FAR Control barley varieties and lines/varieties entered by breeders in GEN trials across 8 FAR Crop Technology Centres (CTC)

Supplier	Cultivar	Gnarwarre	Millicent	Bordertown	Hagley	Frankland River	Gibson	Scaddan
		VIC HRZ	SA HRZ	SA MRZ	TAS HRZ	WA HRZ	WA HRZ	WA MRZ
FAR Control	Minotaur	✓	✓	✓	✓	✓	✓	✓
	Neo CL	✓	✓	✓	✓	✓	✓	✓
	RGT Planet	✓	✓	✓	✓	✓	✓	✓
	Rosalind	✓	✓	✓	✓	✓	✓	✓
AGF Seeds	AGFBA021022	✓		✓	✓			
AGT	AGTB0318	✓	✓					
	PegasusAX (AGTB0667)			✓			✓	✓
	Bigfoot CL (AGTB0669)			✓			✓	✓
	Cyclops			✓			✓	✓
Intergrain	IGB21130	✓	✓			✓	✓	
	IGB22117	✓	✓			✓	✓	
KWS	KW 2-1918 (WB 2r 2)	✓	✓					
	KW 2-1958 (WB 2r 3)	✓	✓					
	KWS 18/3518 (FAR SB5)	✓	✓	✓	✓	✓	✓	
	KWS Donau (WB 2r 1)	✓	✓					
	KWS Faro (WB 6r 1)	✓	✓					
	KWS Tardis (WB 2r 4)	✓	✓					
	KWS Thalis (FAR SB2)	✓	✓	✓	✓	✓	✓	
	KWS Wallace (WB 6r 2)	✓	✓					
	KWS Willis (FAR SB1)	✓	✓	✓	✓	✓	✓	
RAGT	RGT Asteroid	✓	✓	✓	✓	✓	✓	
	RGT Orbiter	✓	✓	✓	✓	✓	✓	

Canola Entries

Table 3: List of FAR Control canola varieties and lines/varieties entered by breeders in GEN trials across 2 FAR Crop Technology Centres (CTC)

Supplier	Cultivar	Gnarwarre VIC HRZ	Millicent SA HRZ
FAR Control	Pioneer PY525G RR	✓	✓
	Nuseed Eagle TF	✓	✓
	45Y95 CL	✓	✓
Pacific Seeds/ FAR control	Hyola Blazer TT	✓	✓
Pacific Seeds	Hyola Continuum CL	✓	✓
	Hyola Regiment XC	✓	✓
BASF	AN23LR014	✓	✓
RAGT	RGT65-074CL	✓	✓

Victorian Results

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Gnarwarre, VIC

VIC Wheat TOS 1 (FAR VIC II W24-34-01)

Sown: 25 April 2024
Harvested: 16 December 2024
Soil Type: Grey Clay
Previous Crop: 2023- Canola

Management: Speed disced 1 pass (5-8cm depth) and Kelly chained
FAR Code: FAR VIC II W24-34-01
GSR (Apr-Nov): 284.4mm

Key Points

- *With very dry conditions in May and June following establishment and grain fill punctuated with only one large rainfall event crops were frequently drought stressed in 2024.*
- *Four winter red feed wheats produced the highest yields under these dry conditions, these were RGT Accroc, which unusually had no stripe rust in the 2024 trial, BigRed, Triple 2 and AGFWHWW2 (formerly FAR WW2).*
- *There was a significant yield interaction (<0.001) between variety and fungicide application, with the badly stripe rust affected varieties (Mammoth, TA0109 & RGT Cesario) giving significant yield increases to fungicide.*
- *Varieties which had lower levels of stripe rust infection (5-15% infection in the untreated) Brighton (V14051-172) and Avoca (L12049-044) gave no response to fungicide, indicating that even in untreated scenarios there was sufficient green leaf for soil water available (Figure 2).*
- *Mammoth, a slow spring wheat (APW) when fungicide protected significantly outyielded, Brighton winter wheat (AH) and Avoca spring wheat (AH) and Stockade (APW).*
- *Stockade (APW) despite little Septoria tritici blotch infection (STB) and no stripe rust in 2024 was inferior to Brighton (AH).*
- *Very low levels of leaf rust were also identified in Illabo, TA0109, Avoca, Brighton, Mammoth, Triple 2 and AGFWHWW2, however with levels all less than 1% plot infection, there was no statistical significance (data not shown).*
- *BigRed stripe rust tissue samples were sent for testing on 26 August 2024 and identified as the 239 E237 A- 17+ 33+ pathotype.*

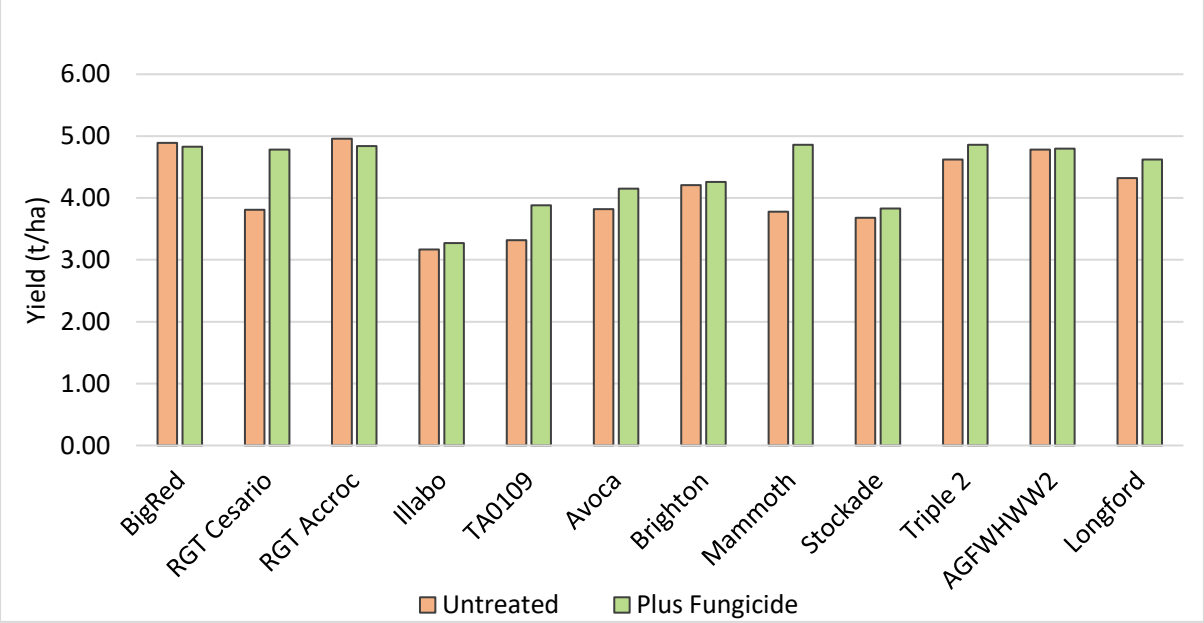

Figure 1. Influence of variety and fungicide application on grain yield (t/ha).

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

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

		Yield (t/ha)					
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed *(w)*	4.89	a	4.83	a	**4.86**	**a**
2.	RGT Cesario *(w)*	3.81	fgh	4.78	a	**4.30**	**c**
3.	RGT Accroc *(w)*	4.96	a	4.84	a	**4.90**	**a**
4.	Illabo *(w)*	3.17	j	3.27	j	**3.22**	**g**
5.	TA0109 *(w)*	3.32	ij	3.88	e-h	**3.60**	**f**
6.	Avoca (L12049-044) *(s)*	3.82	fgh	4.15	d-g	**3.99**	**de**
7.	Brighton (V14051-172) *(w)*	4.21	c-f	4.26	b-e	**4.23**	**cd**
8.	Mammoth (IGW6755) *(s)*	3.78	gh	4.86	a	**4.32**	**c**
9.	Stockade *(s)*	3.68	hi	3.83	fgh	**3.76**	**ef**
10.	Triple 2 (AGFWH010222) *(w)*	4.62	ab	4.86	a	**4.74**	**ab**
11.	AGFWHWW2 (FAR WW2) *(w)*	4.78	a	4.80	a	**4.79**	**a**
12.	Longford *(w)*	4.32	bcd	4.62	abc	**4.47**	**bc**
	Mean	**4.11**	**b**	**4.41**	**a**		
	LSD Cultivar p = 0.05	0.29			**P value**	<0.001	
	LSD Management p = 0.05	0.13			**P value**	0.005	
	LSD Cultivar x Man. p = 0.05	0.41			**P value**	<0.001	

Note: w = Winter Wheat, s = Spring Wheat

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

	Variety	Protein (%)		Test Weight (kg/hL)		Screenings (%)	
1.	BigRed	11.3	e	79.1	ab	2.5	c
2.	RGT Cesario	11.9	cd	77.7	cd	2.6	c
3.	RGT Accroc	11.9	cd	77.8	cd	1.4	d
4.	Illabo	14.0	a	76.0	f	1.6	d
5.	TA0109	12.5	b	75.0	g	3.9	a
6.	Avoca	11.9	c	77.6	de	2.5	c
7.	Brighton	12.5	b	78.9	b	1.8	d
8.	Mammoth	11.5	de	77.9	cd	2.5	c
9.	Stockade	12.1	c	79.4	a	2.8	bc
10.	Triple 2	11.5	de	78.1	c	3.2	b
11.	AGFWHWW2	11.5	e	77.3	e	1.9	d
12.	Longford	12.0	c	77.4	e	3.0	bc
	LSD p = 0.05	0.4		0.4		0.5	
	Variety P-Value	<0.001		<0.001		<0.001	
	Management						
1.	Untreated	12.0	-	77.4	b	2.6	-
2.	Plus Fungicide	12.1	-	77.9	a	2.4	-
	LSD p = 0.05	ns		0.3		ns	
	Disease Management P-Value	0.371		0.019		0.136	
	Variety x Disease Management						
	No Fungicide						
1.	BigRed	11.3	-	78.9	bc	2.8	-
2.	RGT Cesario	11.7	-	77.7	e-i	2.9	-
3.	RGT Accroc	11.9	-	77.7	e-i	1.4	-
4.	Illabo	13.9	-	75.9	k	1.7	-
5.	TA0109	12.4	-	74.8	m	4.1	-
6.	Avoca	11.8	-	77.4	ghi	2.3	-
7.	Brighton	12.7	-	78.5	cd	1.7	-
8.	Mammoth	11.7	-	76.5	j	2.8	-
9.	Stockade	12.1	-	79.5	a	3.0	-
10.	Triple 2	11.6	-	78.0	ef	3.3	-
11.	AGFWHWW2	11.4	-	77.2	i	2.0	-
12.	Longford	11.9	-	77.4	ghi	3.0	-
	Plus Fungicide						
1.	BigRed	11.3	-	79.3	ab	2.2	-
2.	RGT Cesario	12.1	-	77.8	e-h	2.3	-
3.	RGT Accroc	11.9	-	77.9	efg	1.3	-
4.	Illabo	14.2	-	76.2	jk	1.5	-
5.	TA0109	12.7	-	75.3	l	3.8	-
6.	Avoca	12.0	-	77.8	e-h	2.8	-
7.	Brighton	12.4	-	79.2	ab	1.9	-
8.	Mammoth	11.4	-	79.3	ab	2.3	-
9.	Stockade	12.2	-	79.3	ab	2.7	-
10.	Triple 2	11.5	-	78.2	de	3.1	-
11.	AGFWHWW2	11.6	-	77.5	f-i	1.8	-
12.	Longford	12.0	-	77.3	hi	3.0	-
	LSD p = 0.05	ns		0.5		ns	
	Variety x Disease Mang. P-Value	0.571		<0.001		0.743	

Disease assessment data

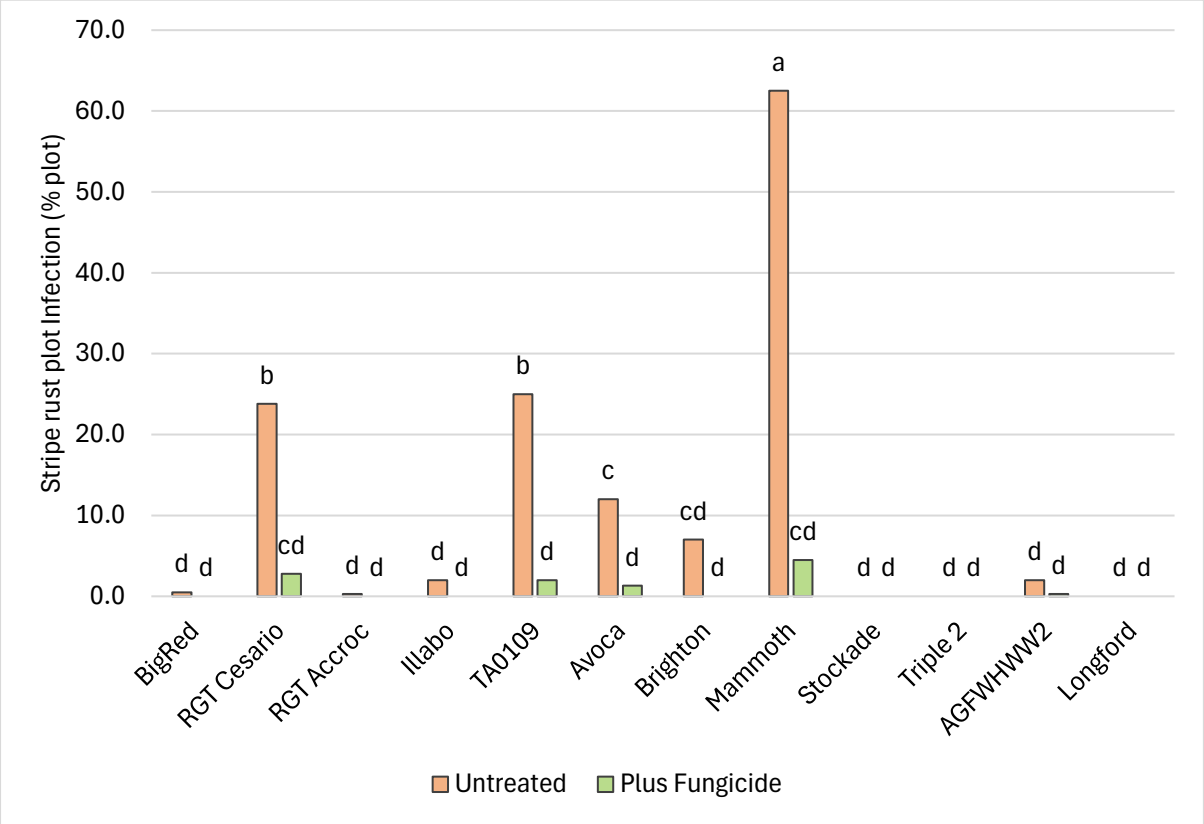

Figure 2. Influence of variety and fungicide application (3 spray programme) on **stripe rust** plot infection (P-Value= <0.001, LSD= 9.47), assessed on 21 October 2024.

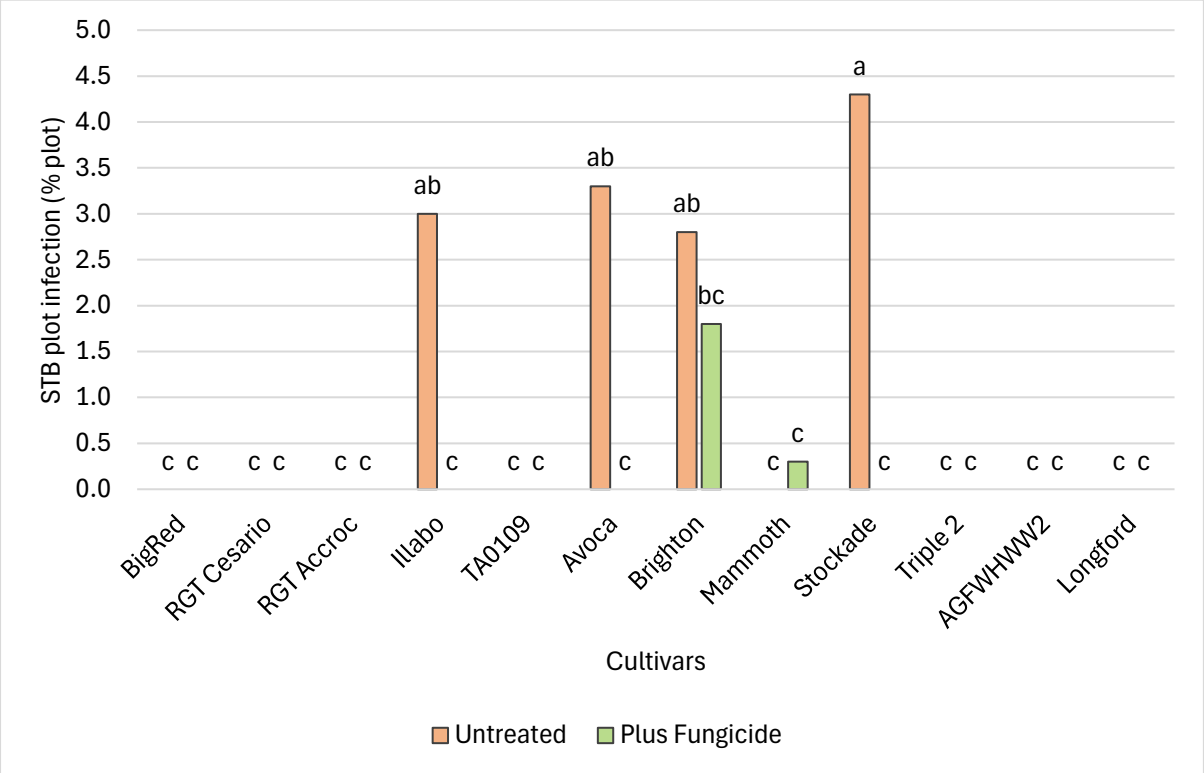

Figure 3. Influence of variety and fungicide application (3 spray programme) on **Septoria tritici blotch** (STB) plot infection (P-Value= <0.001, LSD= 2.05), assessed on 21 October 2024.

Development (Phenology)

Table 3: Number of days from sowing (25 Apr 2024) to GS30 (stem elongation)

	Cultivar	Days to GS30 (Stem Elongation)
1.	BigRed	117
2.	RGT Cesario	117
3.	RGT Accroc	109
4.	Illabo	102
5.	TA0109	85
6.	Avoca	85
7.	Brighton	95
8.	Mammoth	92
9.	Stockade	88
10.	Triple 2	102
11.	AGFWHWW2	117
12.	Longford	117

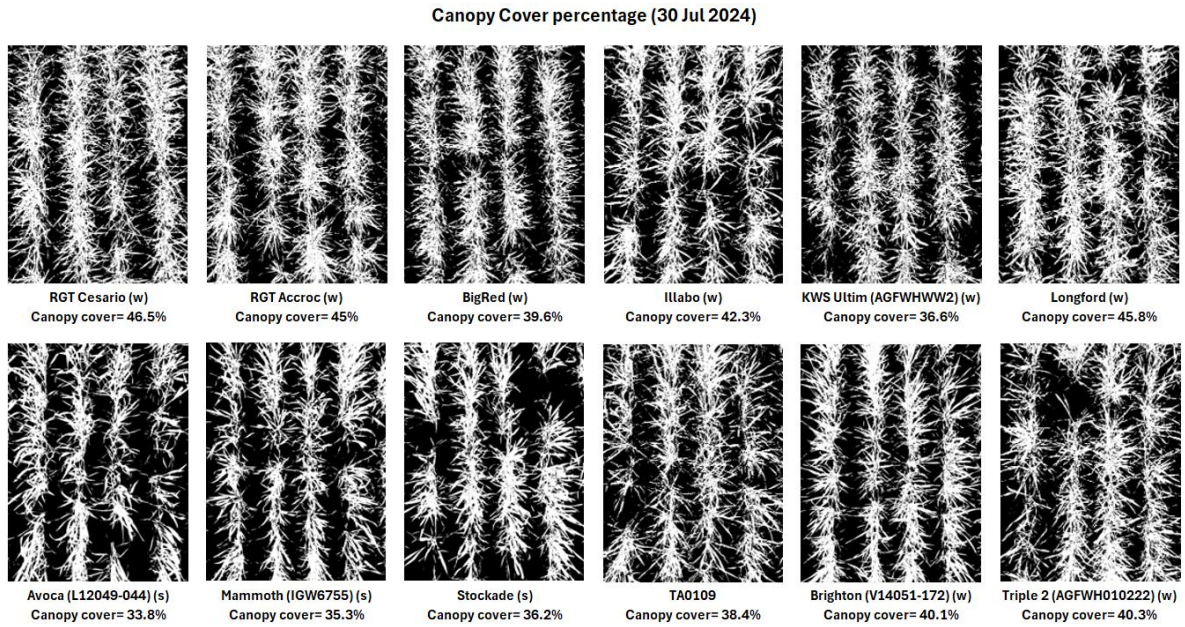

Figure 5. Canopy cover percentage observed on 30 July 2024.

Trial inputs

Table 4. Trial input and management details.

Sowing date:		**25 April 2024**	
Harvest date:		**16 December 2024**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	25 Apr	100 kg MAP	
Pre-em herbicide:	22 Apr	Treflan 2 L	
		Overwatch 1.25 L/ha	
		Paraquat 2.4 L/ha	
Post-em herbicide:	28 May	Mateno Complete 0.75 L/ha	
	26 Jun	Triathlon 0.75 L/ha	
		Lontrel Advanced 0.125 L/ha	
Nitrogen:	18 July	Urea 109 kg/ha (50 kg N/ha)	
	14 Aug	Urea 217 kg/ha (100 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha
	GS59-61	----	Opus 0.50 L/ha

***Please note** that the label cut off for Opus is ear emergence (GS59).*

VIC Wheat TOS 2 (FAR VIC II W24-35-02)

Sown: 20 May 2024
Harvested: 16 December 2024
Soil Type: Grey Clay
Previous Crop: 2022- Wheat; 2023- Canola

Management: Speed disced 1 pass (5-8cm depth) and Kelly chained
FAR Code: FAR VIC II W24-35-02
GSR (Apr-Nov): 284.4mm

Key Points

- *There was a significant yield interaction (<0.001) between variety and fungicide application, with all varieties giving a significant response to fungicide except Triple 2, Ironbark (V14035-125), Avoca (L12049-044) and winter wheat Brighton (V14051-172).*
- *With fungicide treatment the highest yielding cultivars were recorded with the spring wheats Genie and V15019-088 which were significantly better than all other varieties, with yields comparable to red feed wheats sown one month earlier.*
- *Fungicide responses in yield invariably led to better test weights with small differences in grain protein and screenings.*
- *Though not strictly comparable to the earlier sown trial the yield of the winter wheats Brighton and to a lesser extent Triple 2 held up well with the later May sowing.*
- *The most severe stripe rust was observed in RockStar, Scepter, Mammoth, LRPB Matador, Genie, Boa and TA0109, with lower levels (<20% infection) affecting LRPB Major and V15019-088.*
- *The varieties with lower levels or no stripe rust were associated with no economic response from fungicide application. Only trace levels of other diseases were observed.*

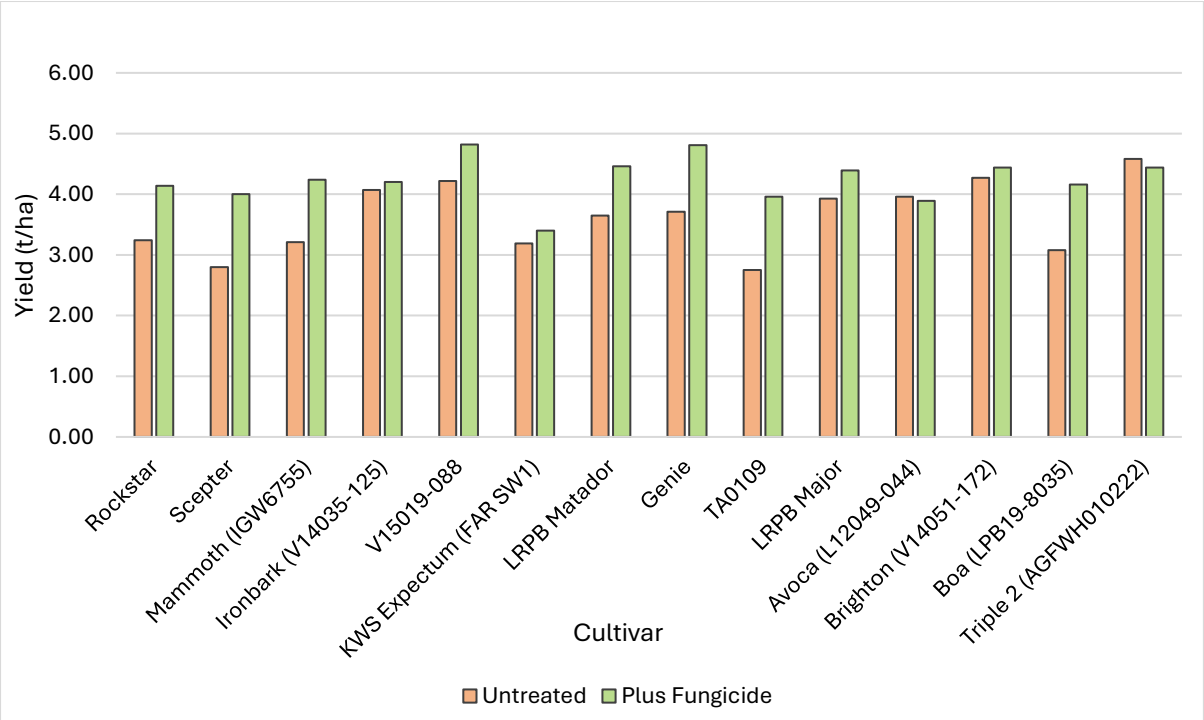

Figure 1. Influence of wheat variety and fungicide application on grain yield (t/ha) (P Value= <0.001, LSD= 0.28)

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

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

		Yield (t/ha)					
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RockStar *(s)*	3.24	lm	4.14	d-h	**3.69**	**f**
2.	Scepter *(s)*	2.80	n	4.00	e-h	**3.40**	**g**
3.	Mammoth (IGW6755) *(s)*	3.21	lm	4.24	c-f	**3.72**	**f**
4.	Ironbark (V14035-125) *(s)*	4.07	e-h	4.20	c-g	**4.13**	**cd**
5.	V15019-088 *(s)*	4.22	c-f	4.82	a	**4.52**	**a**
6.	KWS Expectum (FAR SW1) *(s)*	3.19	lm	3.40	kl	**3.30**	**g**
7.	LRPB Matador *(s)*	3.65	jk	4.46	bc	**4.05**	**de**
8.	Genie *(s)*	3.71	ij	4.81	a	**4.26**	**bc**
9.	TA0109 *(w)*	2.75	n	3.96	f-i	**3.36**	**g**
10.	LRPB Major *(s)*	3.93	ghi	4.39	bcd	**4.16**	**bcd**
11.	Avoca (L12049-044) *(s)*	3.96	f-i	3.89	hij	**3.92**	**e**
12.	Brighton (V14051-172) *(w)*	4.27	cde	4.44	bc	**4.35**	**ab**
13.	Boa (LPB19-8035) *(s)*	3.08	m	4.16	d-h	**3.62**	**f**
14.	Triple 2 (AGFWH010222) *(w)*	4.58	ab	4.44	bc	**4.51**	**a**
	Mean	**3.62**	**b**	**4.24**	**a**		
	LSD Variety p = 0.05	0.19			**P value**	0.001	
	LSD Management p = 0.05	0.16			**P value**	<0.001	
	LSD Variety x Man. p = 0.05	0.28			**P value**	<0.001	

Note: w = Winter Wheat, s = Spring Wheat

Table 2. Influence of fungicide on the protein (%) of wheat varieties plus and minus fungicide.

		Protein (%)					
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RockStar	10.1	-	10.2	-	**10.1**	**f**
2.	Scepter	10.9	-	11.1	-	**11.0**	**cd**
3.	Mammoth	11.3	-	11.4	-	**11.4**	**bc**
4.	Ironbark	11.3	-	11.7	-	**11.5**	**b**
5.	V15019-088	10.8	-	10.3	-	**10.5**	**e**
6.	KWS Expectum	13.8	-	13.5	-	**13.7**	**a**
7.	LRPB Matador	10.7	-	10.7	-	**10.7**	**de**
8.	Genie	10.4	-	10.8	-	**10.6**	**e**
9.	TA0109	10.8	-	11.3	-	**11.1**	**c**
10.	LRPB Major	10.5	-	10.7	-	**10.6**	**e**
11.	Avoca	11.2	-	11.6	-	**11.4**	**bc**
12.	Brighton	11.5	-	11.6	-	**11.5**	**b**
13.	Boa	11.7	-	11.5	-	**11.6**	**b**
14.	Triple 2	10.9	-	11.3	-	**11.1**	**c**
	Mean	**11.1**	**b**	**11.2**	**a**		
	LSD Variety p = 0.05	0.4			**P value**	0.015	
	LSD Management p = 0.05	0.1			**P value**	<0.001	
	LSD Variety x Man. p = 0.05	ns			**P value**	0.511	

Table 3. Influence of fungicide on test weight (kg/hL) of wheat varieties plus and minus fungicide.

Test Weight (kg/hL)						
	Variety	**Untreated**		**Plus fungicide**		**Mean**
1.	RockStar	76.2	ij	79.2	fgh	**77.7 e**
2.	Scepter	76.6	i	80.8	a-d	**78.7 d**
3.	Mammoth	78.6	h	79.5	e-h	**79.1 cd**
4.	Ironbark	79.0	gh	79.3	fgh	**79.1 cd**
5.	V15019-088	80.5	a-e	81.1	ab	**80.8 a**
6.	KWS Expectum	76.6	i	75.9	ij	**76.3 f**
7.	LRPB Matador	79.9	c-g	81.5	a	**80.7 a**
8.	Genie	79.5	e-h	81.2	ab	**80.3 ab**
9.	TA0109	73.4	k	74.0	k	**73.7 g**
10.	LRPB Major	80.2	b-f	80.9	abc	**80.5 a**
11.	Avoca	79.8	d-g	79.6	e-h	**79.7 bc**
12.	Brighton	80.6	a-e	80.8	a-d	**80.7 a**
13.	Boa	75.3	j	79.3	fgh	**77.3 e**
14.	Triple 2	79.2	fgh	79.3	fgh	**79.2 cd**
	Mean	**78.2**	**b**	**79.4**	**a**	
	LSD Variety p = 0.05	0.8			**P value**	<0.001
	LSD Management p = 0.05	0.5			**P value**	0.004
	LSD Variety x Man. p = 0.05	1.1			**P value**	<0.001

Table 4. Influence of fungicide on screenings (%) of wheat cultivars plus and minus fungicide.

Screenings (%)						
	Variety	**Untreated**		**Plus fungicide**		**Mean**
1.	RockStar	4.5	-	3.0	-	**3.8 de**
2.	Scepter	4.4	-	4.0	-	**4.2 d**
3.	Mammoth	3.5	-	3.0	-	**3.3 f**
4.	Ironbark	2.4	-	2.3	-	**2.3 g**
5.	V15019-088	3.5	-	3.2	-	**3.4 ef**
6.	KWS Expectum	4.6	-	4.8	-	**4.7 c**
7.	LRPB Matador	4.5	-	3.9	-	**4.2 cd**
8.	Genie	5.8	-	5.0	-	**5.4 b**
9.	TA0109	6.9	-	6.1	-	**6.5 a**
10.	LRPB Major	2.7	-	2.6	-	**2.6 g**
11.	Avoca	3.7	-	3.3	-	**3.5 ef**
12.	Brighton	2.4	-	2.3	-	**2.3 g**
13.	Boa	3.5	-	3.1	-	**3.3 f**
14.	Triple 2	3.5	-	3.6	-	**3.5 ef**
	Mean	**4.0**	**-**	**3.6**	**-**	
	LSD Variety p = 0.05	0.5			**P value**	<0.001
	LSD Management p = 0.05	ns			**P value**	0.077
	LSD Variety x Man. p = 0.05	ns			**P value**	0.091

Disease assessment data

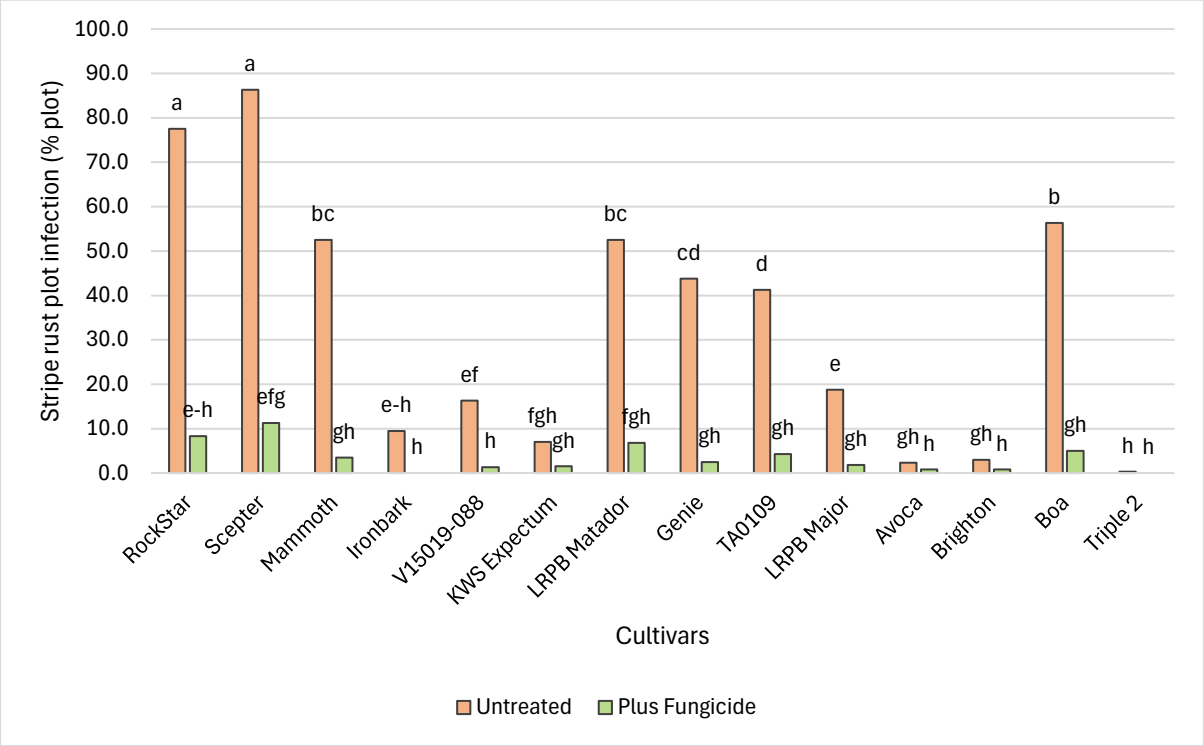

Figure 2. Influence of variety and fungicide on stripe rust plot infection (%) (P Value= <0.001, LSD= 9.82), assessed on 21 October 2024.

Trial inputs

Table 5. Trial input and management details.

Sowing date:		**20 May 2024**	
Harvest date:		**16 December 2024**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	20 May	100 kg MAP	
Pre-em herbicide:	20 May	Mateno Complete 1.0 L/ha	
		Paraquat 2.4 L/ha	
Post-em herbicide:	26 June	Triathlon 0.75 L/ha	
		Lontrel Advanced 0.125 L/ha	
Nitrogen:	18 July	Urea 109 kg/ha (50 kg N/ha)	
	14 Aug	Urea 217 kg/ha (100 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Radial 840 mL/ha
	GS39	----	Aviator Xpro 0.50 L/ha
	GS59-61	----	Opus 0.50 L/ha

VIC Barley TOS 1 (FAR VIC II B24-36-01)

Sown: 25 April 2024
Harvested: 17 December 2024
Soil Type: Grey Clay
Previous Crop: 2022- Wheat; 2023- Canola

Management: Speed disced 1 pass (5-8cm depth) and Kelly chained
FAR Code: FAR VIC II B24-36-01
GSR (Apr-Nov): 284.4mm

Key Points

- *The highest yielding varieties in the trial were the six-row winter barley KWS Faro (previously tested as 'FAR WB 6r 1') averaging 4.84 t/ha and the two-row winter barley KW 2-1918 (previously tested as 'FAR WB 2r 2') averaging 4.76 t/ha.*
- *Of the spring varieties tested the Intergrain line IGB21130 and control variety Neo CL yielded best at 4.41 t/ha and 4.24 t/ha respectively. This is despite being sown outside of the typical sowing window for a spring barley variety.*
- *Although there was no interaction between variety and fungicide, overall, barley varieties yielded 0.33 t/ha better with fungicides applied.*
- *The main disease on site was net form net blotch (NFNB) and of the control varieties, was most prevalent in RGT Planet with 68.1% plot infection on average when assessed on 21 October.*
- *Of the test varieties entered into the trial RGT Orbiter and RGT Asteroid also recorded high levels (>60% plot infection) of NFNB on average across managements while AGTB0318 and AGFBA021022 saw moderate levels of infection (25% and 24% plot infection respectively).*
- *No variety achieved malt grade predominantly through high proteins and low test weights however retention and screening figures were generally within malt range for most varieties.*
- *At the time of writing RGT Planet and Minotaur are both accredited malting varieties with Neo CL and AGTB0318 currently under evaluation (both varieties stage 2 as of 2024 with a target decision in 2025).*
- *Unlike six-row winter barleys tested at the Victorian Crop Technology in previous years, KWS Faro produced very favourable test weight (65.5 kg/hL), retention (73.8%) and screening (4.9%) figures.*

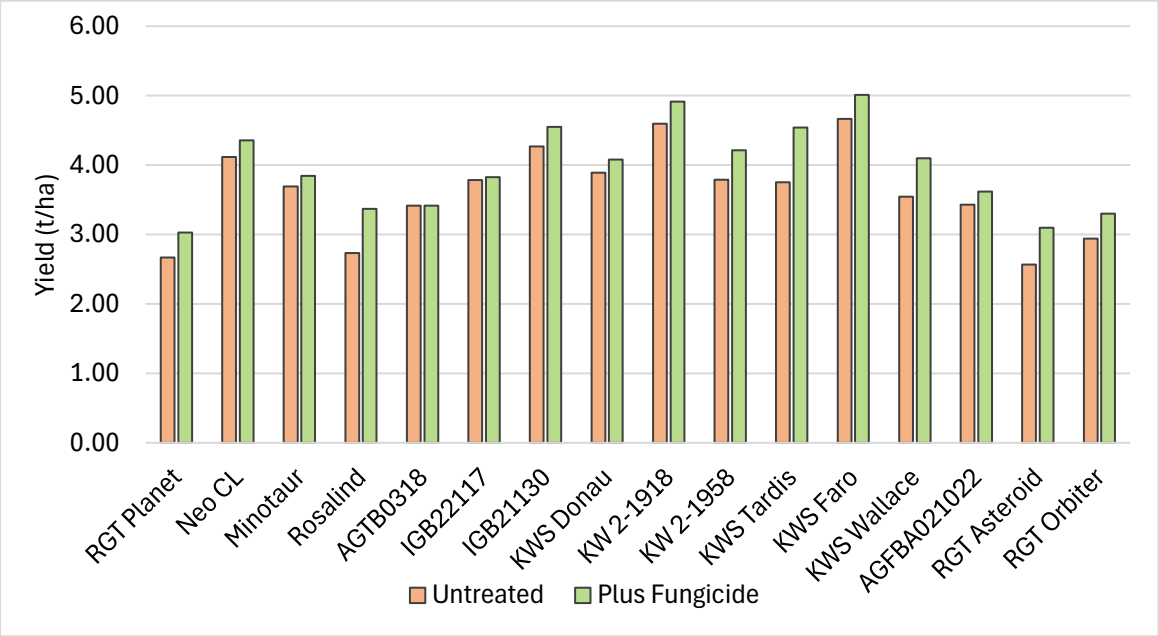

Figure 1. Influence of variety and fungicide application on grain yield (t/ha).

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

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

Yield t/ha							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	2.67	-	3.03	-	2.85	h
2.	Neo CL *(s)*	4.12	-	4.36	-	4.24	bc
3.	Minotaur *(s)*	3.69	-	3.84	-	3.77	de
4.	Rosalind *(s)*	2.73	-	3.37	-	3.05	gh
5.	AGTB0318 *(s)*	3.42	-	3.42	-	3.42	f
6.	IGB22117 *(s)*	3.78	-	3.83	-	3.81	d
7.	IGB21130 *(s)*	4.27	-	4.55	-	4.41	b
8.	KWS Donau (FAR WB 2r 1) (*w)*	3.89	-	4.08	-	3.99	cd
9.	KW 2-1918 (FAR WB 2r 2) (*w)*	4.60	-	4.92	-	4.76	a
10.	KW 2-1958 (FAR WB 2r 3) (*w)*	3.79	-	4.22	-	4.00	cd
11.	KWS Tardis (FAR WB 2r 4) (*w)*	3.75	-	4.54	-	4.15	c
12.	KWS Faro (FAR WB 6r 1) (*w)*	4.67	-	5.01	-	4.84	a
13.	KWS Wallace (FAR WB 6r 2) (*w)*	3.54	-	4.10	-	3.82	d
14.	AGFBA021022 *(s)*	3.43	-	3.62	-	3.52	ef
15.	RGT Asteroid *(s)*	2.57	-	3.10	-	2.83	h
16.	RGT Orbiter *(s)*	2.94	-	3.30	-	3.12	g
	Mean	**3.62**	**b**	**3.95**	**a**		
	LSD Cultivar p = 0.05	0.25		**P value**		<0.001	
	LSD Management p = 0.05	0.20		**P value**		0.016	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.159	

Table 2. Influence of fungicide application on the protein % of barley variety plus and minus fungicide.

Protein %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	16.3	-	16.0	-	16.1	bc
2.	Neo CL	16.0	-	15.6	-	15.8	cd
3.	Minotaur	16.5	-	16.3	-	16.4	b
4.	Rosalind	16.2	-	16.0	-	16.1	bc
5.	AGTB0318	15.8	-	15.7	-	15.8	cd
6.	IGB22117	16.7	-	16.3	-	16.5	b
7.	IGB21130	15.5	-	15.4	-	15.5	de
8.	KWS Donau	14.9	-	15.2	-	15.0	ef
9.	KW 2-1918	14.3	-	13.5	-	13.9	g
10.	KW 2-1958	15.7	-	15.2	-	15.4	de
11.	KWS Tardis	15.3	-	14.4	-	14.8	f
12.	KWS Faro	13.9	-	13.6	-	13.8	g
13.	KWS Wallace	14.9	-	14.4	-	14.7	f
14.	AGFBA021022	15.6	-	15.9	-	15.8	cd
15.	RGT Asteroid	17.4	-	16.7	-	17.0	a
16.	RGT Orbiter	15.6	-	15.4	-	15.5	de
	Mean	15.6	-	15.3	-		
	LSD Cultivar p = 0.05	0.5		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.067	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.514	

Table 3. Influence of fungicide application on the test weight Kg/hL of barley variety plus and minus fungicide.

Test Weight Kg/hL						
	Variety	**Untreated**		**Plus fungicide**		**Mean**
1.	RGT Planet	57.0	-	59.0	-	58.0 hi
2.	Neo CL	58.6	-	59.6	-	59.1 ghi
3.	Minotaur	61.3	-	61.5	-	61.4 de
4.	Rosalind	59.2	-	59.6	-	59.4 fgh
5.	AGTB0318	60.4	-	58.9	-	59.6 fg
6.	IGB22117	60.1	-	61.4	-	60.7 ef
7.	IGB21130	64.4	-	63.3	-	63.9 bc
8.	KWS Donau	65.3	-	63.6	-	64.4 ab
9.	KW 2-1918	65.5	-	65.5	-	65.5 a
10.	KW 2-1958	64.9	-	65.4	-	65.1 ab
11.	KWS Tardis	62.0	-	63.6	-	62.8 cd
12.	KWS Faro	65.5	-	65.5	-	65.5 a
13.	KWS Wallace	57.9	-	57.8	-	57.8 i
14.	AGFBA021022	59.7	-	60.2	-	59.9 efg
15.	RGT Asteroid	57.0	-	59.1	-	58.0 hi
16.	RGT Orbiter	60.3	-	60.0	-	60.1 efg
	Mean	61.2	-	61.5	-	
	LSD Cultivar p = 0.05	1.5		**P value**		<0.001
	LSD Management p = 0.05	ns		**P value**		0.180
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.399

Table 4. Influence of fungicide application on the retention % of barley variety plus and minus fungicide.

Retention %						
	Variety	**Untreated**		**Plus fungicide**		**Mean**
1.	RGT Planet	81.9	-	85.9	-	83.9 ef
2.	Neo CL	81.7	-	84.2	-	82.9 f
3.	Minotaur	83.8	-	84.7	-	84.3 ef
4.	Rosalind	75.8	-	79.8	-	77.8 g
5.	AGTB0318	90.7	-	89.0	-	89.8 bc
6.	IGB22117	82.1	-	87.0	-	84.6 ef
7.	IGB21130	93.6	-	94.3	-	94.0 a
8.	KWS Donau	94.1	-	93.7	-	93.9 a
9.	KW 2-1918	70.0	-	75.1	-	72.5 h
10.	KW 2-1958	90.3	-	92.1	-	91.2 ab
11.	KWS Tardis	80.6	-	84.6	-	82.6 f
12.	KWS Faro	71.3	-	76.4	-	73.8 h
13.	KWS Wallace	46.3	-	51.2	-	48.7 i
14.	AGFBA021022	86.6	-	86.7	-	86.7 de
15.	RGT Asteroid	80.4	-	85.1	-	82.7 f
16.	RGT Orbiter	86.9	-	88.5	-	87.7 cd
	Mean	81.0	b	83.6	a	
	LSD Cultivar p = 0.05	2.8		**P value**		<0.001
	LSD Management p = 0.05	1.3		**P value**		0.008
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.239

Table 5. Influence of fungicide application on the screenings % of barley variety plus and minus fungicide.

		Screenings %		
	Variety	**Untreated**	**Plus fungicide**	**Mean**
1.	RGT Planet	7.2 -	6.1 -	6.6 bc
2.	Neo CL	5.8 -	5.6 -	5.7 cde
3.	Minotaur	4.4 -	4.3 -	4.4 fgh
4.	Rosalind	7.6 -	6.4 -	7.0 b
5.	AGTB0318	3.8 -	4.1 -	3.9 gh
6.	IGB22117	5.8 -	4.6 -	5.2 def
7.	IGB21130	2.2 -	2.3 -	2.3 i
8.	KWS Donau	2.0 -	2.3 -	2.1 i
9.	KW 2-1918	5.3 -	4.6 -	4.9 efg
10.	KW 2-1958	2.3 -	2.1 -	2.2 i
11.	KWS Tardis	4.0 -	3.0 -	3.5 h
12.	KWS Faro	5.2 -	4.5 -	4.9 efg
13.	KWS Wallace	11.3 -	10.1 -	10.7 a
14.	AGFBA021022	4.7 -	4.9 -	4.8 efg
15.	RGT Asteroid	6.8 -	5.4 -	6.1 bcd
16.	RGT Orbiter	4.6 -	4.1 -	4.3 fgh
	Mean	5.2 a	4.6 b	
	LSD Cultivar p = 0.05	1.0	**P value**	<0.001
	LSD Management p = 0.05	0.4	**P value**	0.028
	LSD Cultivar x Man. p = 0.05	ns	**P value**	0.822

Disease assessment data

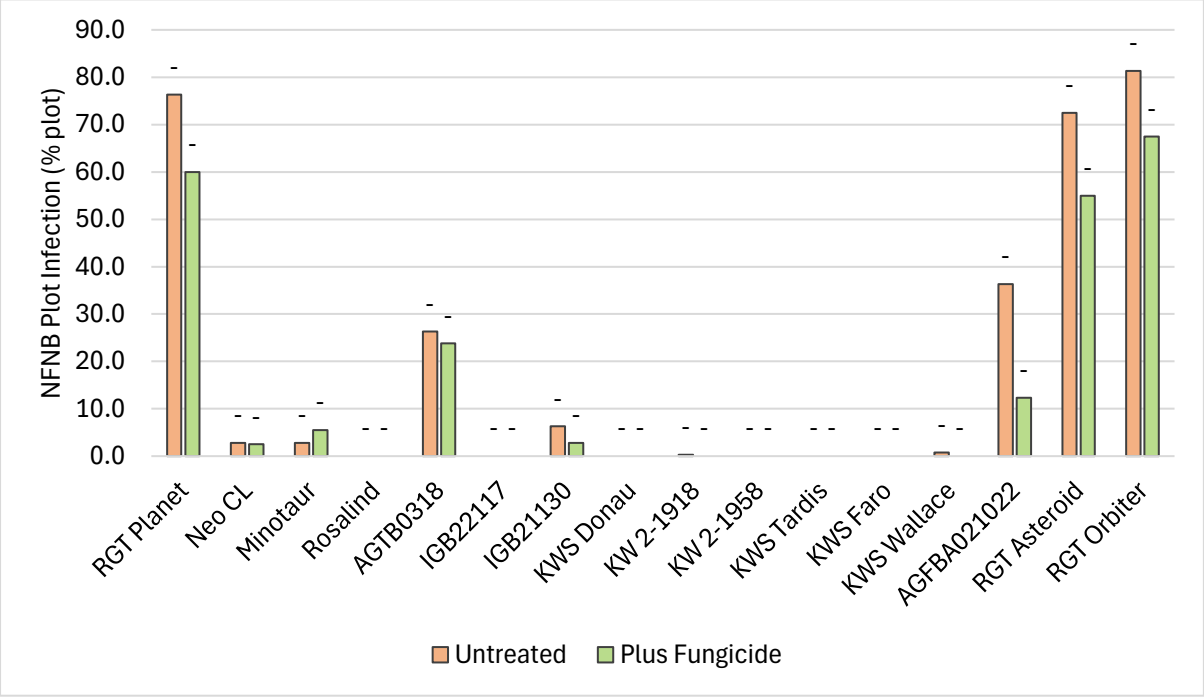

Figure 2. Influence of variety and fungicide application (3 spray programme) on net form of net blotch (NFNB) plot infection (P-Value= 0.225, LSD= 14.29), assessed on 21 October 2024.

Trial inputs

Table 6. Trial input and management details.

Sowing date:		**25 April 2024**	
Harvest date:		**17 December 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	25 Apr	100 kg MAP	
Pre-em herbicide:	22 Apr	Treflan 2 L	
		Overwatch 1.25 L/ha	
		Paraquat 2.4 L/ha	
Post-em herbicide:	28 May	Mateno Complete 0.75 L/ha	
	26 Jun	Triathlon 0.75 L/ha	
		Lontrel Advanced 0.125 L/ha	
Nitrogen:	18 July	Urea 109 kg/ha (50 kg N/ha)	
	14 Aug	Urea 217 kg/ha (100 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha
	GS59-61	----	Opus 0.50 L/ha

Please note *that the label cut off for Opus is ear emergence (GS59).*

VIC Barley TOS 2 (FAR VIC II B24-37-02)

Sown: 20 May 2024
Harvested: 19 December 2024
Soil Type: Grey Clay
Previous Crop: 2022- Wheat; 2023- Canola

Management: Speed disced 1 pass (5-8cm depth) and Kelly chained
FAR Code: FAR VIC II B24-37-02
GSR (Apr-Nov): 284.4mm

Key Points

- *With little disease recorded in this trial, fungicide application did not influence either the yield or grain quality results, with the exception of grain retention (%), where the addition of fungicide on average had a positive effect.*
- *Variety had the biggest effect on yield and quality with the control variety Neo CL and the longer season Intergrain line IGB21130 yielding best at 5.51 t/ha and 5.37 t/ha respectively.*
- *Apart from Rosalind, AGTB0318 and KWS Willis (previously tested as FAR SB1), all varieties achieved an average test weight of >65 kg/hL needed for malting status, however similarly to the April sown GEN trial, high protein did prove to be a limiting factor.*
- *At the time of writing RGT Planet and Minotaur are both accredited malting varieties with Neo CL and AGTB0318 currently under evaluation (both varieties stage 2 as of 2024 with a target decision in 2025).*
- *Net form net blotch (NFNB) was the dominant disease with low levels of leaf rust found across the untreated plots. RGT Planet recorded the highest levels of NFNB with 27.5% in the untreated and a significant decrease in severity fungicides were applied (13.8% plot infection).*
- *KWS Thalis (previously tested as FAR SB2) and KWS Willis also gave significant reduction in NFNB severity when treated with fungicides.*
- *Although there was no significant interaction between variety and fungicide management in terms of leaf rust severity, there was a trend of untreated Minotaur, Neo CL & IGB21130 plots recording slightly higher levels of the disease (P value= 0.073). On average the application of fungicide did decrease leaf rust severity from 0.5% plot infection to 0.0%.*

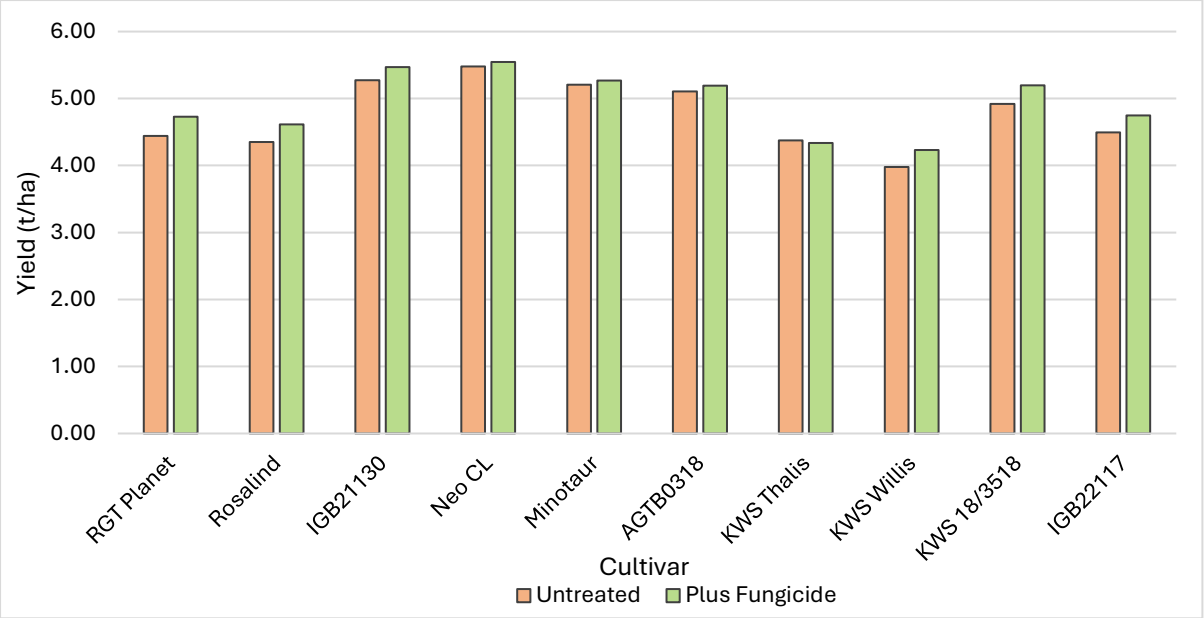

Figure 1. Influence of barley variety and fungicide application on grain yield (t/ha) (P Value= <0.820, LSD= ns)

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

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

Yield t/ha							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	4.44	-	4.73	-	**4.58**	**d**
2.	Rosalind *(s)*	4.35	-	4.61	-	**4.48**	**de**
3.	IGB21130 *(s)*	5.27	-	5.47	-	**5.37**	**ab**
4.	Neo CL *(s)*	5.48	-	5.55	-	**5.51**	**a**
5.	Minotaur *(s)*	5.21	-	5.27	-	**5.24**	**bc**
6.	AGTB0318 *(s)*	5.11	-	5.19	-	**5.15**	**c**
7.	KWS Thalis (FAR SB2) *(s)*	4.38	-	4.34	-	**4.36**	**e**
8.	KWS Willis (FAR SB1) *(s)*	3.98	-	4.23	-	**4.10**	**f**
9.	KWS 18/3518 (FAR SB5) *(s)*	4.92	-	5.20	-	**5.06**	**c**
10.	IGB22117 *(s)*	4.50	-	4.75	-	**4.62**	**d**
	Mean	**4.76**	**-**	**4.93**	**-**		
	LSD Variety p = 0.05	0.22			**P value**	<0.001	
	LSD Management p = 0.05	ns			**P value**	0.109	
	LSD Variety x Man. p = 0.05	ns			**P value**	0.820	

Table 2. Influence of fungicide on the protein (%) of barely varieties plus and minus fungicide.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	13.7	-	13.8	-	**13.7**	**c**
2.	Rosalind	14.5	-	14.1	-	**14.3**	**b**
3.	IGB21130	13.4	-	13.3	-	**13.3**	**de**
4.	Neo CL	13.4	-	13.5	-	**13.5**	**cde**
5.	Minotaur	14.1	-	14.4	-	**14.2**	**b**
6.	AGTB0318	13.3	-	13.4	-	**13.3**	**de**
7.	KWS Thalis	13.5	-	13.8	-	**13.6**	**cd**
8.	KWS Willis	13.9	-	13.5	-	**13.7**	**c**
9.	KWS 18/3518	13.2	-	13.4	-	**13.3**	**e**
10.	IGB22117	14.8	-	14.8	-	**14.8**	**a**
	Mean	**13.8**	**-**	**13.8**	**-**		
	LSD Variety p = 0.05	0.3			**P value**	<0.001	
	LSD Management p = 0.05	ns			**P value**	0.914	
	LSD Variety x Man. p = 0.05	ns			**P value**	0.448	

Table 3. Influence of fungicide on test weight (kg/hL) of barely varieties plus and minus fungicide.

Test Weight (kg/hL)				
Variety		**Untreated**	**Plus fungicide**	**Mean**
1.	RGT Planet	65.3 -	65.0 -	**65.2 c**
2.	Rosalind	64.1 -	63.6 -	**63.8 e**
3.	IGB21130	65.9 -	66.1 -	**66.0 ab**
4.	Neo CL	65.0 -	65.6 -	**65.3 c**
5.	Minotaur	66.8 -	66.4 -	**66.6 a**
6.	AGTB0318	63.6 -	62.6 -	**63.1 f**
7.	KWS Thalis	66.6 -	66.2 -	**66.4 a**
8.	KWS Willis	64.3 -	64.5 -	**64.4 de**
9.	KWS 18/3518	65.2 -	65.6 -	**65.4 bc**
10.	IGB22117	65.1 -	64.9 -	**65.0 cd**
	Mean	**65.2 -**	**65.0 -**	
	LSD Variety p = 0.05	0.7	**P value**	<0.001
	LSD Management p = 0.05	ns	**P value**	0.247
	LSD Variety x Man. p = 0.05	ns	**P value**	0.533

Table 4. Influence of fungicide on retention (%) of barely varieties plus and minus fungicide.

Retention (%)				
Variety		**Untreated**	**Plus fungicide**	**Mean**
1.	RGT Planet	93.1 -	93.7 -	**93.4 b**
2.	Rosalind	91.9 -	94.5 -	**93.2 b**
3.	IGB21130	94.4 -	95.3 -	**94.8 a**
4.	Neo CL	94.9 -	95.9 -	**95.4 a**
5.	Minotaur	93.3 -	92.6 -	**93.0 b**
6.	AGTB0318	94.6 -	95.0 -	**94.8 a**
7.	KWS Thalis	94.6 -	94.6 -	**94.6 a**
8.	KWS Willis	95.1 -	95.5 -	**95.3 a**
9.	KWS 18/3518	93.7 -	95.4 -	**94.5 a**
10.	IGB22117	94.5 -	95.1 -	**94.8 a**
	Mean	**94.0 b**	**94.8 a**	
	LSD Variety p = 0.05	0.9	**P value**	<0.001
	LSD Management p = 0.05	0.2	**P value**	<0.001
	LSD Variety x Man. p = 0.05	ns	**P value**	0.061

Table 5. Influence of fungicide on screenings (%) of barely cultivars plus and minus fungicide.

		Screenings (%)		
		Untreated	**Plus fungicide**	**Mean**
1.	RGT Planet	1.6 -	1.5 -	**1.5 ab**
2.	Rosalind	1.7 -	1.7 -	**1.7 a**
3.	IGB21130	1.4 -	1.1 -	**1.3 b**
4.	Neo CL	1.4 -	1.1 -	**1.3 b**
5.	Minotaur	1.7 -	1.7 -	**1.7 a**
6.	AGTB0318	1.5 -	1.5 -	**1.5 ab**
7.	KWS Thalis	1.3 -	1.4 -	**1.3 b**
8.	KWS Willis	1.4 -	1.4 -	**1.4 b**
9.	KWS 18/3518	1.6 -	1.2 -	**1.4 b**
10.	IGB22117	1.5 -	1.5 -	**1.5 ab**
	Mean	**1.5 -**	**1.4 -**	
	LSD Variety p = 0.05	0.3	**P value**	0.008
	LSD Management p = 0.05	ns	**P value**	0.280
	LSD Variety x Man. p = 0.05	ns	**P value**	0.520

Disease assessment data

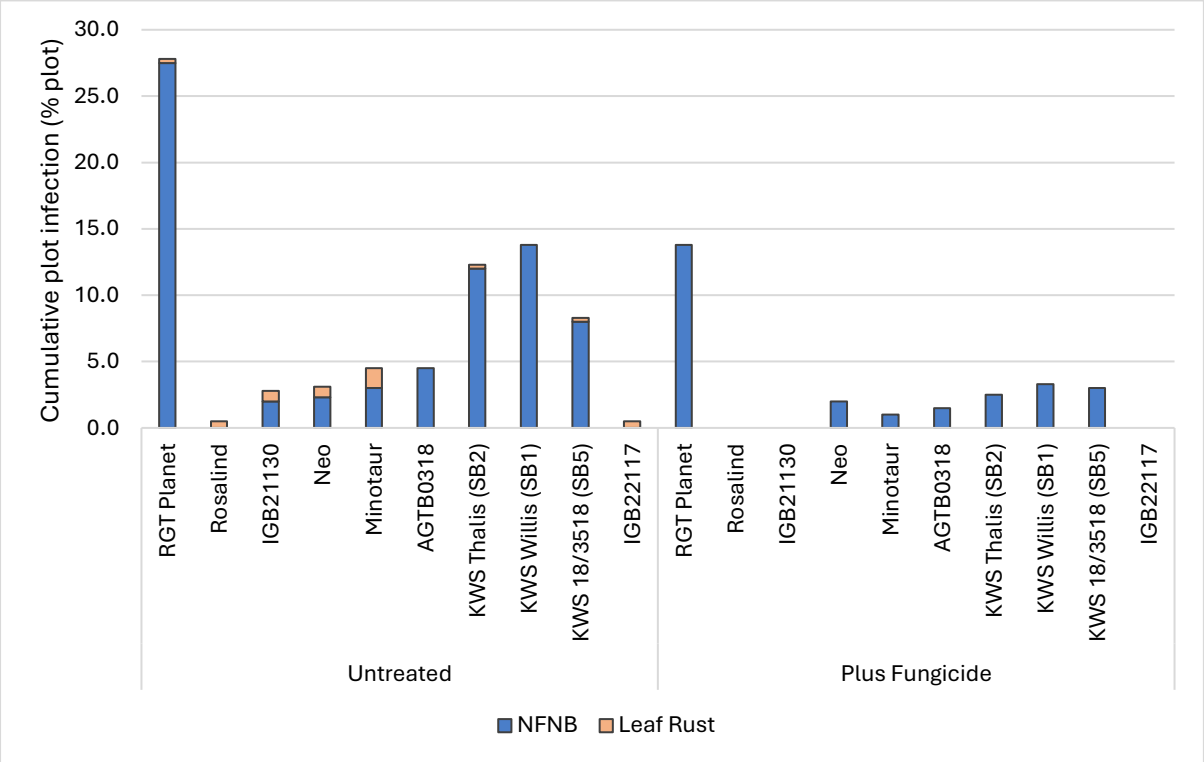

Figure 2. Influence of variety and fungicide on cumulative Net form net blotch (NFNB) and leaf rust infection (%Plot), (assessed on 22 October 2024). NFNB P Value= <0.001, LSD= 4.9%; leaf rust P Value= 0.073, LSD= ns).

Trial Inputs

Table 6. Trial input and management details.

Sowing date:		**20 May 2024**	
Harvest date:		**19 December 2024**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	20 May	100 kg MAP	
Pre-em herbicide:	20 May	Mateno Complete 0.75 L/ha	
		Paraquat 2.4 L/ha	
Post-em herbicide:	26 June	Triathlon 0.75 L/ha	
		Lontrel Advanced 0.125 L/ha	
Nitrogen:	18 July	Urea 109 kg/ha (50 kg N/ha)	
	14 Aug	Urea 217 kg/ha (100 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 300 mL/ha
	GS39	----	Aviator Xpro 0.50 L/ha

VIC Canola (FAR VIC II C24-44)

Sown: 19 April 2024
Harvested: 12 December 2024
Soil Type: Clay
Previous Crop: 2023- Wheat

Management: Stubble burnt
FAR Code: FAR VIC C24-44
GSR (Apr-Nov): 284.4mm

Key Points

- *A rainfall event in early April produced a good seedbed for emergence in the trial, but drier conditions later in the autumn and the following spring reduced yield potential.*
- *Seed yields ranged 2.32 – 3.30t/ha depending on variety and fungicide application with significant differences in variety performance whether the crop was treated or untreated with fungicide.*
- *As shown in previous hyper yielding crops evaluations the mid-season variety 45Y95CL performed very strongly being significantly higher yielding than all other varieties tested when the two management approaches were averaged.*
- *Slightly lower yielding was a raft of other hybrids that performed strongly including coded line AN23LR014, the mid-season TruFlex® line Nuseed Eagle TF and the early-mid hybrid Hyola Regiment XC that combines TruFlex® technology and an ability to apply Imidazolinone (IMI) herbicides.*
- *The season did not lend itself to disease infection and neither blackleg or sclerotinia had a bearing on seed yield, test weight or oil content.*
- *There was a significant yield interaction (p=0.029) between cultivar and fungicide application suggesting that varieties responded differently to fungicide application, however whether the small yield effects were positive or negative they did not appear to be linked to disease infection.*
- *Hyola Regiment XC (45.2%) gave significantly higher oil contents than all other varieties except Nuseed Eagle TF (44.6%). Oil content for 45Y95CL was 43.2%.*
- *Pioneer PY525G Optimum GLY registered trademark herbicide technology and RGT65-074CL performed less strongly in this trial.*

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

Table 1. Influence of fungicide application on the grain yield (t/ha) of canola (varieties grown plus and minus fungicide) – April 19 sown (emerged late April).

		Yield t/ha					
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Pioneer PY525G RR	2.75	d-g	2.45	hi	**2.60**	**cd**
2.	Nuseed Eagle TF	2.96	b-f	3.04	a-d	**3.00**	**b**
3.	45Y95 CL	3.30	a	3.14	ab	**3.22**	**a**
4.	Hyola Blazer TT	2.67	fgh	2.93	b-f	**2.80**	**bc**
5.	Hyola Continuum CL	2.71	e-h	2.91	b-g	**2.81**	**b**
6.	Hyola Regiment XC	2.95	b-f	3.07	abc	**3.01**	**b**
7.	AN23LR014	3.00	b-e	2.78	c-g	**2.89**	**b**
8.	RGT65-074CL	2.63	gh	2.32	i	**2.48**	**d**
	Mean	**2.87**	-	**2.83**	-		
	LSD Variety p = 0.05	0.21		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.774	
	LSD Variety x Man. p = 0.05	0.30		**P value**		0.029	

Table 2. Influence of variety and fungicide on the test weights (kg/hL) – December 12 harvest.

Test Weight Kg/hL							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Pioneer PY525G RR	64.5	-	64.9	-	**64.7**	**c**
2.	Nuseed Eagle TF	63.9	-	64.3	-	**64.1**	**d**
3.	45Y95 CL	63.5	-	63.3	-	**63.4**	**e**
4.	Hyola Blazer TT	65.4	-	65.1	-	**65.3**	**ab**
5.	Hyola Continuum CL	65.3	-	65.2	-	**65.3**	**ab**
6.	Hyola Regiment XC	64.7	-	65.0	-	**64.9**	**bc**
7.	AN23LR014	63.5	-	63.1	-	**63.3**	**e**
8.	RGT65-074CL	65.6	-	65.2	-	**65.4**	**a**
	Mean	**64.5**	**-**	**64.5**	**-**		
	LSD Variety p = 0.05	0.5		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.893	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.468	

Table 3. Influence of variety and fungicide application on the oil content % – December 12 harvest.

Oil %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Pioneer PY525G RR	43.7	-	42.4	-	**43.0**	**cd**
2.	Nuseed Eagle TF	44.7	-	44.4	-	**44.6**	**ab**
3.	45Y95 CL	43.2	-	43.1	-	**43.2**	**cd**
4.	Hyola Blazer TT	43.2	-	43.2	-	**43.2**	**cd**
5.	Hyola Continuum CL	44.2	-	43.6	-	**43.9**	**bc**
6.	Hyola Regiment XC	44.9	-	45.5	-	**45.2**	**a**
7.	AN23LR014	43.0	-	42.4	-	**42.7**	**d**
8.	RGT65-074CL	40.5	-	39.7	-	**40.1**	**e**
	Mean	**43.4**		**43.0**			
	LSD Variety p = 0.05	0.9		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.480	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.490	

Disease assessment data

Table 4: Upper Blackleg infection % assessed on 18 July 2024 on bottom 6 fully emerged leaves.

Upper Canopy Blackleg Infection %							
		Leaf 1	Leaf 2	Leaf 3	Leaf 4	Leaf 5	Leaf 6
Untreated	Pioneer PY525G RR	2.0	0.5	0.1	0.0	0.0	0.0
Plus Fungicide		0.8	0.0	0.0	0.0	0.0	0.0
Untreated	Nuseed Eagle TF	2.0	0.2	0.0	0.0	0.0	0.0
Plus Fungicide		0.8	0.0	0.0	0.0	0.0	0.0
Untreated	45Y95 CL	0.9	0.1	0.2	0.0	0.0	0.0
Plus Fungicide		0.5	0.0	0.0	0.0	0.0	0.0
Untreated	Hyola Blazer TT	3.8	0.8	0.1	0.2	0.1	0.0
Plus Fungicide		1.8	0.1	0.0	0.0	0.1	0.0
Untreated	Hyola Continuum CL	1.6	0.9	0.0	0.0	0.0	0.0
Plus Fungicide		0.8	0.1	0.0	0.0	0.0	0.0
Untreated	Hyola Regiment XC	0.6	0.0	0.0	0.0	0.0	0.0
Plus Fungicide		0.3	0.0	0.0	0.0	0.0	0.0
Untreated	AN23LR014	1.8	0.2	0.0	0.0	0.0	0.0
Plus Fungicide		0.6	0.2	0.0	0.0	0.0	0.0
Untreated	RGT65-074CL	1.4	0.2	0.0	0.0	0.0	0.0
Plus Fungicide		0.5	0.1	0.0	0.0	0.0	0.0

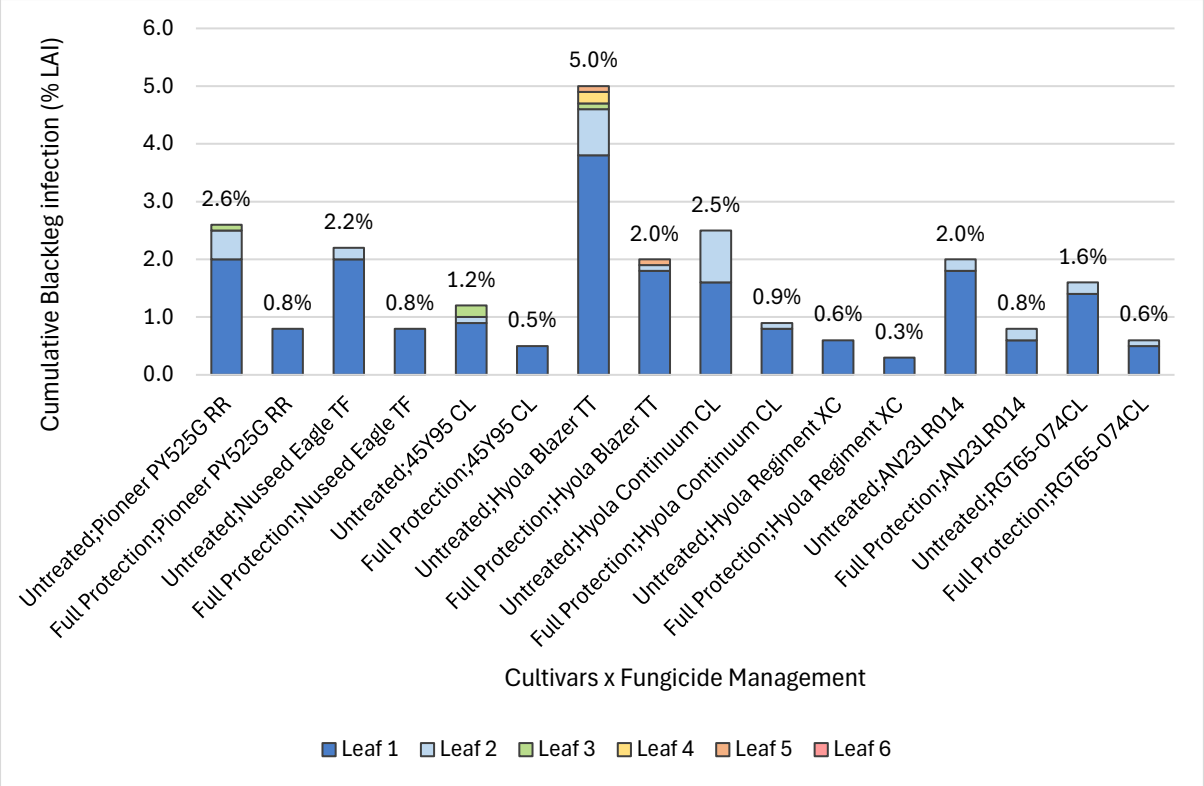

Figure 1: Cumulative Blackleg infection % assessed on 18 July 2024 on bottom 6 fully emerged leaves.

Table 5: Blackleg stem canker infection % assessed on 12 November 2024.

Blackleg Stem canker infection %							
Variety	**Blackleg rating**	**Untreated**		**Plus fungicide**		**Mean**	
Pioneer PY525G RR	MR	4.8	cde	2.1	de	3.5	c
Nuseed Eagle TF	R	32.8	a	13.2	c	23.0	a
45Y95 CL	RMR	9.1	cd	2.0	de	5.5	c
Hyola Blazer TT	RMR	31.4	ab	12.9	c	22.1	ab
Hyola Continuum CL	R	22.9	b	9.4	cd	16.2	b
Hyola Regiment XC	R	0.1	e	0.0	e	0.1	c
AN23LR014	-	0.4	e	2.4	de	1.4	c
RGT65-074CL	-	2.5	de	0.0	e	1.3	c
Mean		13.0	a	5.2	b		
LSD Variety p = 0.05		6.1		P Value		<0.001	
LSD Management p = 0.05		3.5		P Value		0.006	
LSD Variety x Man. p = 0.05		9.1		P Value		0.002	

Ratings derived from GRDC, Blackleg Management Guide Fact Sheet National, National Variety Trials, Issued September 2024; and from respective breeders' websites. R=Resistant, MR= moderately resistant, RMR= resistant-moderately resistant, -= not available.

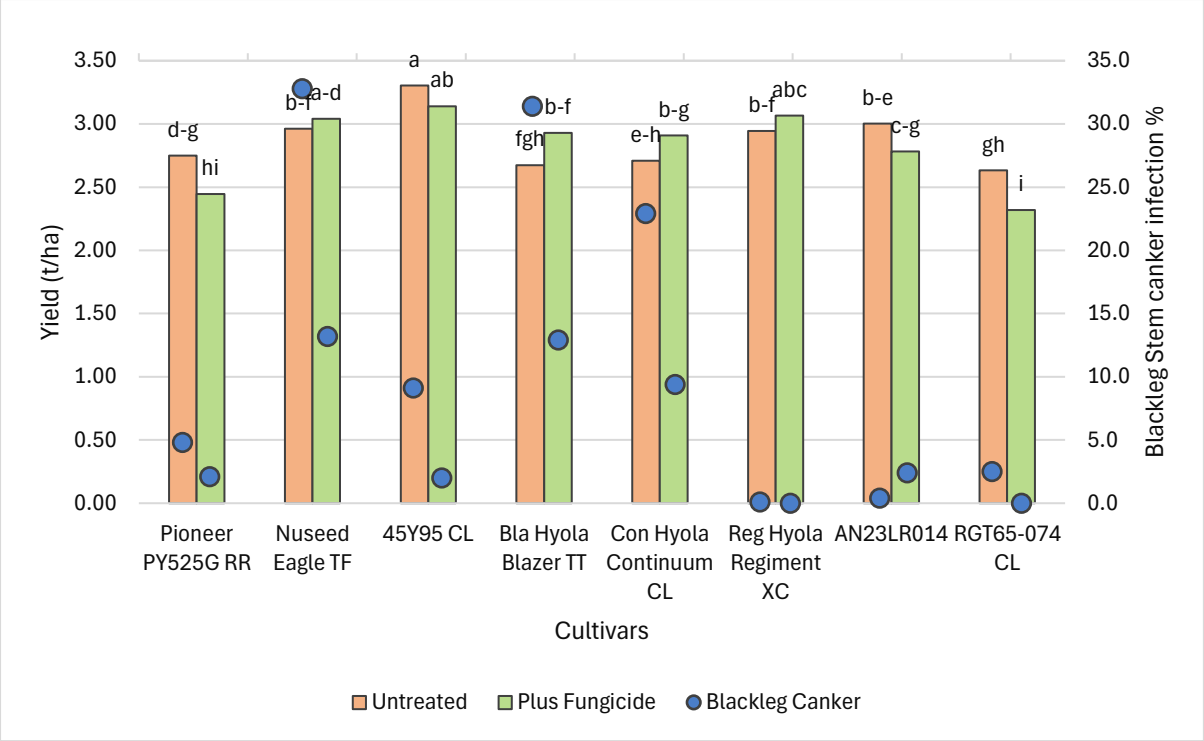

Figure 2: Blackleg stem canker infection % recorded against 8 cultivars and management practices and their interactions with yield.

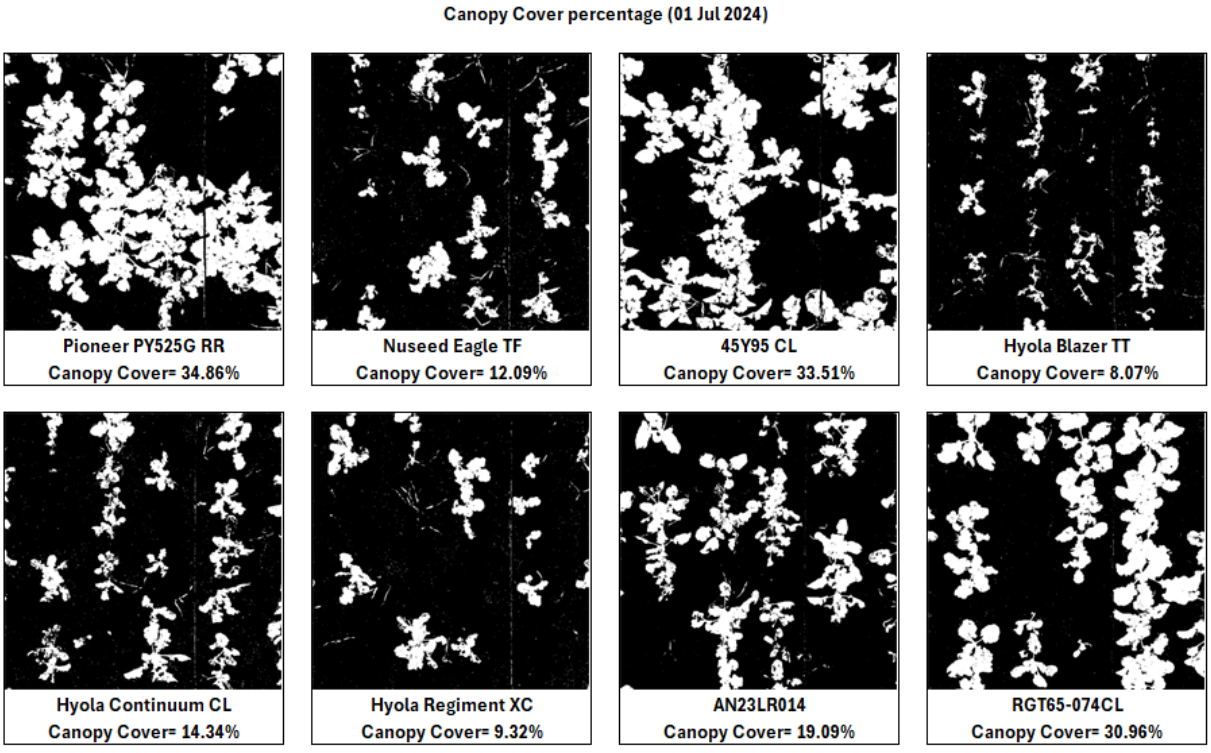

Figure 3: Canopy cover percentage observed on 01 July 2024

Trial inputs

Table 6. Trial input and management details for the trial

Sowing date:		**19 April 2024**	
Harvest date:		**12 December 2024**	
Seed rate:		60 seeds/m^2	
Basal fertiliser:	19 Apr	145 Kg/ha MAP	
Pre-em herbicide:	19 Apr	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	4 Jun	Platinum Xtra 330 mL/ha	
		Lontrel advanced 150 mL/ha	
Insecticide:	20 Apr	Pyrinex super 500 mL/ha	
	25 Oct	AlphaScud 300 80 mL/ha	
Molluscicide:	26 Apr	Metarex 8 kg/ha	
	23 May	Snail X 10 kg/ha	
Nitrogen:	29 Jun	109 kg urea/ha (50.1 kg N/ha)	
	26 Jul	150 kg urea/ha (69 kg N/ha)	
	14 Aug	150 kg urea/ha (69 kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	BBCH 14	----	Prosaro 0.45 L/ha
	BBCH 61	----	Aviator Xpro 0.80 L/ha

South Australian Results

FAR AUSTRALIA

Industry Innovations

leading the way to a brighter grains industry

Millicent SA

SA Millicent Wheat (FAR SAC II W24-30)

Sown: 08 May 2024
Harvested: 08 January 2025
Soil Type: Organosol over grey Clay
Previous Crop: 2023- Canola

Management: Flail mowed stubble
FAR Code: FAR SAC II W24-30
GSR (Apr-Nov): 473.4mm

Key Points

- *With a statistically significant interaction in yield between variety and fungicide management, the best performing treatment was the winter wheat AGFWHWW2 with fungicides applied. This was significantly higher yielding than plots of the same variety grown without fungicide.*
- *Yields for winter wheats Longford and BigRed and spring wheats Avoca (previously tested as L12049-044) and Stockade were not significantly different to the treated yield of AGFWHWW2, however in contrast these varieties did not give a statistically significant response to fungicide.*
- *Stripe rust and septoria tritici blotch (STB) were the prominent diseases recorded in the trial however drier than average conditions during the growing season kept disease levels relatively low.*
- *TA0109 had the highest stripe rust severity with 35.0% of the plot infected followed by RockStar and LRPB Matador with 16.3% and 18.0% plot infection respectively. The addition of a two-fungicide spray program successfully controlled stripe rust with only trace levels found in treated plots and no significant differences between varieties.*
- *STB, a rainfall dependant disease, was found at low levels (<10% plot infection) throughout the trial with the worst affected plots being V15019-88 and Scepter. Again, fungicide application successfully controlled this disease, although Scepter still had significantly more infection in the fungicide treated plots than all other varieties tested.*
- *There was no interaction between variety and fungicide on grain protein, with differences mainly coming from variety. Of the varieties with AH classification Illabo, Scepter and RockStar averaged >13% protein across both managements, while APW varieties Mammoth (previously tested as IGW6755) and Stockade achieved proteins >10.5%. The not yet commercially available spring variety KWS Expectum (previously tested as FAR SW1) also averaged a grain protein of 13.0%.*
- *There was, however, significant interaction between variety and fungicide on test weight and screening. Except for Illabo, all varieties with quality classifications produced test weights of >76 kg/hL in at least fungicide treated plots, with Scepter, Avoca (previously tested as L12049-044), Brighton (previously tested as V14051-172), Stockade and KWS Expectum achieving this level in the absence of fungicide application.*
- *Overall, the screenings in the trial were low with the highest screening of 4.6% coming from TA0109, still below the threshold for any grain receival standards (based on 2024/25 GrainCorp receival standards).*

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

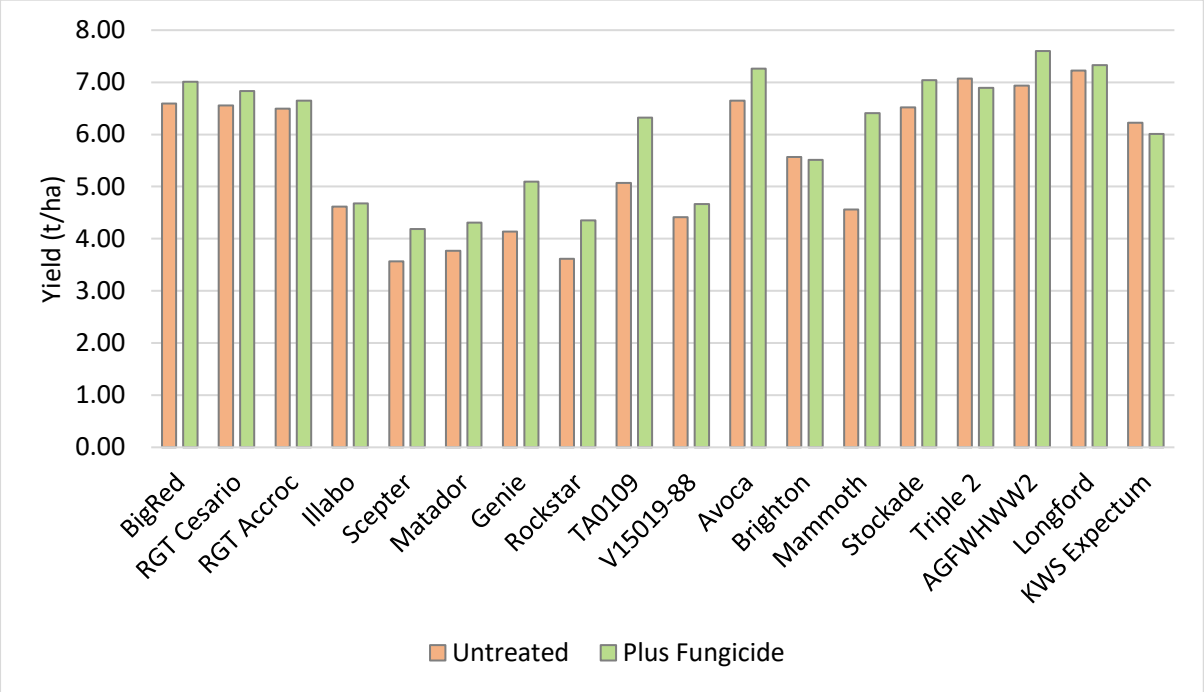

Figure 1. Influence of wheat variety and fungicide application on grain yield (t/ha) (P Value= <0.001, LSD= 0.63)

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

		Yield (t/ha)					
	Variety	**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed *(w)*	6.60	d-i	7.01	a-f	**6.80**	**b**
2.	RGT Cesario *(w)*	6.56	e-i	6.83	b-h	**6.69**	**b**
3.	RGT Accroc *(w)*	6.50	e-i	6.65	c-h	**6.57**	**b**
4.	Illabo *(w)*	4.62	lm	4.68	lm	**4.65**	**e**
5.	Scepter *(s)*	3.57	o	4.19	mno	**3.88**	**f**
6.	LRPB Matador *(s)*	3.77	no	4.31	mn	**4.04**	**f**
7.	Genie *(s)*	4.14	mno	5.10	kl	**4.62**	**e**
8.	RockStar *(s)*	3.62	o	4.35	mn	**3.98**	**f**
9.	TA0109 *(w)*	5.07	kl	6.32	ghi	**5.70**	**cd**
10.	V15019-88 *(s)*	4.41	m	4.67	lm	**4.54**	**e**
11.	Avoca (L12049-044) *(s)*	6.65	c-h	7.27	abc	**6.96**	**ab**
12.	Brighton (V14051-172) *(w)*	5.57	jk	5.51	jk	**5.54**	**d**
13.	Mammoth (IGW6755) *(s)*	4.56	lm	6.41	f-i	**5.49**	**d**
14.	Stockade *(s)*	6.52	e-i	7.04	a-e	**6.78**	**b**
15.	Triple 2 (AGFWH010222) *(w)*	7.08	a-e	6.89	b-g	**6.98**	**ab**
16.	AGFWHWW2 (FAR WW2) *(w)*	6.94	b-g	7.60	a	**7.27**	**a**
17.	Longford *(w)*	7.22	a-d	7.33	ab	**7.28**	**a**
18.	KWS Expectum (FAR SW1) *(s)*	6.23	hi	6.01	ij	**6.12**	**c**
	Mean	**5.53**	-	**6.01**	-	**5.77**	
	LSD Cultivar p = 0.05	0.45		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.141	
	LSD Cultivar x Man. p = 0.05	0.63		**P value**		0.001	

Note: w = Winter Wheat, s = Spring Wheat

Table 2. Influence of fungicide on the protein (%) of wheat varieties plus and minus fungicide.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	10.6	-	10.3	-	**10.4**	**k**
2.	RGT Cesario	10.4	-	10.7	-	**10.6**	**k**
3.	RGT Accroc	11.3	-	11.4	-	**11.3**	**hi**
4.	Illabo	13.8	-	13.8	-	**13.8**	**a**
5.	Scepter	13.5	-	13.4	-	**13.5**	**ab**
6.	LRPB Matador	12.6	-	12.8	-	**12.7**	**de**
7.	Genie	12.7	-	12.4	-	**12.6**	**ef**
8.	RockStar	13.1	-	12.9	-	**13.0**	**cd**
9.	TA0109	11.1	-	11.1	-	**11.1**	**ij**
10.	V15019-88	12.4	-	12.4	-	**12.4**	**ef**
11.	Avoca	11.5	-	11.5	-	**11.5**	**gh**
12.	Brighton	12.3	-	12.3	-	**12.3**	**f**
13.	Mammoth	12.0	-	11.7	-	**11.8**	**g**
14.	Stockade	11.1	-	11.2	-	**11.1**	**hij**
15.	Triple 2	10.5	-	10.4	-	**10.4**	**k**
16.	AGFWHWW2	10.7	-	10.4	-	**10.5**	**k**
17.	Longford	10.7	-	10.9	-	**10.8**	**jk**
18.	KWS Expectum	12.9	-	13.3	-	**13.1**	**bc**
	Mean	**11.8**	**-**	**11.8**	**-**	**11.8**	
	LSD Cultivar p = 0.05	0.4		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.866	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.875	

Table 3. Influence of fungicide on test weight (kg/hL) of wheat varieties plus and minus fungicide.

Test weight (Kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	78.3	a-f	79.9	abc	**79.1**	**abc**
2.	RGT Cesario	73.8	hi	76.6	b-h	**75.2**	**def**
3.	RGT Accroc	76.3	c-h	77.1	a-h	**76.7**	**cde**
4.	Illabo	74.2	ghi	75.7	d-h	**74.9**	**efg**
5.	Scepter	77.5	a-h	79.4	a-d	**78.4**	**abc**
6.	LRPB Matador	74.5	gh	79.6	abc	**77.0**	**b-e**
7.	Genie	75.5	e-h	79.8	abc	**77.6**	**bcd**
8.	RockStar	74.1	ghi	79.2	a-e	**76.7**	**cde**
9.	TA0109	70.5	ij	74.3	gh	**72.4**	**g**
10.	V15019-88	75.2	fgh	79.4	a-d	**77.3**	**b-e**
11.	Avoca	78.3	a-f	78.9	a-f	**78.6**	**abc**
12.	Brighton	78.5	a-f	80.5	a	**79.5**	**ab**
13.	Mammoth	66.9	j	78.6	a-f	**72.7**	**fg**
14.	Stockade	80.2	ab	80.5	a	**80.3**	**a**
15.	Triple 2	76.3	c-h	77.8	a-g	**77.0**	**b-e**
16.	AGFWHWW2	76.3	c-h	78.8	a-f	**77.5**	**b-e**
17.	Longford	77.2	a-h	79.6	abc	**78.4**	**abc**
18.	KWS Expectum	79.2	a-e	80.1	ab	**79.7**	**ab**
	Mean	**75.7**	**b**	**78.6**	**a**	**77.2**	
	LSD Cultivar p = 0.05	2.7		**P value**		<0.001	
	LSD Management p = 0.05	2.1		**P value**		0.020	
	LSD Cultivar x Man. p = 0.05	3.8		**P value**		0.021	

Table 4. Influence of fungicide on screenings (%) of wheat cultivars plus and minus fungicide.

		Screenings (%)					
	Variety	**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	1.5	f-o	1.4	g-o	**1.5**	**g-j**
2.	RGT Cesario	2.8	bc	1.8	e-n	**2.3**	**cd**
3.	RGT Accroc	1.4	g-o	1.9	d-k	**1.7**	**e-i**
4.	Illabo	1.0	o	1.1	l-o	**1.0**	**j**
5.	Scepter	2.2	c-g	1.3	k-o	**1.7**	**e-i**
6.	LRPB Matador	2.4	b-e	1.9	e-m	**2.1**	**c-f**
7.	Genie	3.2	b	2.1	c-i	**2.6**	**bc**
8.	RockStar	2.1	c-j	1.1	mno	**1.6**	**f-j**
9.	TA0109	4.6	a	2.7	bcd	**3.7**	**a**
10.	V15019-88	1.8	e-n	1.1	no	**1.4**	**hij**
11.	Avoca	1.8	e-n	1.7	e-o	**1.7**	**d-i**
12.	Brighton	1.3	i-o	1.1	l-o	**1.2**	**ij**
13.	Mammoth	4.5	a	1.3	j-o	**2.9**	**b**
14.	Stockade	2.1	c-i	1.9	e-l	**2.0**	**d-g**
15.	Triple 2	1.8	e-n	1.8	e-n	**1.8**	**d-h**
16.	AGFWHWW2	1.7	e-o	1.4	h-o	**1.5**	**g-j**
17.	Longford	2.1	c-h	2.3	c-f	**2.2**	**cde**
18.	KWS Expectum	1.3	j-o	1.5	g-o	**1.4**	**hij**
	Mean	**2.2**	**a**	**1.6**	**b**	**1.9**	
	LSD Cultivar p = 0.05	0.6		**P value**		<0.001	
	LSD Management p = 0.05	0.2		**P value**		0.002	
	LSD Cultivar x Man. p = 0.05	0.8		**P value**		<0.001	

Disease assessment

Table 5. Influence of variety and fungicide on Stripe rust (Yr) and Septoria tritici blotch (STB) plot infection (%)– assessed 25 October and 16 November.

		Stripe Rust				**Septoria tritici blotch**			
	Variety	**25 Oct**		**16 Nov**		**25 Oct**		**16 Nov**	
1.	BigRed	0.0	-	0.3	d	0.0	f	0.2	gh
2.	RGT Cesario	0.5	-	7.5	b	0.0	f	0.0	h
3.	RGT Accroc	0.0	-	1.2	d	0.0	f	0.0	h
4.	Illabo	0.0	-	1.5	cd	0.4	f	0.5	e-h
5.	Scepter	5.5	-	5.3	bc	6.5	a	7.1	a
6.	LRPB Matador	1.5	-	9.0	b	3.3	bc	2.3	def
7.	Genie	1.6	-	2.5	cd	2.4	cde	4.3	bc
8.	RockStar	6.3	-	8.1	b	5.0	ab	3.8	bcd
9.	TA0109	1.3	-	17.5	a	0.0	f	0.0	h
10.	V15019-88	0.3	-	0.8	d	2.5	cd	5.3	ab
11.	Avoca	0.3	-	2.3	cd	0.5	ef	0.4	fgh
12.	Brighton	0.1	-	1.8	cd	1.8	c-f	2.4	cde
13.	Mammoth	13.6	-	15.5	a	0.6	def	2.1	d-g
14.	Stockade	0.0	-	0.1	d	1.3	def	1.5	e-h
15.	Triple 2	0.0	-	0.1	d	0.0	f	0.0	h
16.	AGFWHWW2	0.0	-	0.6	d	0.0	f	0.0	h
17.	Longford	0.0	-	0.3	d	0.0	f	0.4	fgh
18.	KWS Expectum	0.0	-	0.4	d	0.0	f	0.0	h
	LSD p = 0.05	ns		4.0		2.0		2.0	

		Stripe Rust		Septoria tritici blotch	
	Variety P-Value	0.136	<0.001	<0.001	<0.001
	Management				
1.	Untreated	3.4 -	8.2 a	2.1 -	2.8 a
2.	Plus Fungicide	0.1 -	0.0 b	0.6 -	0.6 b
	LSD p = 0.05	ns	3.4	ns	0.9
	Disease Management P-Value	0.314	0.005	0.302	0.004
	Variety x Disease Management				
No Fungicide					
1.	BigRed	0.0 -	0.5 e	0.0 -	0.4 f
2.	RGT Cesario	1.0 -	15.0 bc	0.0 -	0.0 f
3.	RGT Accroc	0.0 -	2.4 e	0.0 -	0.0 f
4.	Illabo	0.0 -	3.0 e	0.5 -	0.6 f
5.	Scepter	10.0 -	10.0 cd	10.0 -	8.8 a
6.	LRPB Matador	3.0 -	18.0 b	3.5 -	4.5 cde
7.	Genie	3.0 -	5.0 de	4.5 -	8.0 ab
8.	RockStar	12.5 -	16.3 b	8.5 -	7.0 abc
9.	TA0109	2.5 -	35.0 a	0.0 -	0.0 f
10.	V15019-88	0.5 -	1.6 e	3.5 -	9.5 a
11.	Avoca	0.6 -	4.5 de	1.0 -	0.8 f
12.	Brighton	0.3 -	3.5 e	3.5 -	4.5 cde
13.	Mammoth	27.0 -	30.8 a	1.0 -	2.3 ef
14.	Stockade	0.0 -	0.1 e	1.5 -	2.8 def
15.	Triple 2	0.0 -	0.3 e	0.0 -	0.0 f
16.	AGFWHWW2	0.0 -	1.1 e	0.0 -	0.0 f
17.	Longford	0.0 -	0.6 e	0.0 -	0.8 f
18.	KWS Expectum	0.0 -	0.8 e	0.0 -	0.0 f
Plus Fungicide					
1.	BigRed	0.0 -	0.0 e	0.0 -	0.0 f
2.	RGT Cesario	0.0 -	0.0 e	0.0 -	0.0 f
3.	RGT Accroc	0.0 -	0.0 e	0.0 -	0.0 f
4.	Illabo	0.1 -	0.0 e	0.3 -	0.4 f
5.	Scepter	1.0 -	0.5 e	3.0 -	5.5 bcd
6.	LRPB Matador	0.0 -	0.0 e	3.0 -	0.0 f
7.	Genie	0.3 -	0.0 e	0.3 -	0.5 f
8.	RockStar	0.1 -	0.0 e	1.5 -	0.5 f
9.	TA0109	0.0 -	0.0 e	0.0 -	0.0 f
10.	V15019-88	0.0 -	0.0 e	1.5 -	1.1 f
11.	Avoca	0.0 -	0.0 e	0.0 -	0.0 f
12.	Brighton	0.0 -	0.0 e	0.0 -	0.3 f
13.	Mammoth	0.3 -	0.2 e	0.3 -	1.9 ef
14.	Stockade	0.0 -	0.0 e	1.0 -	0.3 f
15.	Triple 2	0.0 -	0.0 e	0.0 -	0.0 f
16.	AGFWHWW2	0.0 -	0.0 e	0.0 -	0.0 f
17.	Longford	0.0 -	0.0 e	0.0 -	0.0 f
18.	KWS Expectum	0.0 -	0.0 e	0.0 -	0.0 f
	LSD p = 0.05	ns	5.7	ns	2.8
	Variety x Disease Mang. P-Value	0.173	<0.001	0.168	<0.001

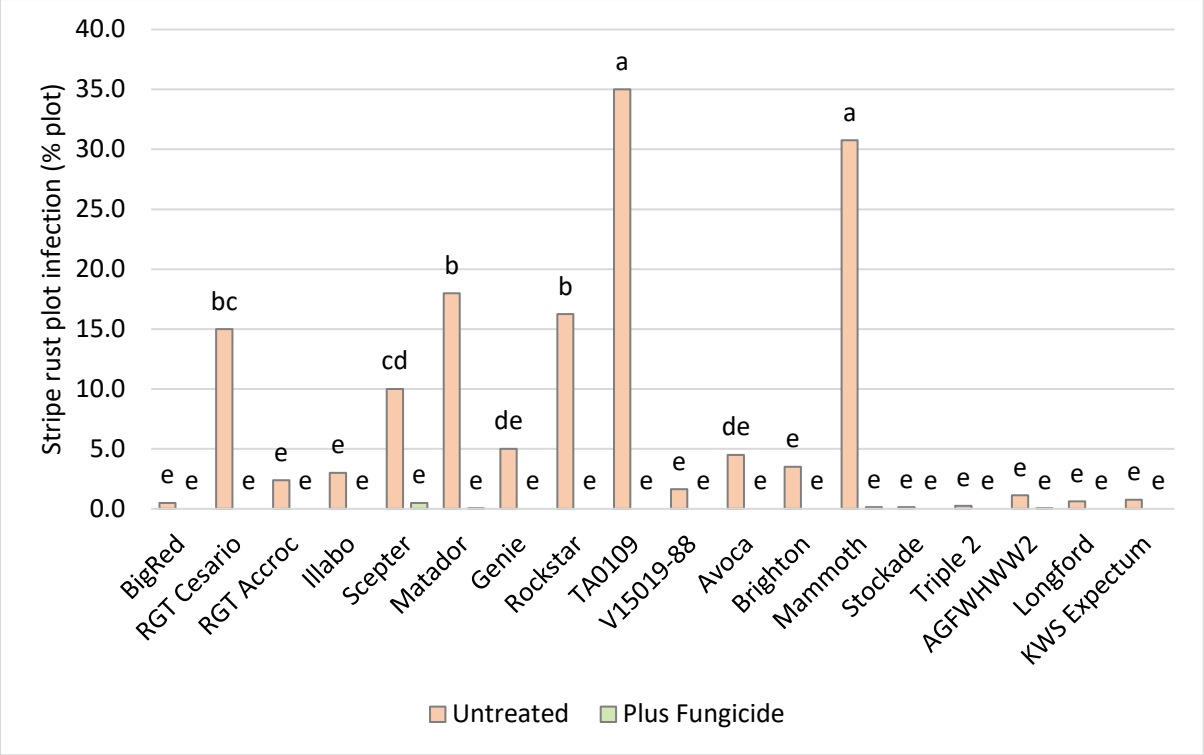

Figure 2. Influence of variety and fungicide on Stripe rust (Yr) plot disease infection (%)– assessed 16 November.

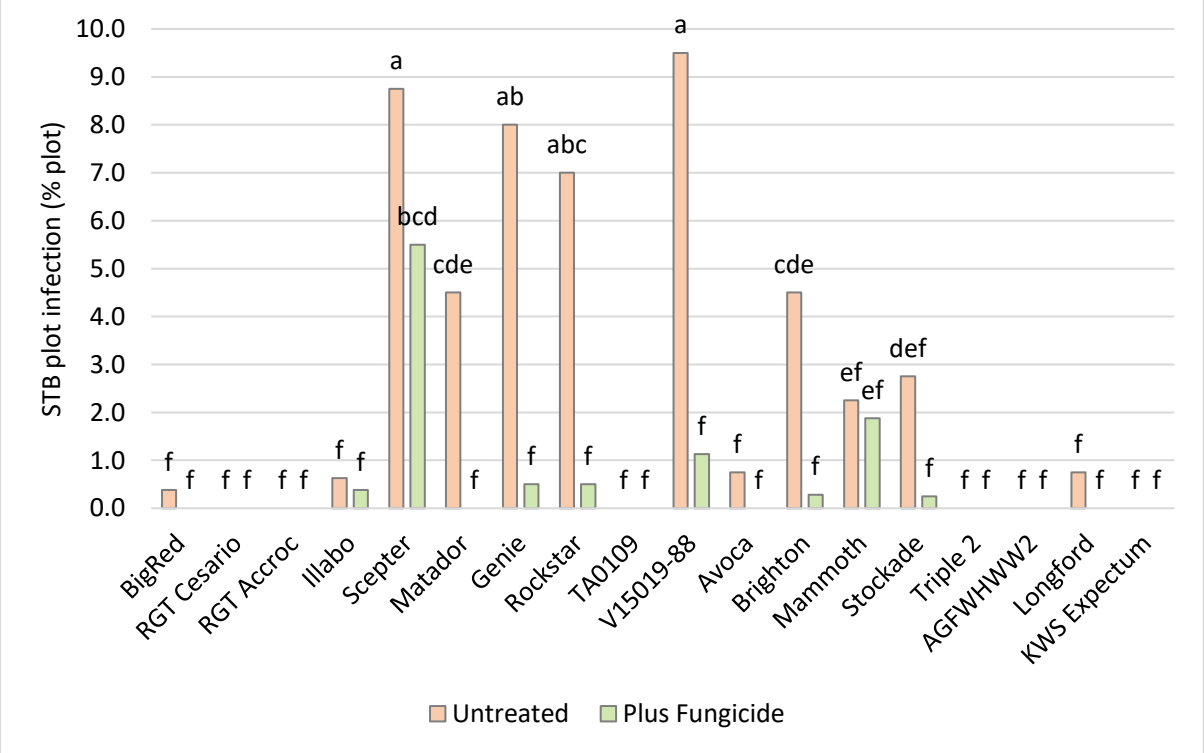

Figure 3. Influence of variety and fungicide on Septoria tritici blotch (STB) plot disease infection (%)– assessed 16 November.

Development (Phenology)

Table 6. Influence of variety on phenology (speed of development – Zadoks Growth Stage)

		Zadoks Growth Stage (GS) (0-99)									
Variety		**04 Jul**	**29 Jul**	**08 Aug**	**4 Sep**	**16 Sep**	**26 Sep**	**02 Oct**	**14 Oct**	**25 Oct**	**16 Nov**
1.	BigRed *(w)*	13	24	27	30	31	32	37	49	71	75
2.	RGT Cesario *(w)*	13	22	23	30	31	32	33	47	66	75
3.	RGT Accroc *(w)*	13	23	23	30	31	32	37	49	71	73
4.	Illabo *(w)*	13	22	22	31	32	39	48	61	71	75
5.	Scepter *(s)*	13	23-30	30	38	43	53	59	69	71	75
6.	LRPB Matador *(s)*	12	23	22	33	37-39	47	55	61	71	75
7.	Genie *(s)*	12	23	23	32	39	45	55	69	71	75
8.	RockStar *(s)*	12	22	24	32	37-39	47	51-61	65	71	75
9.	TA0109 *(w)*	13	22	22	31	33	37	41	53	71	75
10.	V15019-88 *(s)*	13	24-30	30	33	41	49	55	69	71	75
11.	Avoca *(s)*	13	22	23	30	31	33	37	49	68	75
12.	Brighton *(w)*	13	23	24	32	37	41	55	63	71	73
13.	Mammoth *(s)*	13	23-30	22	30	32	37	37	47	64	75
14.	Stockade *(s)*	12	23	23	30	31	32	37	45	59	75
15.	Triple 2 *(w)*	13	23	22	31	31	33-37	39	57	71	75
16.	AGFWHWW2 *(w)*	13	22	23	30	31	32	37	49	71	75
17.	Longford *(w)*	13	23	23	30	30-31	32	33	47	71	75
18.	KWS Expectum *(s)*	13	22	22	30	30	30	32	37	47	71

Note: w = Winter Wheat, s = Spring Wheat

Trial Inputs

Table 7. Trial input and management details.

Sowing date:		**8 May 2024**	
Harvest date:		**08 January 2025**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	8 May	100 kg/ha MAP	
Pre-em herbicide:	6 May	MCPA 750 0.70 L/ha	
	7 May	Overwatch 1.25 L/ha Treflan 1.50 L/ha	
Post-em herbicide:	03 Aug	Broadside 1.40 L/ha	
Crop Nutrition:	18 Jun	Spraygro Smartrace Triple 4.0 L/ha	
	06 Jul	Manganese sulfate 2.00 Kg/ha Zinc sulfate 1.00 Kg/ha	
	03 Aug	Spraygro Smartrace Triple 4.0 L/ha	
Nitrogen:	8 Aug	109 Kg Urea/ha (50 kg N/ha)	
	26 Sep	218 Kg Urea/ha (100 kg N/ha)	
Insecticide:	18 Jun	Meta and Metarex (80:20) 10 Kg/ha Alpha Scud 300 0.04 L/ha	
	06 Jul	Alpha Scud 300 0.04 L/ha	
Desiccant:	24 Dec	Roundup Ready 2.00 L/ha Amicide 625 0.80 L/ha	
Fungicide:		**Untreated**	**Fungicide Protection**
	GS32	----	Prosaro 0.30 L/ha
	GS45	----	Aviator Xpro 0.42 L/ha

SA Millicent Barley (FAR SAC II B24-31)

Sown: 08 May 2024
Harvested: 19 December 2024
Soil Type: Organosol over rey Clay
Previous Crop: 2023- Canola

Management: Flail mowed stubble
FAR Code: FAR SAC II B24-31
GSR (Apr-Nov): 473.4mm

Key Points

- *Despite a very dry start to the season and drier than average growing season, spring barley varieties yielded well with Neo CL achieving 8.07t/ha on average.*
- *Longer season 2 and 6-row winter type barleys did not match the yields achieved by spring barleys, with the delayed emergence and drier conditions shortening the season.*
- *The highest yielding winter variety was KWS Tardis (previously tested as FAR WB 2r 4) the current world record holding variety for barley. There was no significant yield interaction between variety and fungicide application (p=0.214), with varieties behaving similarly in their response to fungicide application.*
- *Proteins in the trial were too high to achieve malt standards with the exception of RGT Planet untreated with fungicide, however a low-test weight would then become the limiting factor.*
- *Variety was the primary factor affecting grain quality with small improvements as a result of fungicide application, which were statistically significant with % screenings.*
- *Net form net blotch was the dominant disease on site however severity was lower than previous years with the worst affected varieties developing plot infections of <10%.*

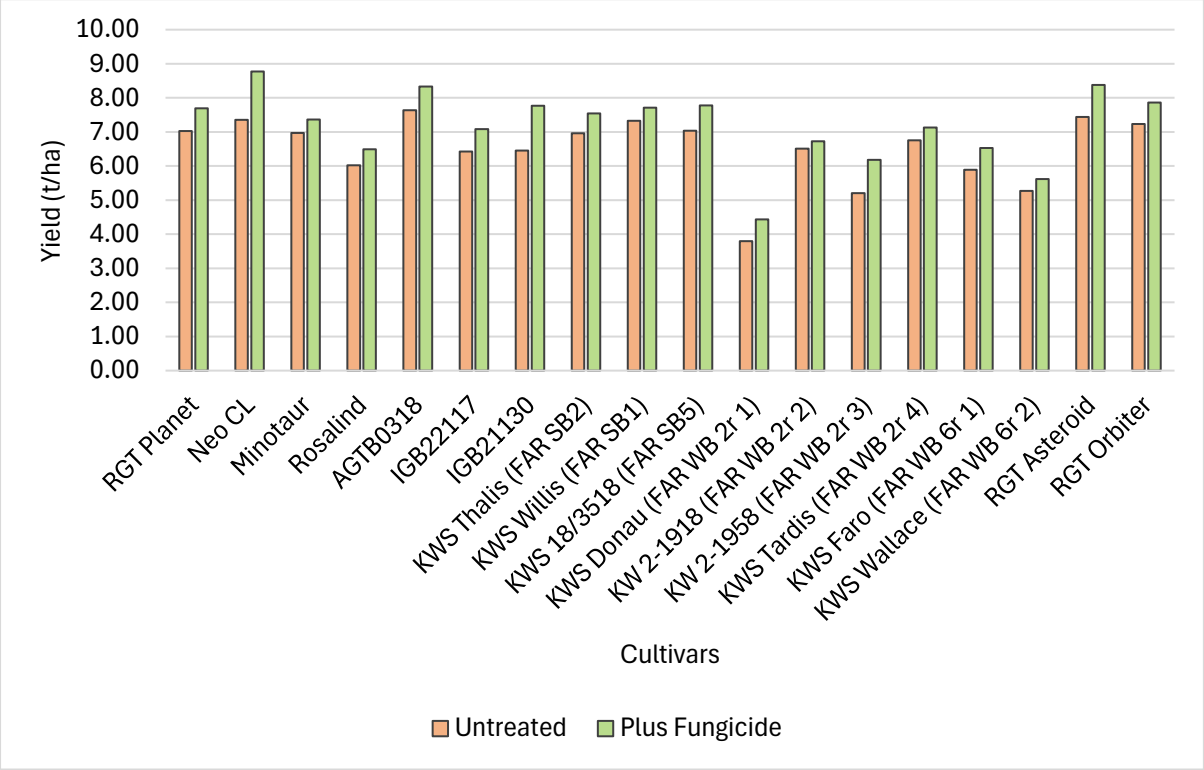

Figure 1: Influence of variety and fungicide application on grain yield (t/ha). No statistical significant differences observed (P Value=0.214)

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 barley (varieties grown plus and minus fungicide).

Yield t/ha							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	7.03	-	7.70	-	**7.36**	**cd**
2.	Neo CL *(s)*	7.35	-	8.78	-	**8.07**	**a**
3.	Minotaur *(s)*	6.98	-	7.37	-	**7.17**	**cde**
4.	Rosalind *(s)*	6.03	-	6.49	-	**6.26**	**hi**
5.	AGTB0318 *(s)*	7.64	-	8.33	-	**7.98**	**a**
6.	IGB22117 *(s)*	6.43	-	7.08	-	**6.75**	**fg**
7.	IGB21130 *(s)*	6.46	-	7.77	-	**7.11**	**def**
8.	KWS Thalis (FAR SB2) *(s)*	6.96	-	7.54	-	**7.25**	**cde**
9.	KWS Willis (FAR SB1) *(s)*	7.33	-	7.71	-	**7.52**	**bc**
10.	KWS 18/3518 (FAR SB5) *(s)*	7.03	-	7.78	-	**7.41**	**cd**
11.	KWS Donau (FAR WB 2r 1) *(w)*	3.80	-	4.44	-	**4.12**	**k**
12.	KW 2-1918 (FAR WB 2r 2) *(w)*	6.51	-	6.73	-	**6.62**	**gh**
13.	KW 2-1958 (FAR WB 2r 3) *(w)*	5.20	-	6.18	-	**5.69**	**j**
14.	KWS Tardis (FAR WB 2r 4) *(w)*	6.75	-	7.13	-	**6.94**	**efg**
15.	KWS Faro (FAR WB 6r 1) *(w)*	5.90	-	6.53	-	**6.21**	**i**
16.	KWS Wallace (FAR WB 6r 2) *(w)*	5.27	-	5.62	-	**5.45**	**j**
17.	RGT Asteroid *(s)*	7.44	-	8.38	-	**7.91**	**ab**
18.	RGT Orbiter *(s)*	7.23	-	7.86	-	**7.55**	**bc**
Mean		**6.52**	**b**	**7.19**	**a**	**6.85**	
LSD Variety p = 0.05		0.40		**P value**		<0.001	
LSD Management p = 0.05		0.29		**P value**		0.005	
LSD Variety x Man. p = 0.05		ns		**P value**		0.214	

Note: w = Winter Barley, s = Spring Barley, 2r= two row barley, 6r= six row barley

Table 2. Influence of variety and fungicide application on the grain protein (%)– 19 December harvest.

		Protein %					
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	RGT Planet	11.9	m	12.3	i-l	**12.1**	**j**
2.	Neo CL	12.0	lm	12.5	ijk	**12.2**	**hij**
3.	Minotaur	12.7	hi	13.6	de	**13.1**	**e**
4.	Rosalind	13.2	fg	13.1	fg	**13.2**	**e**
5.	AGTB0318	12.5	hij	12.4	ijk	**12.5**	**h**
6.	IGB22117	12.7	hi	13.1	fg	**12.9**	**fg**
7.	IGB21130	12.0	lm	12.4	i-l	**12.2**	**ij**
8.	KWS Thalis	12.3	jkl	12.3	i-l	**12.3**	**hij**
9.	KWS Willis	12.4	i-l	12.5	ijk	**12.4**	**hi**
10.	KWS 18/3518	12.2	j-m	12.2	j-m	**12.2**	**hij**
11.	KWS Donau	15.4	a	15.4	a	**15.4**	**a**
12.	KW 2-1918	13.3	ef	12.9	gh	**13.1**	**ef**
13.	KW 2-1958	14.7	b	14.3	bc	**14.5**	**b**
14.	KWS Tardis	13.4	def	13.7	d	**13.5**	**d**
15.	KWS Faro	13.1	fg	13.1	fg	**13.1**	**ef**
16.	KWS Wallace	14.1	c	14.3	c	**14.2**	**c**
17.	RGT Asteroid	12.5	hij	13.1	fg	**12.8**	**g**
18.	RGT Orbiter	12.1	klm	12.3	i-l	**12.2**	**hij**
Mean		**12.9**	**-**	**13.1**	**-**		
LSD Variety p = 0.05		0.3		**P value**		<0.001	
LSD Management p = 0.05		ns		**P value**		0.126	
LSD Variety x Man. p = 0.05		0.4		**P value**		<0.001	

Table 3. Influence of variety and fungicide application on test weights (kg/hL) – 19 December harvest.

		Test weight Kg/hL					
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	RGT Planet	63.9	-	64.8	-	**64.4**	**b-e**
2.	Neo CL	63.0	-	64.0	-	**63.5**	**c-f**
3.	Minotaur	64.2	-	65.6	-	**64.9**	**a-d**
4.	Rosalind	61.5	-	63.4	-	**62.4**	**efg**
5.	AGTB0318	62.3	-	64.0	-	**63.1**	**c-g**
6.	IGB22117	61.8	-	63.9	-	**62.8**	**d-g**
7.	IGB21130	64.6	-	65.5	-	**65.0**	**abc**
8.	KWS Thalis	65.1	-	66.2	-	**65.7**	**ab**
9.	KWS Willis	63.0	-	65.3	-	**64.1**	**b-f**
10.	KWS 18/3518	62.5	-	63.7	-	**63.1**	**c-g**
11.	KWS Donau	61.0	-	61.4	-	**61.2**	**g**
12.	KW 2-1918	66.4	-	63.6	-	**65.0**	**abc**
13.	KW 2-1958	65.6	-	67.8	-	**66.7**	**a**
14.	KWS Tardis	63.1	-	64.5	-	**63.8**	**b-f**
15.	KWS Faro	61.5	-	62.8	-	**62.1**	**fg**
16.	KWS Wallace	57.6	-	58.2	-	**57.9**	**h**
17.	RGT Asteroid	63.2	-	65.4	-	**64.3**	**b-e**
18.	RGT Orbiter	63.7	-	64.8	-	**64.2**	**b-e**
Mean		**63.0**	**-**	**64.1**	**-**		
LSD Variety p = 0.05		2.1		**P value**		<0.001	
LSD Management p = 0.05		ns		**P value**		0.062	
LSD Variety x Man. p = 0.05		ns		**P value**		0.890	

Table 4. Influence of variety and fungicide application on retention (%)– December 19 harvest.

		Retention %					
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	RGT Planet	85.2	-	89.5	-	**87.3**	**d-g**
2.	Neo CL	86.5	-	91.2	-	**88.9**	**c-f**
3.	Minotaur	90.4	-	90.7	-	**90.6**	**abc**
4.	Rosalind	86.4	-	89.1	-	**87.7**	**def**
5.	AGTB0318	90.6	-	93.2	-	**91.9**	**ab**
6.	IGB22117	83.4	-	86.3	-	**84.9**	**g**
7.	IGB21130	86.2	-	91.4	-	**88.8**	**c-f**
8.	KWS Thalis	85.9	-	89.2	-	**87.5**	**def**
9.	KWS Willis	91.9	-	93.4	-	**92.7**	**a**
10.	KWS 18/3518	84.7	-	88.5	-	**86.6**	**efg**
11.	KWS Donau	89.3	-	90.3	-	**89.8**	**bcd**
12.	KW 2-1918	87.8	-	87.6	-	**87.7**	**def**
13.	KW 2-1958	89.2	-	91.7	-	**90.4**	**abc**
14.	KWS Tardis	88.1	-	89.5	-	**88.8**	**c-f**
15.	KWS Faro	86.3	-	86.5	-	**86.4**	**fg**
16.	KWS Wallace	77.2	-	75.8	-	**76.5**	**h**
17.	RGT Asteroid	89.2	-	92.8	-	**91.0**	**abc**
18.	RGT Orbiter	87.0	-	91.2	-	**89.1**	**cde**
Mean			**87.0**	**-**	**89.3**	**-**	
LSD Variety p = 0.05		2.6		**P value**		<0.001	
LSD Management p = 0.05		ns		**P value**		0.089	
LSD Variety x Man. p = 0.05		ns		**P value**		0.507	

Table 5. Influence of variety and fungicide application on screenings (%)– December 19 harvest.

		Screenings %					
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	RGT Planet	4.6	-	4.0	-	**4.3**	**cde**
2.	Neo CL	4.7	-	4.0	-	**4.3**	**cde**
3.	Minotaur	5.0	-	4.6	-	**4.8**	**bcd**
4.	Rosalind	5.1	-	4.6	-	**4.9**	**bcd**
5.	AGTB0318	4.2	-	3.2	-	**3.7**	**ef**
6.	IGB22117	6.3	-	4.8	-	**5.5**	**b**
7.	IGB21130	4.5	-	4.0	-	**4.3**	**cde**
8.	KWS Thalis	4.5	-	4.1	-	**4.3**	**cde**
9.	KWS Willis	3.6	-	3.0	-	**3.3**	**f**
10.	KWS 18/3518	5.2	-	4.7	-	**5.0**	**bc**
11.	KWS Donau	5.2	-	4.6	-	**4.9**	**bc**
12.	KW 2-1918	4.4	-	4.4	-	**4.4**	**cde**
13.	KW 2-1958	4.4	-	3.2	-	**3.8**	**ef**
14.	KWS Tardis	4.3	-	4.0	-	**4.1**	**c-f**
15.	KWS Faro	4.9	-	4.9	-	**4.9**	**bc**
16.	KWS Wallace	7.0	-	6.6	-	**6.8**	**a**
17.	RGT Asteroid	4.2	-	3.3	-	**3.7**	**ef**
18.	RGT Orbiter	4.5	-	3.5	-	**4.0**	**def**
Mean		**4.8**	**a**	**4.2**	**b**		
LSD Variety p = 0.05		0.9		**P value**		<0.001	
LSD Management p = 0.05		0.5		**P value**		0.027	
LSD Variety x Man. p = 0.05		ns		**P value**		0.987	

Table 6. Influence of variety and fungicide application on head loss (heads/m^2)- December 19 harvest.

		Head loss (heads/m^2)					
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	RGT Planet	27.8	-	29.5	-	**28.6**	**bc**
2.	Neo CL	41.1	-	12.2	-	**26.7**	**bcd**
3.	Minotaur	31.7	-	16.7	-	**24.2**	**bcd**
4.	Rosalind	18.9	-	8.9	-	**13.9**	**d**
5.	AGTB0318	38.9	-	13.9	-	**26.4**	**bcd**
6.	IGB22117	18.9	-	10.0	-	**14.5**	**d**
7.	IGB21130	27.8	-	15.6	-	**21.7**	**bcd**
8.	KWS Thalis	34.5	-	32.8	-	**33.6**	**bc**
9.	KWS Willis	22.8	-	18.4	-	**20.6**	**cd**
10.	KWS 18/3518	32.8	-	26.1	-	**29.5**	**bc**
11.	KWS Donau	81.1	-	45.6	-	**63.3**	**a**
12.	KW 2-1918	40.0	-	22.8	-	**31.4**	**bc**
13.	KW 2-1958	41.1	-	22.2	-	**31.7**	**bc**
14.	KWS Tardis	28.9	-	13.9	-	**21.4**	**bcd**
15.	KWS Faro	48.9	-	21.1	-	**35.0**	**b**
16.	KWS Wallace	36.1	-	14.4	-	**25.3**	**bcd**
17.	RGT Asteroid	17.3	-	22.8	-	**20.0**	**cd**
18.	RGT Orbiter	18.9	-	21.1	-	**20.0**	**cd**
Mean		**33.7**	**a**	**20.4**	**b**		
LSD Variety p = 0.05		14.0		**P value**		<0.001	
LSD Management p = 0.05		12.6		**P value**		0.044	
LSD Variety x Man. p = 0.05		ns		**P value**		0.168	

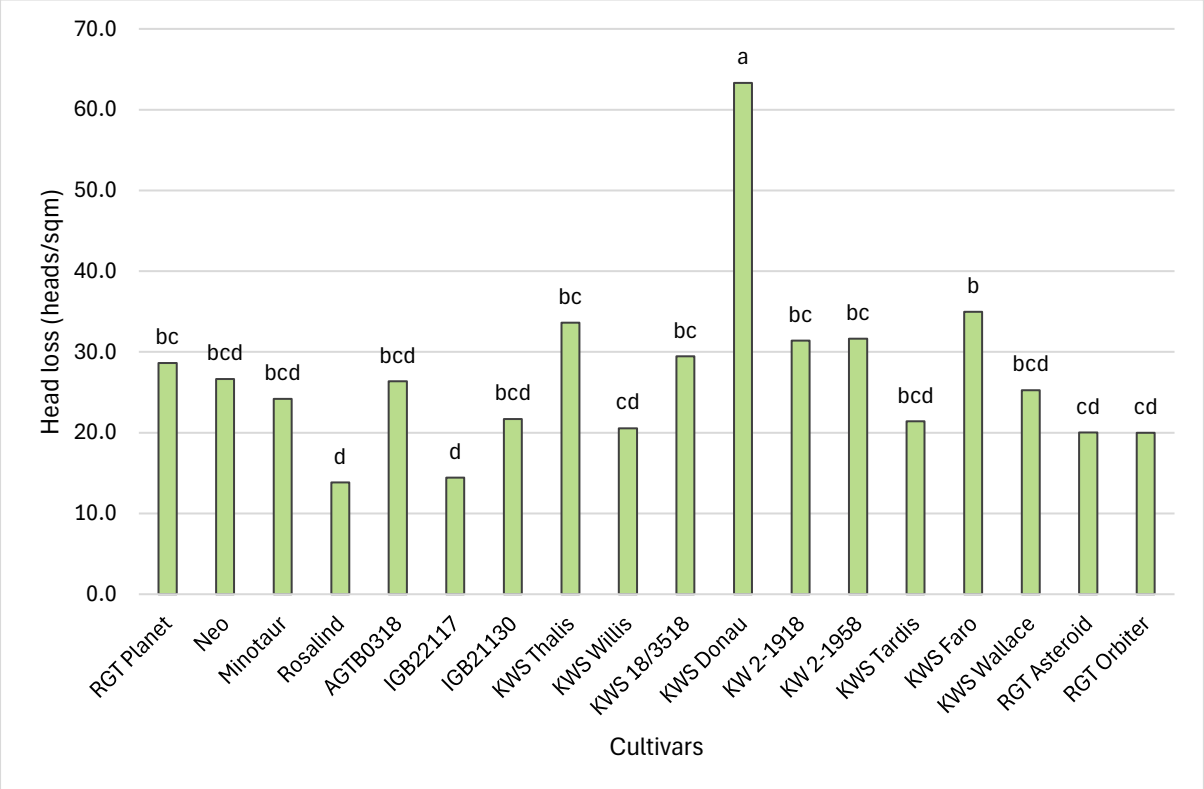

Figure 2. Influence of cultivars on head loss ($LSD_{0.05}$ = 14.0, P-value = <0.001) on average per variety (untreated and plus fungicide) – assessed 20 December.

Disease assessment data

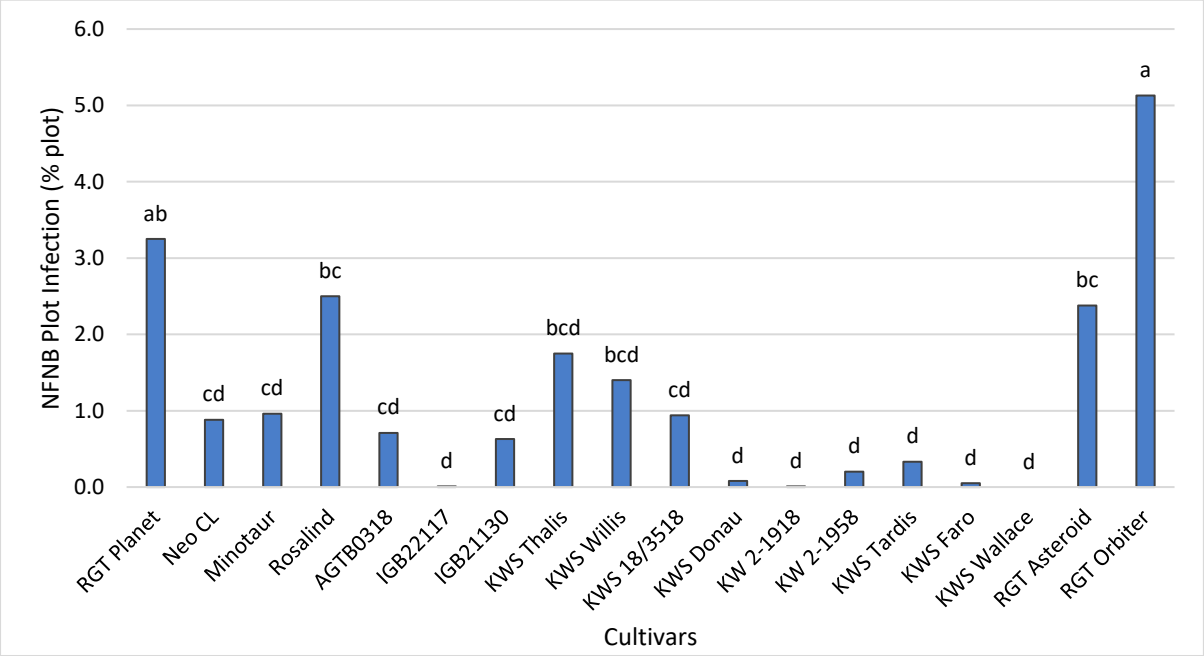

Figure 3. Influence of cultivars on plot net form net blotch (NFNB) severity (%Plot) ($LSD_{0.05}$ = 1.9, P-value = <0.001) on average per variety (untreated and plus fungicide) – assessed 22 October.

Trial inputs

Table 7. Trial input and management details.

Sowing date:		**8 May 2024**	
Harvest date:		**19 December 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	8 May	100 kg/ha MAP	
Pre-em herbicide:	6 May	MCPA 750 0.70 L/ha	
	7 May	Overwatch 1.25 L/ha Treflan 1.50 L/ha	
Post-em herbicide:	03 Aug	Broadside 1.40 L/ha	
Crop Nutrition:	18 Jun	Spraygro Smartrace Triple 4.0 L/ha	
	06 Jul	Manganese sulfate 2.00 Kg/ha Zinc sulfate 1.00 Kg/ha	
	03 Aug	Spraygro Smartrace Triple 4.0 L/ha	
Nitrogen:	8 Aug	109 Kg Urea/ha (50 kg N/ha)	
	26 Sep	218 Kg Urea/ha (100 kg N/ha)	
Insecticide:	18 Jun	Meta and Metarex (80:20) 10 Kg/ha Alpha Scud 300 0.04 L/ha	
	06 Jul	Alpha Scud 300 0.04 L/ha	
Fungicide:		**Untreated**	**Fungicide Protection**
	GS32	----	Prosaro 0.30 L/ha
	GS45	----	Aviator Xpro 0.42 L/ha

SA Millicent Canola (FAR SAC II C24-43)

Sown: 06 May 2024
Harvested: 18 December 2024
Soil Type: Organosol over grey Clay
Previous Crop: 2023- Canola

FAR Code: FAR SAC II C24-43
GSR (Apr-Nov): 473.4mm
Surrounding paddock variety: 45Y95 CL, nearest 2023 stubbles in adjacent paddock

Key Points

- *Oilseed yields ranged from 3.15 – 4.51 t/ha depending on variety and fungicide application with significant differences recorded in variety performance (p=<0.001).*
- *While there was no significant response to fungicide (p=0.067), there was an overall trend of approximately 200 kg/ha yield increase when fungicides were applied, there was no significant interaction between variety and fungicide application (p=0.41).*
- *45Y95 CL which has traditionally performed strongly at the Millicent site was lower yielding in 2024 and was associated a higher incidence of blackleg canker, although severity of the disease was relatively low overall.*
- *Nuseed Eagle TF was the highest yielding of the FAR funded control varieties while the coded line RGT65-074CL (4.33 t/ha) significantly outperformed all other varieties.*
- *AN23LR014 along with Nuseed Eagle TF were the second highest yielding cultivars in the trial.*
- *The season was not associated with high levels of disease infection and fungicide application did not have a bearing on test weight or oil content.*
- *Hyola Regiment XC (46.7%) gave significantly higher oil contents than all other varieties but recorded the second lowest yield.*
- *Lodging levels were low in this trial, with crops showing signs of leaning rather than lodging, it is unlikely that the small differences had any bearing on the yield results.*

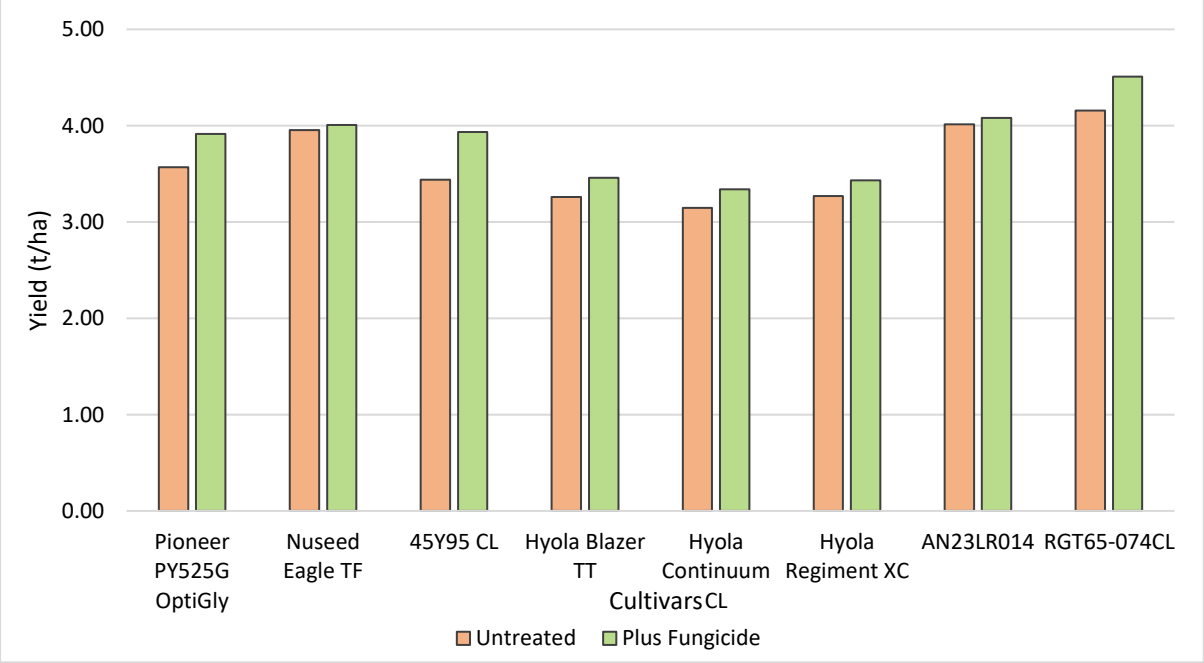

Figure 1. Influence of variety and fungicide application on grain yield (t/ha) of canola (varieties grown plus and minus fungicide) (P values and LSD available in Table 1.) – May 6 sown.

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

The following three tables (Table 1-3) of data examine the influence of eight spring canola varieties with and without a two-spray foliar fungicide application on the seed yield and seed quality at the FAR Australia Crop Technology Centre at Millicent in the HRZ region. All seed (including untreated plots) were treated with a SDHI fungicidal seed treatment and seed treatment insecticide. However, blackleg rating (2024) in Table 1 is based on bare seed (source: Vic Crop sowing guide 2025).

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

Yield (t/ha)

Variety	Untreated		Plus fungicide		Mean	
Pioneer PY525G RR	3.57	-	3.92	-	**3.74**	**c**
Nuseed Eagle TF	3.95	-	4.01	-	**3.98**	**b**
45Y95 CL	3.44	-	3.93	-	**3.69**	**c**
Hyola Blazer TT	3.26	-	3.46	-	**3.36**	**d**
Hyola Continuum CL	3.15	-	3.34	-	**3.24**	**d**
Hyola Regiment XC	3.27	-	3.43	-	**3.35**	**d**
AN23LR014	4.01	-	4.08	-	**4.05**	**b**
RGT65-074CL	4.16	-	4.51	-	**4.33**	**a**
Mean	**3.60**	**-**	**3.83**	**-**		
LSD Variety p = 0.05	0.21		**P value**		<0.001	
LSD Management p = 0.05	ns		**P value**		0.067	
LSD Variety x Man. p = 0.05	ns		**P value**		0.410	

Table 2. Influence of variety and fungicide application on the test weights (kg/hL)– December 18 harvest.

Test Weight (Kg/hL)

Variety	Untreated		Plus fungicide		Mean	
Pioneer PY525G RR	63.9	-	63.7	-	**63.8**	**bc**
Nuseed Eagle TF	62.8	-	63.5	-	**63.2**	**de**
45Y95 CL	62.7	-	63.1	-	**62.9**	**e**
Hyola Blazer TT	64.1	-	64.7	-	**64.4**	**a**
Hyola Continuum CL	64.3	-	64.0	-	**64.1**	**ab**
Hyola Regiment XC	63.4	-	64.0	-	**63.7**	**bc**
AN23LR014	63.5	-	63.7	-	**63.6**	**cd**
RGT65-074CL	64.2	-	64.4	-	**64.3**	**a**
Mean	**63.6**	**-**	**63.9**	**-**		
LSD Variety p = 0.05	0.5		**P value**		<0.001	
LSD Management p = 0.05	ns		**P value**		0.090	
LSD Variety x Man. p = 0.05	ns		**P value**		0.486	

Table 3. Influence of variety and fungicide application on oil content (%) – December 18 harvest.

Oil (%)						
Variety	**Untreated**		**Plus fungicide**		**Mean**	
Pioneer PY525G RR	44.7	-	44.3	-	**44.5**	**cd**
Nuseed Eagle TF	45.6	-	45.4	-	**45.5**	**b**
45Y95 CL	43.9	-	44.6	-	**44.2**	**d**
Hyola Blazer TT	43.9	-	43.5	-	**43.7**	**e**
Hyola Continuum CL	44.8	-	44.7	-	**44.8**	**c**
Hyola Regiment XC	46.8	-	46.6	-	**46.7**	**a**
AN23LR014	44.7	-	44.8	-	**44.8**	**c**
RGT65-074CL	44.0	-	43.2	-	**43.6**	**e**
Mean	**44.8**	**-**	**44.6**	**-**		
LSD Variety p = 0.05	0.5		**P value**		<0.001	
LSD Management p = 0.05	ns		**P value**		0.430	
LSD Variety x Man. p = 0.05	ns		**P value**		0.131	

Table 4. Influence of variety and fungicide application on the protein content (%)– December 18 harvest.

Protein (%)						
Variety	**Untreated**		**Plus fungicide**		**Mean**	
Pioneer PY525G RR	19.9	-	21.0	-	**20.5**	**c**
Nuseed Eagle TF	19.0	-	19.4	-	**19.2**	**ef**
45Y95 CL	20.5	-	19.8	-	**20.1**	**cd**
Hyola Blazer TT	21.8	-	22.5	-	**22.2**	**a**
Hyola Continuum CL	21.4	-	21.5	-	**21.4**	**b**
Hyola Regiment XC	18.9	-	19.1	-	**19.0**	**f**
AN23LR014	19.4	-	19.9	-	**19.7**	**de**
RGT65-074CL	20.8	-	21.4	-	**21.1**	**b**
Mean	**20.2**	**-**	**20.6**	**-**		
LSD Variety p = 0.05	0.5		**P value**		<0.001	
LSD Management p = 0.05	ns		**P value**		0.077	
LSD Variety x Man. p = 0.05	ns		**P value**		0.094	

Table 5. Influence of variety and fungicide application on the admix impurities (%) – December 18 harvest.

Admix (%)						
Variety	**Untreated**		**Plus fungicide**		**Mean**	
Pioneer PY525G RR	2.5	-	2.4	-	**2.4**	**de**
Nuseed Eagle TF	3.3	-	2.9	-	**3.1**	**a**
45Y95 CL	3.3	-	2.7	-	**3.0**	**ab**
Hyola Blazer TT	2.4	-	2.7	-	**2.5**	**cde**
Hyola Continuum CL	2.8	-	2.8	-	**2.8**	**bc**
Hyola Regiment XC	2.7	-	2.5	-	**2.6**	**cde**
AN23LR014	2.3	-	2.3	-	**2.3**	**e**
RGT65-074CL	2.9	-	2.5	-	**2.7**	**cd**
Mean	**2.7**	**-**	**2.6**	**-**		
LSD Variety p = 0.05	0.3		**P value**		<0.001	
LSD Management p = 0.05	ns		**P value**		0.414	
LSD Variety x Man. p = 0.05	ns		**P value**		0.208	

Disease assessment data

Table 6. Influence of variety and fungicide application on the severity (Upper Canopy blackleg infection %)– November 12 assessed.

Blackleg Severity %

Variety	Blackleg rating	Untreated		Plus fungicide		Mean	
Pioneer PY525G RR	MR	0.3	-	0.0	-	0.2	-
Nuseed Eagle TF	R	0.4	-	0.0	-	0.2	-
45Y95 CL	RMR	0.7	-	0.1	-	0.4	-
Hyola Blazer TT	RMR	0.1	-	0.0	-	0.1	-
Hyola Continuum CL	R	0.4	-	0.0	-	0.2	-
Hyola Regiment XC	R	0.0	-	0.0	-	0.0	-
AN23LR014	-	0.0	-	0.0	-	0.0	-
RGT65-074CL	-	0.8	-	0.0	-	0.4	-
Mean		**0.3**	**a**	**0.0**	**b**		
LSD Variety p = 0.05		ns		**P value**		0.103	
LSD Management p = 0.05		0.2		**P value**		0.018	
LSD Variety x Man. p = 0.05		ns		**P value**		0.165	

Ratings derived from GRDC, Blackleg Management Guide Fact Sheet National, National Variety Trials, Issued September 2024; and from respective breeders' websites. R=Resistant, MR= moderately resistant, RMR= resistant-moderately resistant, -= not available.

Table 7. Influence of variety and fungicide application on the stem canker infection % severity– November 12 assessed.

Blackleg Stem canker Severity %

Variety	Untreated		Plus fungicide		Mean	
Pioneer PY525G RR	0.0	-	5.0	-	2.5	-
Nuseed Eagle TF	5.0	-	7.5	-	6.3	-
45Y95 CL	11.5	-	2.6	-	7.1	-
Hyola Blazer TT	0.0	-	0.0	-	0.0	-
Hyola Continuum CL	0.0	-	0.0	-	0.0	-
Hyola Regiment XC	3.9	-	0.0	-	1.9	-
AN23LR014	0.0	-	0.0	-	0.0	-
RGT65-074CL	0.3	-	2.5	-	1.4	-
Mean	**2.6**	**-**	**2.2**	**-**		
LSD Variety p = 0.05	ns		**P value**		0.091	
LSD Management p = 0.05	ns		**P value**		0.725	
LSD Variety x Man. p = 0.05	ns		**P value**		0.369	

Table 8. Influence of variety and fungicide application on the stem canker infection % incidence– November 12 assessed.

Blackleg Stem canker Incidence %

Variety	Untreated		Plus fungicide		Mean	
Pioneer PY525G RR	0.0	-	5.0	-	2.5	b
Nuseed Eagle TF	5.0	-	7.5	-	6.3	ab
45Y95 CL	17.5	-	5.0	-	11.3	a
Hyola Blazer TT	0.0	-	0.0	-	0.0	b
Hyola Continuum CL	0.0	-	0.0	-	0.0	b
Hyola Regiment XC	7.5	-	0.0	-	3.8	b
AN23LR014	0.0	-	0.0	-	0.0	b
RGT65-074CL	2.5	-	2.5	-	2.5	b
Mean	**4.1**	**-**	**2.5**	**-**		
LSD Variety p = 0.05	6.8		**P value**		0.023	
LSD Management p = 0.05	ns		**P value**		0.141	
LSD Variety x Man. p = 0.05	ns		**P value**		0.229	

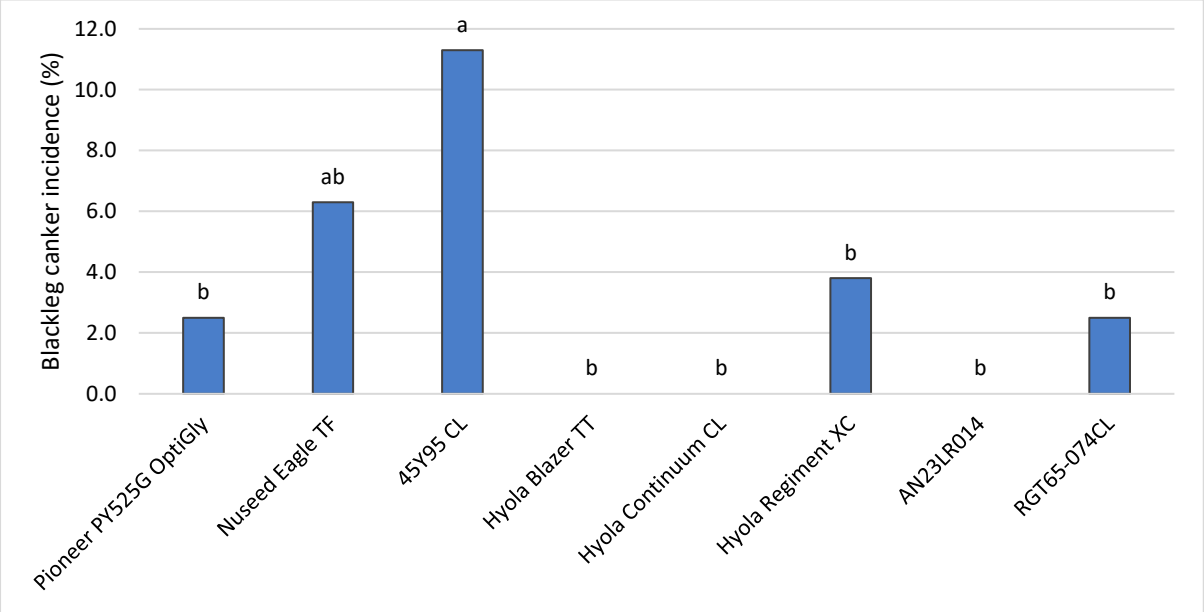

Figure 2. Influence of variety on the incidence of blackleg canker stem infection (% of stems infected) (P values and LSD can be found in Table 4) – December 4 assessed.

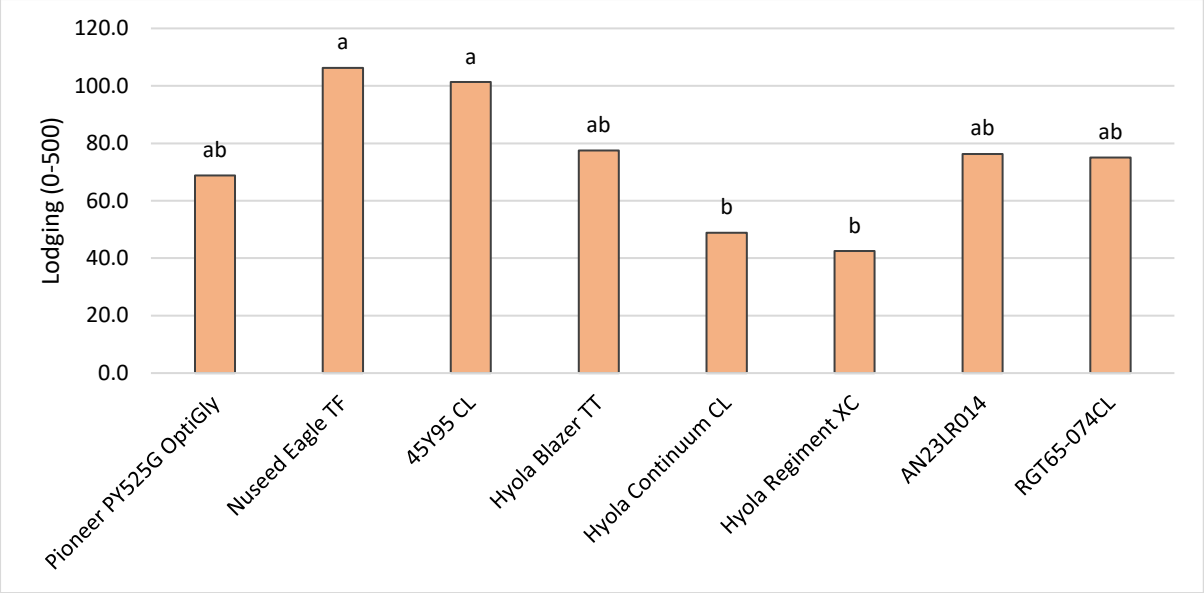

Figure 3. Influence of variety on crop lodging (0-500). (LSD variety $_{p=0.05}$ = 42.1, P value = 0.047, all fungicide responses and interactions were insignificant).

Trial inputs

Table 9. Trial input and management details.

Sowing date:		**6 May 2024**	
Harvest date:		**18 December 2024**	
Seed rate:		60 seeds/m^2	
Seed treatment		All plots – SDHI seed treatment & insecticide	
Basal fertiliser:	6 May	145 Kg/ha MAP	
Pre-em herbicide:	6 May	TriflurX 1.50 L/ha	
		Overwatch 1.25 L/ha	
		Gramoxone 360 2.00 L/ha	
Post-em herbicide overall:	4 July	Platinum Xtra 330 mL/ha	
		Lontrel advanced 150 mL/ha	
		Ammonium Sulphate 0.8 kg/ha	
		Expedient 0.1% v/v	
Post-em herbicide by group:	RR/OptiGly/XC/TF	Crucial 1 L/ha (applied 6 leaf)	
	CL	Intervix 0.75 L/ha	
	CL	Expedient 0.5% v/v	
	TT	Atrazine 1.04 kg/ha	
	TT	Expedient 0.5% v/v	
Insecticide:	8 May	AlphaScud 300 100 mL/ha	
Molluscicide:	7 May	Metarex 5 kg/ha	
Fertiliser:	29 June	SOA/Urea (50:50) 200 kg/ha (66 kg N/ha)	
	29 August	150 kg urea/ha (69 kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	BBCH 16	----	Prosaro 0.45 L/ha
	BBCH 62	----	Aviator 0.80 L/ha

Bordertown SA

SA Bordertown Wheat (FAR MSA II W24-32)

Sown: 15 May 2024
Harvested: 10 December 2024
Previous Crop: 2023 Canola

FAR Code: FAR MSA II W24-32
GSR (Apr-Nov): 231.6mm
Soil Type: Brown Clay

Key Points

- *A very dry start to the season and 232mm growing season rainfall (GSR – Apr-Oct) resulted grain yields that ranged from 4.37 – 6.03t/ha depending on variety and foliar fungicide input.*
- *There were significant differences in grain yield due to both variety (p=<0.001) and fungicide management (p=0.044) but there was no interaction between the two, meaning that varieties in general responded similarly to fungicide application with an average response of 0.3t/ha.*
- *The highest yielding variety was the coded spring wheat V15019-88 which was significantly higher yielding than all other varieties except Shotgun (RAC3227) (AH), LRPB Matador (AH) and Genie (AH) which all yielded 5.74 or above with fungicide protection.*
- *High levels (>50% plot infection) of stripe rust (Yr) plot infection were present in Genie, RockStar, and Shotgun (RAC3227) but disease was effectively controlled with a two-spray fungicide program.*
- *Septoria tritici blotch (STB) was recorded at low levels (less than 10% infection) in V15019-88, Ironbark (V14035-125), Boa (LPB19-8035), and LRPB Major. These varieties had lower levels of stripe rust infection and may have allowed STB to better compete for leaf area, although the severity of STB was very low due to drier conditions.*
- *Proteins in the trial averaged 10.2% suggesting higher levels of nitrogen could have been applied to achieve higher yields.*
- *Proteins ranged from 10.7% (Wallaroo) down to 9.7% for the new white spring wheat Shotgun. Screenings averaged 1.9%. Test weights averaged 78.2 kg/hL.*

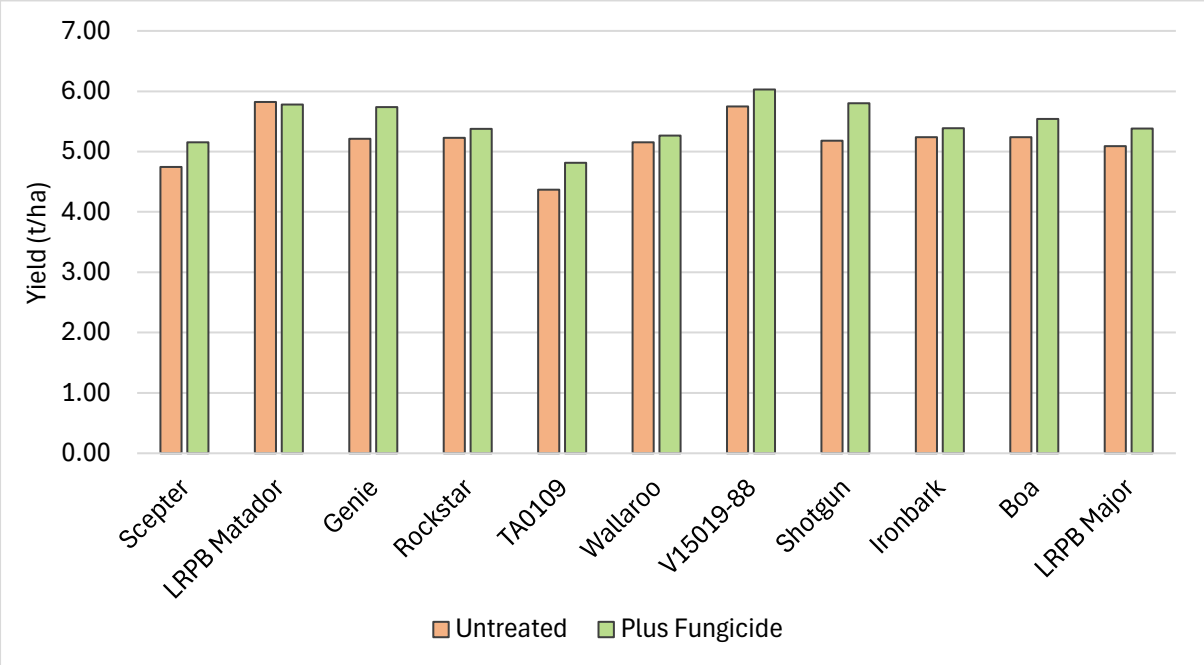

Figure 1. Influence of variety and fungicide application on grain yield (t/ha). Variety ($LSD_{0.05}$ = 0.43, P-value = <0.001) & Fungicide management ($LSD_{0.05}$ = 0.28, P-value = 0.044) – May 15 sown.

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

There were significant differences in yield and quality due to variety and fungicide application (p=<0.001), but no interaction between variety and fungicide management (Tables 1-4 & Figure 1).

Table 1. Influence of fungicide application on the grain yield (t/ha) of winter and spring wheat (varieties grown plus and minus fungicide) – May 15 sown.

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter *(s)*	4.74	-	5.15	-	**4.95**	**de**
2.	LRPB Matador *(s)*	5.82	-	5.78	-	**5.80**	**ab**
3.	Genie *(s)*	5.21	-	5.74	-	**5.47**	**abc**
4.	RockStar *(s)*	5.23	-	5.38	-	**5.30**	**cd**
5.	TA0109 *(w)*	4.37	-	4.82	-	**4.59**	**e**
6.	Wallaroo *(w)*	5.15	-	5.26	-	**5.21**	**cd**
7.	V15019-88 *(s)*	5.75	-	6.03	-	**5.89**	**a**
8.	Shotgun (RAC3227) *(s)*	5.18	-	5.80	-	**5.49**	**abc**
9.	Ironbark (V14035-125) *(s)*	5.24	-	5.39	-	**5.31**	**cd**
10.	Boa (LPB19-8035) *(s)*	5.24	-	5.54	-	**5.39**	**bc**
11.	LRPB Major *(s)*	5.09	-	5.38	-	**5.24**	**cd**
	Mean	**5.18**	**b**	**5.48**	**a**	**5.33**	
	LSD Variety p = 0.05	0.43		**P value**		<0.001	
	LSD Management p = 0.05	0.28		**P value**		0.044	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.934	

Note: w = Winter Wheat, s = Spring Wheat

Table 2. Influence of variety and fungicide application on the grain protein (%)– December 10 harvest.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	10.1	-	10.4	-	**10.2**	**bcd**
2.	LRPB Matador	10.0	-	10.0	-	**10.0**	**cd**
3.	Genie	9.8	-	10.3	-	**10.0**	**cd**
4.	RockStar	9.9	-	10.3	-	**10.1**	**cd**
5.	TA0109	10.3	-	10.3	-	**10.3**	**bc**
6.	Wallaroo	10.8	-	10.7	-	**10.7**	**a**
7.	V15019-88	10.2	-	10.1	-	**10.1**	**cd**
8.	Shotgun (RAC3227)	9.5	-	9.9	-	**9.7**	**e**
9.	Ironbark (V14035-125)	10.4	-	10.6	-	**10.5**	**ab**
10.	Boa (LPB19-8035)	10.1	-	10.5	-	**10.3**	**bcd**
11.	LRPB Major	10.0	-	10.0	-	**10.0**	**d**
	Mean	**10.1**	**-**	**10.3**	**-**	**10.2**	
	LSD Variety p = 0.05	0.3		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.074	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.390	

Table 3. Influence of variety and fungicide application on test weights (kg/hL)– December 10 harvest.

Test weight (Kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	79.2	-	80.5	-	**79.8**	**a**
2.	LRPB Matador	77.9	-	80.7	-	**79.3**	**ab**
3.	Genie	75.2	-	81.0	-	**78.1**	**ab**
4.	RockStar	78.4	-	79.3	-	**78.8**	**ab**
5.	TA0109	73.2	-	75.2	-	**74.2**	**c**
6.	Wallaroo	79.1	-	79.7	-	**79.4**	**ab**
7.	V15019-88	78.1	-	80.2	-	**79.1**	**ab**
8.	Shotgun (RAC3227)	75.5	-	78.3	-	**76.9**	**b**
9.	Ironbark (V14035-125)	77.4	-	79.3	-	**78.3**	**ab**
10.	Boa (LPB19-8035)	78.5	-	79.2	-	**78.9**	**ab**
11.	LRPB Major	75.2	-	80.8	-	**78.0**	**ab**
	Mean	**77.0**	**b**	**79.5**	**a**	**78.2**	
	LSD Variety p = 0.05	2.6		**P value**		0.005	
	LSD Management p = 0.05	1.6		**P value**		0.018	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.495	

Table 4. Influence of variety and fungicide application on the screenings (% < 2.0 mm)– December 10 harvest.

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	1.9	de	1.4	fg	**1.6**	**de**
2.	LRPB Matador	1.7	ef	1.7	ef	**1.7**	**de**
3.	Genie	3.2	b	1.9	e	**2.5**	**b**
4.	RockStar	1.4	fg	1.6	efg	**1.5**	**ef**
5.	TA0109	4.7	a	3.0	b	**3.9**	**a**
6.	Wallaroo	1.3	gh	1.0	hi	**1.1**	**gh**
7.	V15019-88	1.5	fg	1.3	ghi	**1.4**	**fg**
8.	Shotgun (RAC3227)	2.3	c	2.3	cd	**2.3**	**c**
9.	Ironbark (V14035-125)	1.3	ghi	0.9	i	**1.1**	**h**
10.	Boa (LPB19-8035)	1.8	e	1.8	e	**1.8**	**d**
11.	LRPB Major	1.7	ef	1.3	gh	**1.5**	**ef**
	Mean	**2.1**	**a**	**1.6**	**b**	**1.9**	
	LSD Variety p = 0.05	0.3		**P value**		<0.001	
	LSD Management p = 0.05	0.1		**P value**		0.001	
	LSD Variety x Man. p = 0.05	0.4		**P value**		<0.001	

Development (Phenology)

Table 5. Influence of variety on phenology (speed of development – Zadoks Growth Stage)

		Zadoks Growth Stage (GS) (0-99)	
Variety		**2 Sep**	**1 Oct**
1.	Scepter *(s)*	37	65
2.	LRPB Matador *(s)*	37	65
3.	Genie *(s)*	33	59
4.	RockStar *(s)*	37	65
5.	TA0109 *(w)*	37	49-55
6.	Wallaroo *(w)*	33	45
7.	V15019-88 *(s)*	33	61-65
8.	Shotgun (RAC3227) *(s)*	37	65
9.	Ironbark (V14035-125) *(s)*	33	61-65
10.	Boa (LPB19-8035) *(s)*	37	65
11.	LRPB Major *(s)*	33	59-61

Disease assessment data

Table 6. Influence of fungicide application and variety on Stripe rust (Yr) plot disease infection (%)– assessed October 17.

		Stripe Rust plot infection %					
	Variety	**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	41.3	b	11.8	c	**26.5**	**b**
2.	LRPB Matador	6.8	c	4.8	c	**5.8**	**c**
3.	Genie	60.0	a	3.5	c	**31.8**	**ab**
4.	RockStar	71.3	a	9.3	c	**40.3**	**a**
5.	TA0109	13.0	c	3.8	c	**8.4**	**c**
6.	Wallaroo	6.5	c	1.0	c	**3.8**	**c**
7.	V15019-88	0.3	c	0.0	c	**0.1**	**c**
8.	Shotgun (RAC3227)	61.3	a	7.0	c	**34.1**	**ab**
9.	Ironbark (V14035-125)	0.0	c	0.0	c	**0.0**	**c**
10.	Boa (LPB19-8035)	11.3	c	2.8	c	**7.0**	**c**
11.	LRPB Major	1.8	c	1.5	c	**1.6**	**c**
	Mean	**24.8**	**a**	**4.1**	**b**	**14.5**	
	LSD Variety p = 0.05	9.2		**P value**		<0.001	
	LSD Management p = 0.05	12.1		**P value**		0.012	
	LSD Variety x Man. p = 0.05	13.1		**P value**		<0.001	

Table 7. Influence of fungicide application and variety on Septoria tritici blotch (STB) plot disease infection levels (%)– assessed October 17.

Septoria tritici blotch (STB) plot infection %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	2.3	c	0.3	e	**1.3**	**b**
2.	LRPB Matador	0.0	e	0.0	e	**0.0**	**c**
3.	Genie	0.0	e	1.0	cde	**0.5**	**bc**
4.	RockStar	0.0	e	0.0	e	**0.0**	**c**
5.	TA0109	1.3	cde	0.0	e	**0.6**	**bc**
6.	Wallaroo	1.0	cde	0.0	e	**0.5**	**bc**
7.	V15019-88	4.5	ab	0.5	de	**2.5**	**a**
8.	Shotgun (RAC3227)	0.0	e	0.0	e	**0.0**	**c**
9.	Ironbark (V14035-125)	5.5	a	0.8	de	**3.1**	**a**
10.	Boa (LPB19-8035)	3.8	b	1.8	cd	**2.8**	**a**
11.	LRPB Major	2.3	c	0.5	de	**1.4**	**b**
	Mean	**1.9**	**a**	**0.4**	**b**	**1.2**	
	LSD Variety p = 0.05	0.3		**P value**		<0.001	
	LSD Management p = 0.05	1.0		**P value**		<0.001	
	LSD Variety x Man. p = 0.05	1.4		**P value**		<0.001	

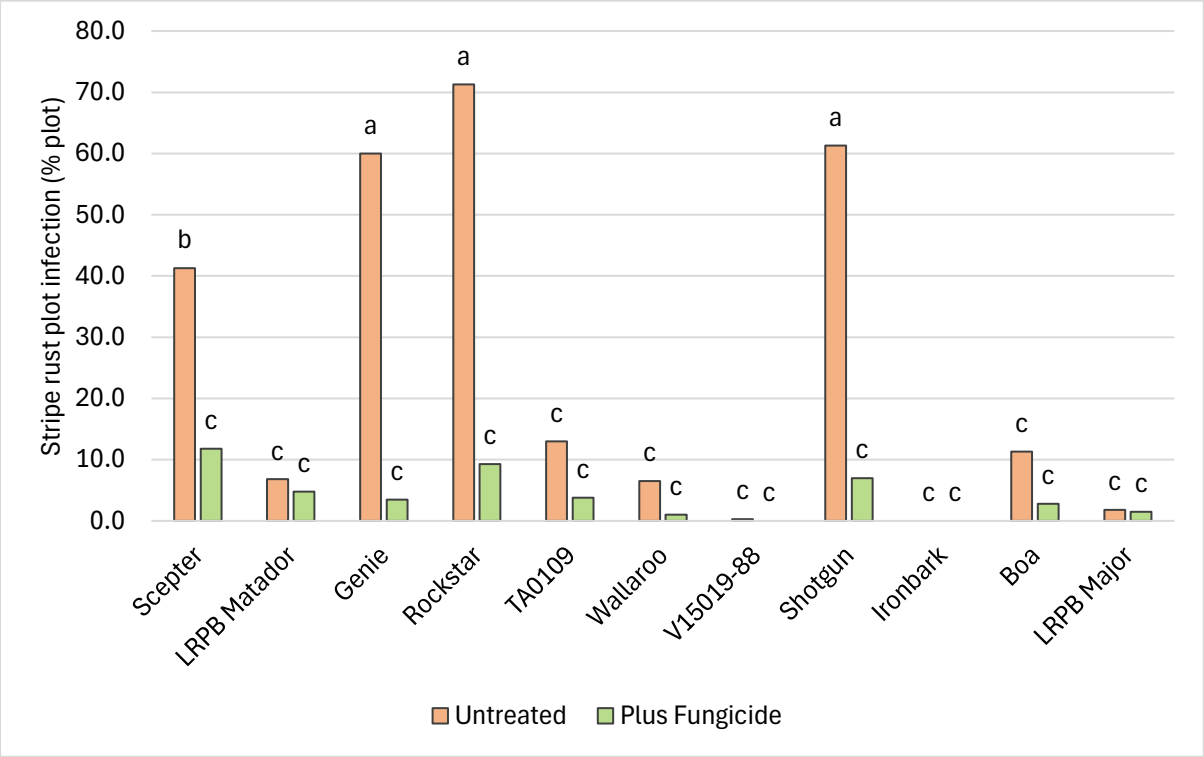

Figure 2. Influence of fungicide application and variety on plot disease infection levels (%) of Stripe rust (SR) Fungicide management x Variety ($LSD_{0.05}$ = 13.1, P-value = <0.001) – assessed October 17.

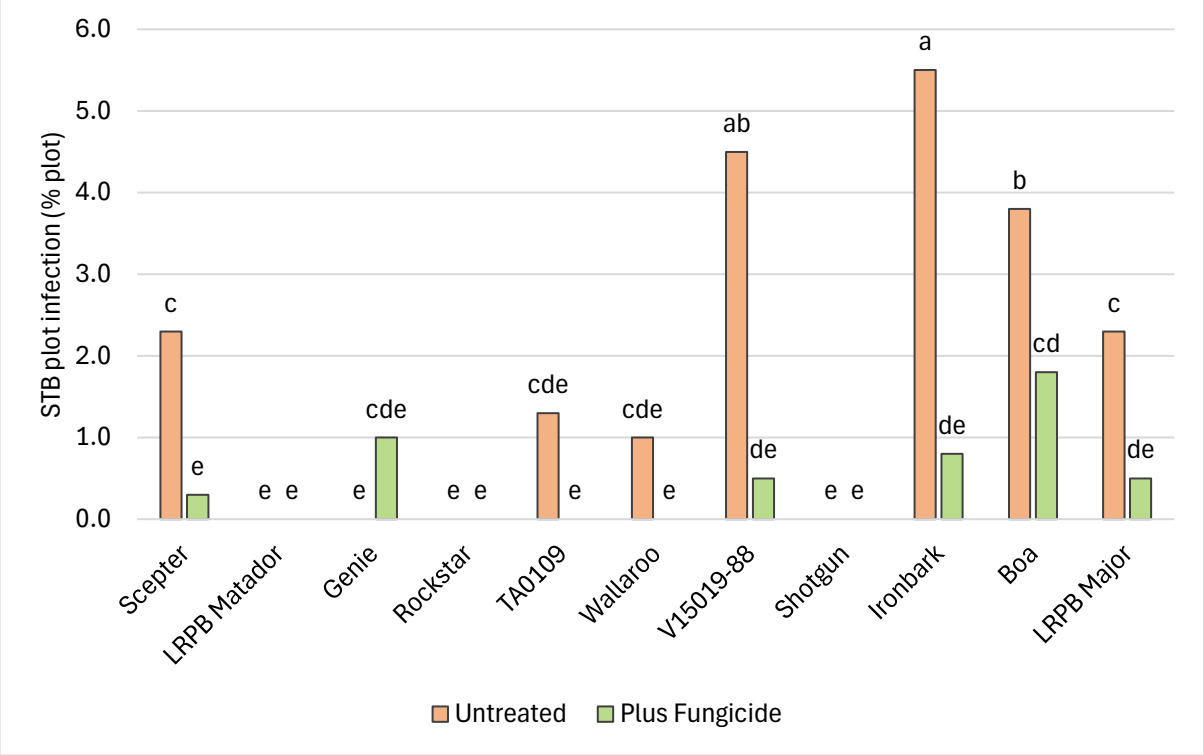

Figure 3. Influence of fungicide and variety on plot disease infection levels (%) of Septoria tritici blotch (STB) Fungicide management x Variety ($LSD_{0.05}$ = 1.4, P-value = <0.001) – assessed October 17.

Trial inputs

Table 8. Trial input and management details.

Sowing date:		**15 May 2024**	
Harvest date:		**10 December 2024**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	15 May	100 kg/ha MAP	
Pre-em herbicide:	14 May	TriflurX 1.50 L/ha	
		Overwatch 1.25 L/ha	
Broadleaf herbicide:	5 Sep	LVE MCPA 570 0.40 L/ha	
		Lontrel Advanced 0.08 g/ha	
		Paradigm 25 g/ha	
		Expedient 0.5 L/ha	
Nitrogen:	2 Sep	206 kg urea/ha (95 kg N/ha)	
Fungicide:		**Untreated**	**Plus Fungicide**
	GS37	----	Prosaro 0.30 L/ha
	GS65	----	Radial 0.84 L/ha

Please note *that the label cut off for Radial is ear emergence (GS59). Poor weather resulted in the application being delayed into flowering past the label cut off.*

SA Bordertown Barley (FAR MSA II B24-33)

Sown: 15 May 2024
Harvested: 10 December 2024
Previous Crop: 2023 Canola

FAR Code: FAR MSA II B24-33
GSR (Apr-Nov): 231.6mm
Soil Type: Brown Clay

Key Points

- *A very dry start to the season and 232mm growing season rainfall (GSR – Apr-Oct) resulted in barley yields that ranged from 6.24 – 7.39t/ha depending on variety and foliar fungicide input.*
- *This compared to wheat yields sown at the same time alongside ranging from 4.37 – 6.03t and giving on average of 0.3t/ha response to fungicide because of stripe rust.*
- *There were significant differences in grain yield due to variety (p=<0.001) but not as a result of fungicide management (p=0.415), despite net blotch and scald being present in some untreated varieties.*
- *The highest yielding variety was Neo CL (7.34 t/ha) although this yield was not statistically superior to raft of six varieties that all averaged over 7t/ha, these were AGFBA021022, RGT Orbiter, RGT Asteroid, RGT Planet and Minotaur.*
- *There were significant effects of variety on grain quality (grain protein, test weight, retentions and screenings) with Neo CL again performing strongly across all these parameters.*
- *Despite no significant effects on yield fungicide application resulted in very small but significant improvements in screenings (1.9% vs 1.8%) and test weights (67.4 kg/hl vs 67.8 kg/hl).*
- *In untreated crops the highest levels of net form net blotch were recorded in RGT Planet, RGT Asteroid, PegasusAX (AGTB0667), KWS Thalis (FAR SB2) and RGT Orbiter, whilst with scald Bigfoot CL (AGTB0669) and Cyclops were the most infected varieties, however none of these infections lead to significant yield increases.*
- *Overall, grain quality was in the correct range for malt varieties to achieve malting specifications.*

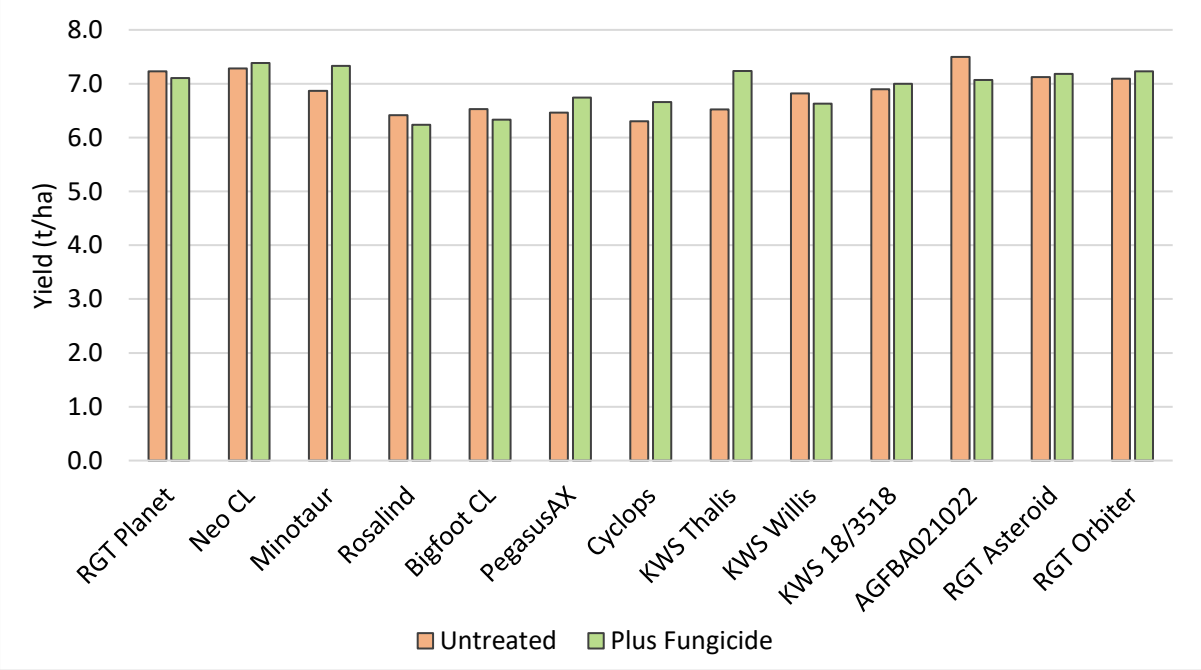

Figure 1. Influence of variety and fungicide application on grain yield (t/ha). Variety ($LSD_{0.05}$ = 0.59, P-value = 0.005), Fungicide management and Fung x Variety interaction differences were not significant – May 15 sown.

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

There were significant differences in yield and quality due to variety (p=0.005), but no response to fungicide management or interaction between variety and fungicide management (Tables 1-5 & Figure 1).

Table 1. Influence of fungicide application on the grain yield (t/ha) of spring barleys (varieties grown plus and minus fungicide) – May 15 sown.

Yield (t/ha)							
Variety (all spring germplasm)		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	7.23	-	7.11	-	**7.17**	**abc**
2.	Neo CL *(s)*	7.29	-	7.39	-	**7.34**	**a**
3.	Minotaur *(s)*	6.87	-	7.33	-	**7.10**	**abc**
4.	Rosalind *(s)*	6.42	-	6.24	-	**6.33**	**e**
5.	Bigfoot CL (AGTB0669) *(s)*	6.53	-	6.33	-	**6.43**	**de**
6.	PegasusAX (AGTB0667) *(s)*	6.47	-	6.74	-	**6.60**	**cde**
7.	Cyclops *(s)*	6.30	-	6.66	-	**6.48**	**de**
8.	KWS Thalis (FAR SB2) *(s)*	6.52	-	7.24	-	**6.88**	**a-e**
9.	KWS Willis (FAR SB1) *(s)*	6.82	-	6.63	-	**6.72**	**b-e**
10.	KWS 18/3518 (FAR SB5) *(s)*	6.90	-	7.00	-	**6.95**	**a-d**
11.	AGFBA021022 *(s)*	7.50	-	7.07	-	**7.28**	**ab**
12.	RGT Asteroid *(s)*	7.13	-	7.19	-	**7.16**	**abc**
13.	RGT Orbiter *(s)*	7.10	-	7.23	-	**7.16**	**abc**
	Mean	**6.85**	**-**	**6.93**	**-**	**6.89**	
	LSD Variety p = 0.05	0.59		**P value**		0.005	
	LSD Management p = 0.05	ns		**P value**		0.415	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.863	

Table 2. Influence of variety and fungicide application on the grain protein (%) – December 10 harvest.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	11.1	-	11.0	-	**11.1**	**ef**
2.	Neo CL	10.7	-	10.8	-	**10.7**	**f**
3.	Minotaur	11.1	-	11.1	-	**11.1**	**ef**
4.	Rosalind	11.9	-	11.4	-	**11.6**	**bc**
5.	Bigfoot CL (AGTB0669)	12.0	-	12.1	-	**12.1**	**a**
6.	PegasusAX (AGTB0667)	11.6	-	11.4	-	**11.5**	**bcd**
7.	Cyclops	11.5	-	11.8	-	**11.7**	**ab**
8.	KWS Thalis (FAR SB2)	11.4	-	11.1	-	**11.2**	**de**
9.	KWS Willis (FAR SB1)	11.4	-	11.2	-	**11.3**	**b-e**
10.	KWS 18/3518 (FAR SB5)	11.6	-	10.9	-	**11.3**	**cde**
11.	AGFBA021022	11.5	-	11.1	-	**11.3**	**b-e**
12.	RGT Asteroid	11.5	-	11.1	-	**11.3**	**b-e**
13.	RGT Orbiter	10.9	-	11.1	-	**11.0**	**ef**
	Mean	**11.4**	**-**	**11.2**	**-**	**11.3**	
	LSD Variety p = 0.05	0.4		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.089	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.336	

Table 3. Influence of variety and fungicide application on the test weights (kg/hL) – December 10 harvest.

Test weight (Kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	66.6	-	66.7	-	**66.6**	**cd**
2.	Neo CL	68.4	-	68.2	-	**68.3**	**ab**
3.	Minotaur	69.0	-	68.7	-	**68.8**	**a**
4.	Rosalind	67.4	-	68.0	-	**67.7**	**a-d**
5.	Bigfoot CL (AGTB0669)	68.7	-	68.7	-	**68.7**	**a**
6.	PegasusAX (AGTB0667)	67.8	-	68.7	-	**68.3**	**ab**
7.	Cyclops	67.4	-	68.4	-	**67.9**	**abc**
8.	KWS Thalis (FAR SB2)	67.0	-	68.2	-	**67.6**	**a-d**
9.	KWS Willis (FAR SB1)	66.9	-	67.5	-	**67.2**	**bcd**
10.	KWS 18/3518 (FAR SB5)	65.8	-	67.0	-	**66.4**	**d**
11.	AGFBA021022	66.6	-	67.1	-	**66.9**	**cd**
12.	RGT Asteroid	67.1	-	68.3	-	**67.7**	**abc**
13.	RGT Orbiter	67.0	-	66.6	-	**66.8**	**cd**
	Mean	**67.4**	**b**	**67.8**	**a**	**67.6**	
	LSD Variety p = 0.05	1.3		**P value**		0.002	
	LSD Management p = 0.05	0.4		**P value**		0.030	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.951	

Table 4. Influence of fungicide on the retention (% > 2.5mm) of barley varieties plus and minus fungicide – December 10 harvest.

Retention (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	86.5	-	89.8	-	**88.2**	**g**
2.	Neo CL	94.2	-	95.1	-	**94.7**	**a-d**
3.	Minotaur	94.7	-	95.5	-	**95.1**	**abc**
4.	Rosalind	93.4	-	94.5	-	**94.0**	**bcd**
5.	Bigfoot CL (AGTB0669)	96.4	-	96.4	-	**96.4**	**a**
6.	PegasusAX (AGTB0667)	91.5	-	90.8	-	**91.1**	**ef**
7.	Cyclops	95.4	-	96.3	-	**95.8**	**ab**
8.	KWS Thalis (FAR SB2)	91.3	-	90.1	-	**90.7**	**f**
9.	KWS Willis (FAR SB1)	94.4	-	95.2	-	**94.8**	**a-d**
10.	KWS 18/3518 (FAR SB5)	89.0	-	93.1	-	**91.0**	**ef**
11.	AGFBA021022	93.7	-	94.8	-	**94.2**	**bcd**
12.	RGT Asteroid	91.2	-	94.4	-	**92.8**	**de**
13.	RGT Orbiter	92.9	-	93.6	-	**93.2**	**cd**
	Mean	**92.7**	**-**	**93.8**	**-**	**93.2**	
	LSD Variety p = 0.05	0.4		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.089	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.336	

Table 5. Influence of fungicide on the screenings (% < 2.2mm) of barley varieties plus and minus fungicide – December 10 harvest.

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	2.6	-	2.4	-	**2.5**	**a**
2.	Neo CL	1.5	-	1.7	-	**1.6**	**c**
3.	Minotaur	1.5	-	1.7	-	**1.6**	**c**
4.	Rosalind	1.8	-	1.5	-	**1.6**	**c**
5.	Bigfoot CL (AGTB0669)	1.5	-	1.6	-	**1.5**	**c**
6.	PegasusAX (AGTB0667)	1.8	-	1.8	-	**1.8**	**bc**
7.	Cyclops	1.9	-	1.3	-	**1.6**	**c**
8.	KWS Thalis (FAR SB2)	2.4	-	2.1	-	**2.2**	**ab**
9.	KWS Willis (FAR SB1)	1.7	-	1.5	-	**1.6**	**c**
10.	KWS 18/3518 (FAR SB5)	2.6	-	2.1	-	**2.4**	**a**
11.	AGFBA021022	1.8	-	1.9	-	**1.8**	**bc**
12.	RGT Asteroid	2.0	-	1.5	-	**1.8**	**bc**
13.	RGT Orbiter	1.9	-	2.1	-	**2.0**	**abc**
	Mean	**1.9**	**b**	**1.8**	**a**	**1.8**	
	LSD Variety p = 0.05	1.3		**P value**		0.002	
	LSD Management p = 0.05	0.4		**P value**		0.030	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.951	

Disease assessment data

Table 6. Influence of fungicide application and variety on plot disease infection levels (%) of Net form of net blotch (NFNB)– assessed October 17.

Net Form of Net Blotch (NFNB) plot infection %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	38.8	a	16.3	b	**27.5**	**a**
2.	Neo CL	3.3	e-h	0.3	h	**1.8**	**de**
3.	Minotaur	2.0	fgh	0.0	h	**1.0**	**de**
4.	Rosalind	2.3	fgh	0.0	h	**1.1**	**de**
5.	Bigfoot CL (AGTB0669)	1.5	fgh	0.3	h	**0.9**	**de**
6.	PegasusAX (AGTB0667)	8.5	cd	4.5	d-g	**6.5**	**b**
7.	Cyclops	1.8	fgh	1.3	gh	**1.5**	**de**
8.	KWS Thalis (FAR SB2)	7.5	cd	7.8	cd	**7.6**	**b**
9.	KWS Willis (FAR SB1)	1.0	gh	0.8	gh	**0.9**	**de**
10.	KWS 18/3518 (FAR SB5)	3.3	e-h	2.8	e-h	**3.0**	**cd**
11.	AGFBA021022	0.0	h	0.0	h	**0.0**	**e**
12.	RGT Asteroid	10.0	c	1.5	fgh	**5.8**	**bc**
13.	RGT Orbiter	6.8	cde	5.5	def	**6.1**	**b**
	Mean	**6.7**	-	**3.1**	-	**4.9**	
	LSD Variety p = 0.05	3.0		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.062	
	LSD Variety x Man. p = 0.05	4.2		**P value**		<0.001	

Table 7. Influence of fungicide application and variety on plot disease infection levels (%) of Spot form of net blotch (SFNB)– assessed October 17.

Spot Form of Net Blotch (SFNB) plot infection %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	1.8	de	0.0	f	**0.9**	bcd
2.	Neo CL	0.0	f	0.0	f	**0.0**	d
3.	Minotaur	4.8	ab	0.8	ef	**2.8**	a
4.	Rosalind	5.3	a	0.3	f	**2.8**	a
5.	Bigfoot CL (AGTB0669)	0.0	f	0.5	ef	**0.3**	cd
6.	PegasusAX (AGTB0667)	1.8	de	0.3	f	**1.0**	bc
7.	Cyclops	0.5	ef	1.3	def	**0.9**	bcd
8.	KWS Thalis (FAR SB2)	1.0	ef	0.3	f	**0.6**	bcd
9.	KWS Willis (FAR SB1)	1.8	de	0.0	f	**0.9**	bcd
10.	KWS 18/3518 (FAR SB5)	5.3	a	0.0	f	**2.6**	a
11.	AGFBA021022	3.8	bc	1.0	ef	**2.4**	a
12.	RGT Asteroid	1.3	def	0.3	f	**0.8**	bcd
13.	RGT Orbiter	2.5	cd	0.3	f	**1.4**	b
	Mean	**2.3**	**a**	**0.4**	**b**	**1.3**	
	LSD Variety p = 0.05	0.9		**P value**		<0.001	
	LSD Management p = 0.05	0.8		**P value**		0.005	
	LSD Variety x Man. p = 0.05	1.3		**P value**		<0.001	

Table 8. Influence of fungicide application and variety on plot disease infection levels (%) of Scald– assessed October 17.

Scald plot infection %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	3.3	-	1.3	-	**2.3**	**bc**
2.	Neo CL	0.0	-	0.0	-	**0.0**	**c**
3.	Minotaur	6.3	-	0.0	-	**3.1**	**b**
4.	Rosalind	0.0	-	0.0	-	**0.0**	**c**
5.	Bigfoot CL (AGTB0669)	10.3	-	6.3	-	**8.3**	**a**
6.	PegasusAX (AGTB0667)	0.0	-	0.0	-	**0.0**	**c**
7.	Cyclops	7.3	-	0.0	-	**3.6**	**b**
8.	KWS Thalis (FAR SB2)	0.0	-	0.0	-	**0.0**	**c**
9.	KWS Willis (FAR SB1)	0.0	-	0.0	-	**0.0**	**c**
10.	KWS 18/3518 (FAR SB5)	0.0	-	0.0	-	**0.0**	**c**
11.	AGFBA021022	0.0	-	0.0	-	**0.0**	**c**
12.	RGT Asteroid	0.0	-	0.0	-	**0.0**	**c**
13.	RGT Orbiter	0.0	-	0.0	-	**0.0**	**c**
	Mean	**2.1**	**-**	**0.6**	**-**	**1.33**	
	LSD Variety p = 0.05	2.8		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.194	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.078	

Table 9. Influence of fungicide application and variety on plot disease infection levels (%) of Leaf rust (LR)– assessed October 17.

Leaf Rust plot infection %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	0.0	d	0.0	d	**0.0**	**c**
2.	Neo CL	3.3	a	0.0	d	**1.6**	**b**
3.	Minotaur	3.8	a	1.3	c	**2.5**	**a**
4.	Rosalind	0.0	d	0.0	d	**0.0**	**c**
5.	Bigfoot CL (AGTB0669)	2.3	b	0.0	d	**1.1**	**b**
6.	PegasusAX (AGTB0667)	0.0	d	0.0	d	**0.0**	**c**
7.	Cyclops	3.8	a	1.3	c	**2.5**	**a**
8.	KWS Thalis (FAR SB2)	2.3	b	0.0	d	**1.1**	**b**
9.	KWS Willis (FAR SB1)	0.0	d	0.0	d	**0.0**	**c**
10.	KWS 18/3518 (FAR SB5)	1.3	c	1.0	c	**1.1**	**b**
11.	AGFBA021022	0.0	d	0.0	d	**0.0**	**c**
12.	RGT Asteroid	0.0	d	0.0	d	**0.0**	**c**
13.	RGT Orbiter	0.0	d	0.0	d	**0.0**	**c**
Mean		**1.3**	**a**	**0.3**	**b**	**1.3**	
LSD Variety p = 0.05		0.6		**P value**		<0.001	
LSD Management p = 0.05		0.3		**P value**		0.001	
LSD Variety x Man. p = 0.05		0.8		**P value**		<0.001	

Trial inputs

Table 10. Trial input and management details.

Sowing date:		**15 May 2024**	
Harvest date:		**10 December 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	15 May	100 kg/ha MAP	
Pre-em herbicide:	14 May	TriflurX 1.50 L/ha	
		Overwatch 1.25 L/ha	
Broadleaf herbicide:	5 Sep	LVE MCPA 570 0.40 L/ha	
		Lontrel Advanced 0.08 g/ha	
		Paradigm 25 g/ha	
		Expedient 0.5 L/ha	
Nitrogen:	2 Sep	206 kg urea/ha (95 kg N/ha)	
Fungicide:		**Untreated**	**Plus Fungicide**
	2 Sep	----	Prosaro 0.30 L/ha
	3 Oct*	----	Aviator Xpro 0.5 L/ha

Please note rapid growth resulted in booting spray being missed. The label timing cut off for Aviator Xpro is booting (GS45).

New South Wales Results

FAR AUSTRALIA

Industry Innovations
leading the way to a brighter grains industry

Wallendbeen NSW

NSW Wallendbeen Wheat (FAR NSW II W24-40)

Sown: 17 April 2024
Harvested: 17 December 2024
Soil Type: Red Clay Loam
Previous Crop: 2023- Canola

Management: Kelly chained canola stubble
FAR Code: FAR NSW II W24-40
GSR (Apr-Nov): 390.8mm

Key Points

- *There was a significant interaction in grain yield between variety and fungicide application (P<0.001), with varieties differing in their response to fungicide application (ranging from 0.17 – 3.36t./ha)*
- *The red feed wheat Triple 2 (tested previously as AGFWH010222) produced the highest yields under both plus and minus fungicide management with a yield of 9.88t/ha with fungicide and 9.40 without.*
- *BigRed, RGT Accroc, and Stockade were the only varieties that did not produce a statistical yield response to fungicide application.*
- *Stripe rust was the main disease influencing yield with the susceptible varieties RGT Cesario and TA0109 showing the largest yield loss to disease. Significant levels of leaf rust were also assessed in Triple 2 causing a yield reduction of nearly 0.5t/ha*
- *Avoca (AH) and Stockade (APW), very slow spring wheats significantly outyielded, Brighton (AH) and Illabo (APH) winter wheats when protected with fungicide.*
- *Variety had a significant impact on all grain quality parameters tested.*
- *Grain quality differences mirrored yield differences with significant effects of fungicide application on test weight and screening where yield responses were greater.*

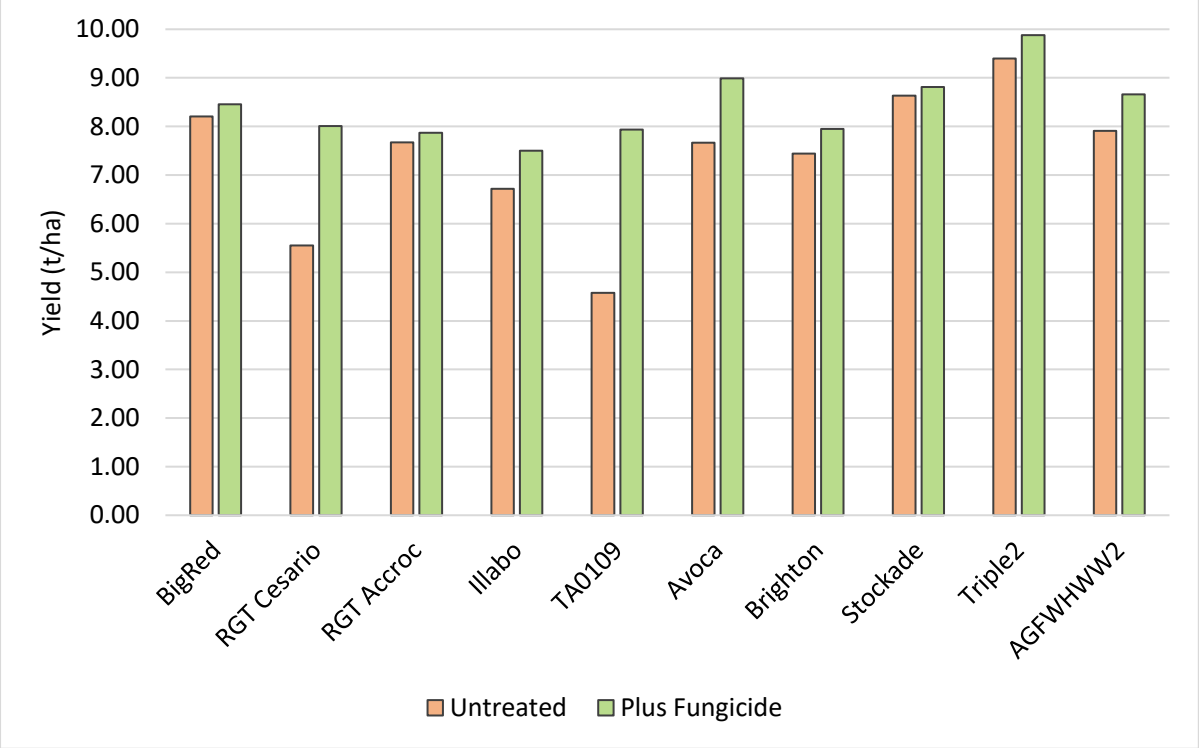

Figure 1. Influence of variety and fungicide application on grain yield (t/ha)

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

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

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed *(w)*	8.21	efg	8.45	def	**8.33**	**c**
2.	RGT Cesario *(w)*	5.55	l	8.01	fgh	**6.78**	**e**
3.	RGT Accroc *(w)*	7.67	hij	7.87	g-j	**7.77**	**d**
4.	Illabo *(w)*	6.72	k	7.50	ij	**7.11**	**e**
5.	TA0109 *(w)*	4.58	m	7.94	ghi	**6.26**	**f**
6.	Avoca (L12049-044) *(s)*	7.67	hij	8.99	bc	**8.33**	**c**
7.	Brighton (V14051-172) *(w)*	7.45	j	7.95	ghi	**7.70**	**d**
8.	Stockade *(s)*	8.64	cde	8.81	cd	**8.72**	**b**
9.	Triple 2 (AGFWH010222) *(w)*	9.40	b	9.88	a	**9.64**	**a**
10.	AGFWHWW2 (FAR WW2) *(w)*	7.91	g-j	8.66	cde	**8.29**	**c**
	Mean	**7.38**	**b**	**8.41**	**a**		
	LSD Cultivar p = 0.05	0.34		**P value**		<0.001	
	LSD Management p = 0.05	0.20		**P value**		<0.001	
	LSD Cultivar x Man. p = 0.05	0.48		**P value**		<0.001	

Note: w = Winter Wheat, s = Spring Wheat

Table 2. Influence of fungicide application on the grain quality (% protein, test weight and screenings) of wheat variety plus and minus fungicide.

Grain quality assessments							
Variety		**Protein (%)**		**Test Weight (kg/hL)**		**Screenings (%)**	
1.	Illabo	12.1	ab	72.3	c	4.9	f
2.	BigRed	11.3	c	73.4	c	6.1	cd
3.	RGT Cesario	11.6	bc	70.6	d	5.7	de
4.	RGT Accroc	12.3	a	72.4	c	5.1	f
5.	TA0109	11.2	c	65.6	e	10.6	a
6.	Avoca	10.4	de	75.6	ab	5.3	ef
7.	Brighton	11.2	c	76.8	a	4.2	g
8.	Stockade	10.1	e	74.9	b	6.8	b
9.	Triple2	10.7	d	75.0	b	6.4	bc
10.	AGFWHWW2	11.3	c	72.5	c	5.3	ef
	LSD p = 0.05	0.5		1.3		0.5	
	Variety P-Value	<0.001		<0.001		<0.001	
Management		**Protein (%)**		**Test Weight (kg/hL)**		**Screenings (%)**	
1.	Untreated	11.1	b	72.1	b	6.5	a
2.	Plus Fungicide	11.4	a	73.7	a	5.6	b
	LSD p = 0.05	0.2		0.8		0.5	
	Disease Management P-Value	0.005		0.007		0.015	
Variety x Disease Management		**Protein (%)**		**Test Weight (kg/hL)**		**Screenings (%)**	
	No Fungicide						
1.	Illabo	12.0	-	71.7	g	5.0	hij
2.	BigRed	11.2	-	73.3	efg	6.3	c-f
3.	RGT Cesario	11.2	-	68.9	h	6.3	cde
4.	RGT Accroc	12.3	-	72.1	fg	5.6	e-h
5.	TA0109	10.7	-	61.3	i	13.5	a
6.	Avoca	10.0	-	74.7	de	5.8	d-g
7.	Brighton	11.2	-	76.7	ab	4.1	k
8.	Stockade	10.0	-	75.0	b-e	6.6	c
9.	Triple2	10.6	-	74.7	de	6.4	cd
10.	AGFWHWW2	11.4	-	72.5	fg	5.1	g-j
	Plus Fungicide						
1.	Illabo	12.2	-	72.9	fg	4.9	hij
2.	BigRed	11.4	-	73.6	def	5.9	d-g
3.	RGT Cesario	12.1	-	72.3	fg	5.2	ghi
4.	RGT Accroc	12.3	-	72.7	fg	4.7	ijk
5.	TA0109	11.8	-	69.8	h	7.7	b
6.	Avoca	10.9	-	76.6	abc	4.9	hij
7.	Brighton	11.2	-	76.9	a	4.4	jk
8.	Stockade	10.2	-	74.9	cde	7.0	bc
9.	Triple2	10.9	-	75.2	a-d	6.4	cd
10.	AGFWHWW2	11.3	-	72.6	fg	5.5	fgh
	LSD p = 0.05	ns		1.8		0.8	
	Variety x Disease Mang. P-Value	0.143		<0.001		<0.001	

Disease assessment data

Table 3. Influence of fungicide and variety on plot disease infection levels (%) of Stripe Rust, Leaf Rust and Septoria tritci blotch (STB)– assessed September 18.

		Leaf Area Infection % (%LAI)					
		Stripe Rust		Leaf Rust		STB	
No Fungicide							
1.	Illabo	1.7	c	0.1	b	4.1	bc
2.	BigRed	0.0	d	0.0	b	0.3	d
3.	RGT Cesario	2.4	b	0.0	b	0.2	d
4.	RGT Accroc	0.0	d	0.0	b	0.3	d
5.	TA0109	3.5	a	0.0	b	0.9	d
6.	Avoca	2.6	b	0.0	b	9.0	a
7.	Brighton	0.2	d	0.0	b	2.9	c
8.	Stockade	0.0	d	0.0	b	5.0	b
9.	Triple2	0.0	d	0.5	a	0.2	d
10.	AGFWHWW2	0.2	d	0.0	b	1.0	d
Plus Fungicide							
1.	Illabo	0.7	d	0.0	b	0.9	d
2.	BigRed	0.0	d	0.0	b	0.3	d
3.	RGT Cesario	0.0	d	0.0	b	0.1	d
4.	RGT Accroc	0.0	d	0.0	b	0.1	d
5.	TA0109	1.6	c	0.0	b	0.2	d
6.	Avoca	0.1	d	0.0	b	3.1	c
7.	Brighton	0.0	d	0.0	b	0.8	d
8.	Stockade	0.0	d	0.0	b	0.5	d
9.	Triple2	0.0	d	0.0	b	0.0	d
10.	AGFWHWW2	0.0	d	0.0	b	0.3	d
Grand Mean		**0.64**		**0.03**		**1.5**	
P Value		<0.001		<0.001		<0.001	
LSD P=.05		0.7		0.1		1.6	

Table 4. Influence of fungicide and variety on plot disease infection levels (%) of Septoria tritci blotch (STB) and Leaf Rust and– assessed October 2. Rust is inclusive of stipe rust and leaf rust.

		Leaf Area Infection % (%LAI)			
		STB		Stripe Rust + Leaf Rust	
No Fungicide					
1.	Illabo	2.5	b	13.4	c
2.	BigRed	0.2	c	1.5	ef
3.	RGT Cesario	1.4	bc	21.7	b
4.	RGT Accroc	0.2	c	0.0	f
5.	TA0109	0.0	c	34.5	a
6.	Avoca	4.2	a	6.5	de
7.	Brighton	5.5	a	2.7	def
8.	Stockade	5.3	a	0.2	f
9.	Triple2	0.0	c	1.2	ef
10.	AGFWHWW2	0.4	c	0.9	ef
Plus Fungicide					
1.	Illabo	0.4	c	2.9	def
2.	BigRed	0.0	c	0.0	f
3.	RGT Cesario	0.0	c	1.2	ef
4.	RGT Accroc	0.7	c	0.7	f
5.	TA0109	0.0	c	7.5	d
6.	Avoca	0.5	c	0.0	f
7.	Brighton	0.0	c	0.0	f
8.	Stockade	0.0	c	0.0	f
9.	Triple2	0.0	c	0.0	f
10.	AGFWHWW2	0.0	c	0.0	f
Grand Mean		1.05		4.73	
P Value		0.003		<0.001	
LSD P=.05		1.6		5.7	

Table 5. Influence of fungicide and variety on plot disease infection levels (%) of Stripe Rust, Septoria tritci blotch (STB) and Leaf Rust and– assessed October 29.

		Leaf Area Infection % (%LAI)							
		Stripe Rust		STB		Leaf Rust		GLR	
No Fungicide									
1.	Illabo	53.8	c	1.8	-	4.3	b	32.5	e
2.	BigRed	2.3	e	0.0	-	0.0	b	96.3	ab
3.	RGT Cesario	75.0	b	0.0	-	0.0	b	20.0	f
4.	RGT Accroc	0.0	e	0.0	-	0.0	b	95.5	ab
5.	TA0109	92.5	a	0.0	-	0.0	b	5.0	g
6.	Avoca	57.5	c	2.0	-	0.5	b	32.5	e
7.	Brighton	29.0	d	3.0	-	1.5	b	57.5	d
8.	Stockade	11.8	e	0.0	-	0.0	b	82.5	c
9.	Triple2	5.3	e	0.0	-	30.0	a	63.8	d
10.	AGFWHWW2	0.0	e	0.0	-	0.0	b	96.8	a
Plus Fungicide									
1.	Illabo	1.0	e	0.0	-	0.0	b	88.8	abc
2.	BigRed	0.0	e	0.0	-	0.0	b	98.8	a
3.	RGT Cesario	0.0	e	0.0	-	0.0	b	97.3	a
4.	RGT Accroc	0.0	e	0.0	-	0.0	b	98.3	a
5.	TA0109	1.5	e	0.0	-	0.0	b	96.5	ab
6.	Avoca	0.0	e	0.3	-	0.0	b	92.0	abc
7.	Brighton	0.0	e	0.0	-	0.0	b	86.3	bc
8.	Stockade	0.0	e	0.0	-	0.0	b	96.3	ab
9.	Triple2	0.0	e	0.0	-	0.0	b	98.8	a
10.	AGFWHWW2	0.0	e	0.0	-	0.0	b	98.0	a
Grand Mean		16.5		0.4		1.8		76.7	
P Value		<0.001		0.1053		<0.001		<0.001	
LSD P=.05		12.1		ns		6.4		10.3	

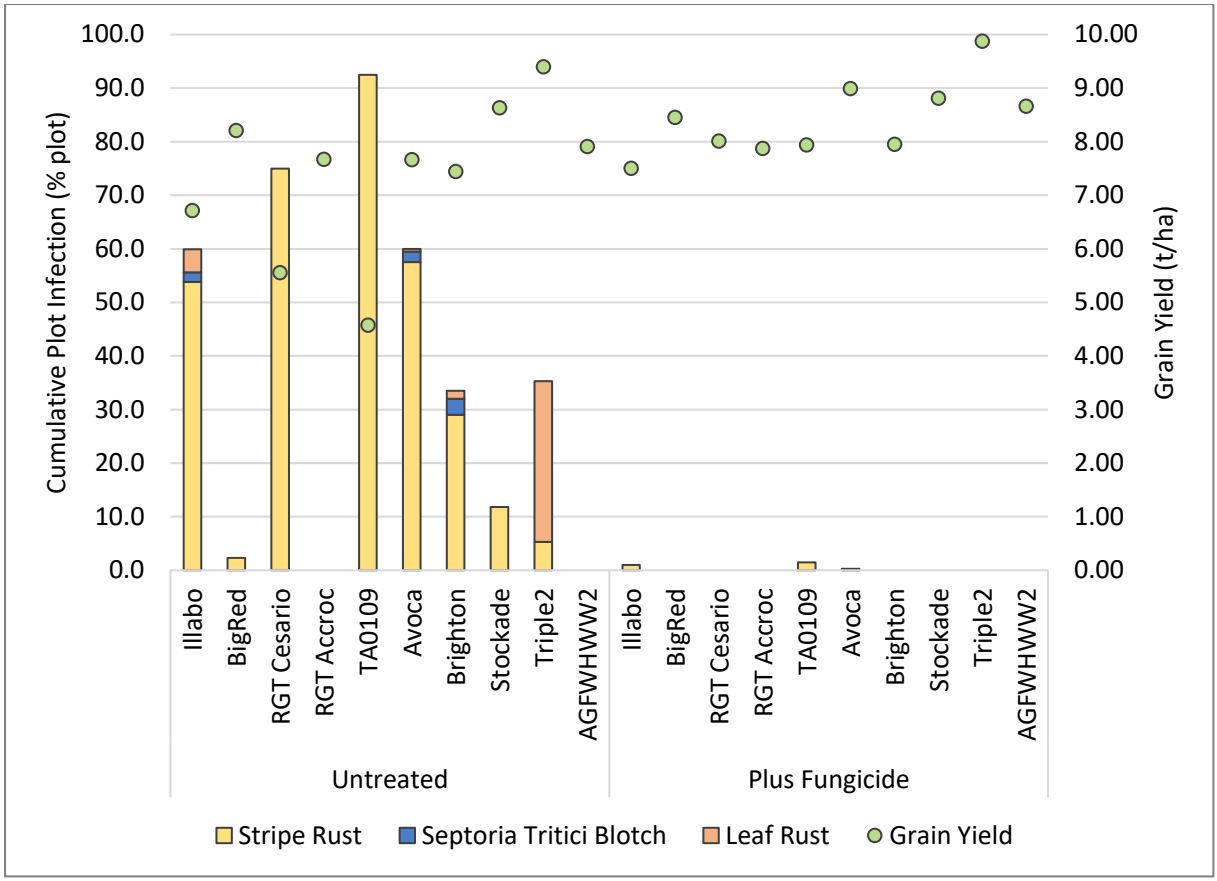

Figure 2. Influence of variety and fungicide application on cumulative plot % infection and yield (t/ha), assessed on 29 October 2024.

Development (Phenology)

Table 6. Approximate number of days from sowing (17 Apr 2024) to GS30 (stem elongation) and to start of flowering (GS61).

	Variety	Days to GS30	Days to Flowering
1.	BigRed *(w)*	97	168
2.	RGT Cesario *(w)*	120	176
3.	RGT Accroc *(w)*	120	176
4.	Illabo *(w)*	120	176
5.	TA0109 *(w)*	97	171
6.	Avoca (L12049-044) *(s)*	81	161
7.	Brighton (V14051-172) *(w)*	94	168
8.	Stockade *(s)*	89	171
9.	Triple 2 (AGFWH010222) *(w)*	97	171
10.	AGFWHWW2 (FAR WW2) *(w)*	114	176

Trial inputs

Table 7. Trial input and management details.

Sowing date:		**17 April 2024**	
Harvest date:		**17 December 2024**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	17 Apr	120 kg MAP	
Pre-em herbicide:	17 Apr	Roundup 450 2L/ha	
		Sakura 118g/ha	
		Avadex Xtra 2L/ha	
Post-em herbicide:	7 Jul	Paradigm 25g/ha Polo 570 LVE 420mL/ha	
	26 Jun	Cyhella 18mL/ha Wetter 1000 0.2%	
Nitrogen:	23 Jul	Urea 217 kg/ha (100 kg N/ha)	
	22 Aug	Urea 217 kg/ha (100 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 300 mL/ha Wetter 1000 0.2%
	GS39	----	Radial 840mL/ha
	GS59	----	Opus 500 mL/ha

Western Australian Results

Gibson, WA

WA Gibson Wheat TOS 1 (FAR WAE II W24-20-01)

Sown: 25 April 2024
Harvested: 12 December 2024
Soil Type: Loamy sand (deep ripped 2022)
Previous Crop: 2023 Canola

FAR Code: FAR WAE II W24-20-01
GSR (Apr-Oct): 278.6mm

Key Points

- *A drier start and finish to the season resulted in 279mm growing season rainfall (GSR) and grain yields that ranged from 2.72 – 3.99t/ha depending on variety and fungicide input.*
- *With crops not properly emerging in the region until early June the season favoured spring wheat shorter season varieties such as Scepter.*
- *With a short and predominately dry season there was no evidence of fungicide response, a feature of southern WA FAR wheat trials over the last five years.*
- *Scepter was significantly higher yielding than all other cultivars tested in this small trial.*
- *Of the winter wheats the new quality AGT variety Brighton (V14051-172) performed similarly to Mowhawk.*
- *Only variety produced significant differences in grain quality with Scepter and Mowhawk showing better quality parameters backing up their yield performance, although there were few significant differences.*

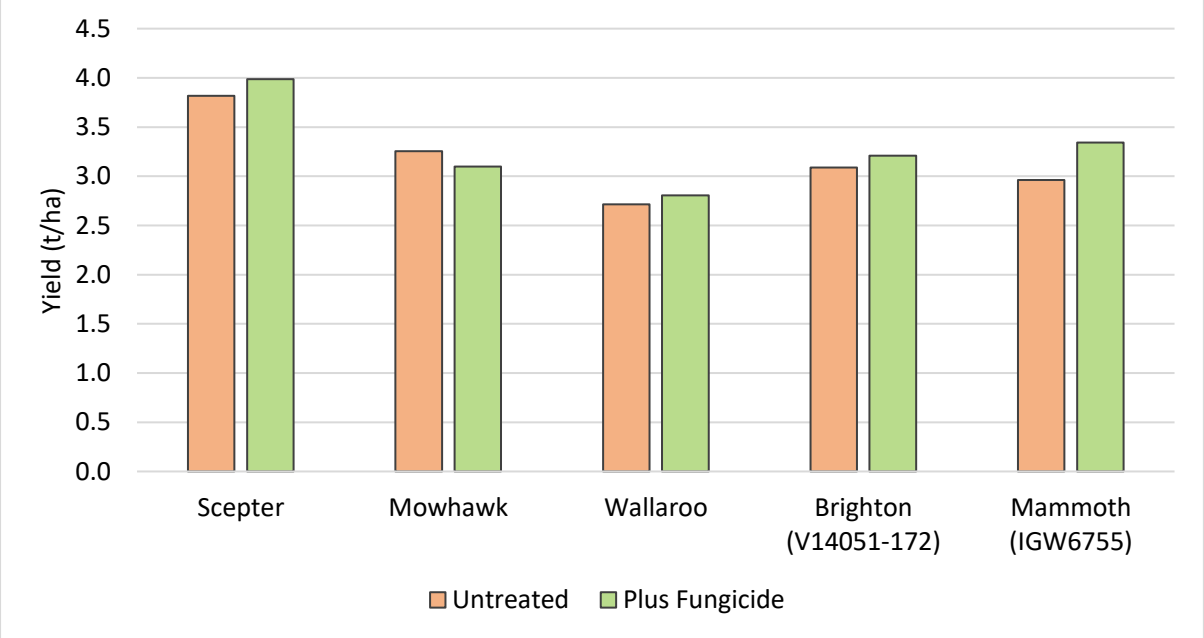

Figure 1. Influence of variety and fungicide application on grain yield (t/ha). Yield (t/ha) & quality data (protein %, test weight, screenings %)

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

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

		Yield (t/ha)					
	Variety	**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter *(s)*	3.82	-	3.99	-	3.90	a
2.	Mowhawk *(w)*	3.26	-	3.10	-	3.18	b
3.	Wallaroo *(w)*	2.72	-	2.81	-	2.76	c
4.	Brighton (V14051-172) *(w)*	3.09	-	3.21	-	3.15	b
5.	Mammoth (IGW6755) *(s)*	2.96	-	3.34	-	3.15	b
	Mean	**3.17**	**-**	**3.29**	**-**		
	LSD Cultivar p = 0.05	0.37		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.622	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.678	

Note: w = Winter Wheat, s = Spring Wheat

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

		Grain quality assessments		
	Variety	**Protein (%)**	**Test Weight (kg/hL)**	**Screenings (%)**
1.	Scepter	11.5 c	67.9 a	2.1 c
2.	Mowhawk	12.1 b	68.0 a	3.9 b
3.	Wallaroo	12.8 a	61.3 b	5.0 a
4.	Brighton	12.6 ab	66.6 a	3.4 b
5.	Mammoth	12.6 ab	64.9 ab	3.7 b
	LSD p = 0.05	0.5	4.1	0.7
	Variety P-Value	<0.001	0.013	<0.001
	Management			
1.	Untreated	12.5 -	64.6 -	3.9 -
2.	Plus Fungicide	12.2 -	66.8 -	3.4 -
	LSD p = 0.05	ns	ns	ns
	Disease Management P-Value	0.434	0.453	0.424
	Variety x Disease Management			
	No Fungicide			
1.	Scepter	11.6 -	66.1 -	2.3 -
2.	Mowhawk	12.3 -	66.0 -	4.3 -
3.	Wallaroo	12.7 -	62.8 -	5.3 -
4.	Brighton	12.8 -	66.0 -	3.7 -
5.	Mammoth	13.0 -	62.3 -	4.0 -
	Plus Fungicide			
1.	Scepter	11.4 -	69.8 -	1.9 -
2.	Mowhawk	12.0 -	69.9 -	3.6 -
3.	Wallaroo	12.9 -	59.8 -	4.8 -
4.	Brighton	12.4 -	67.1 -	3.2 -
5.	Mammoth	12.3 -	67.5 -	3.4 -
	LSD p = 0.05	0.8	5.8	1.1
	Variety x Disease Mang. P-Value	0.610	0.267	0.991

Crop reflectance data (canopy greenness) - NDVI

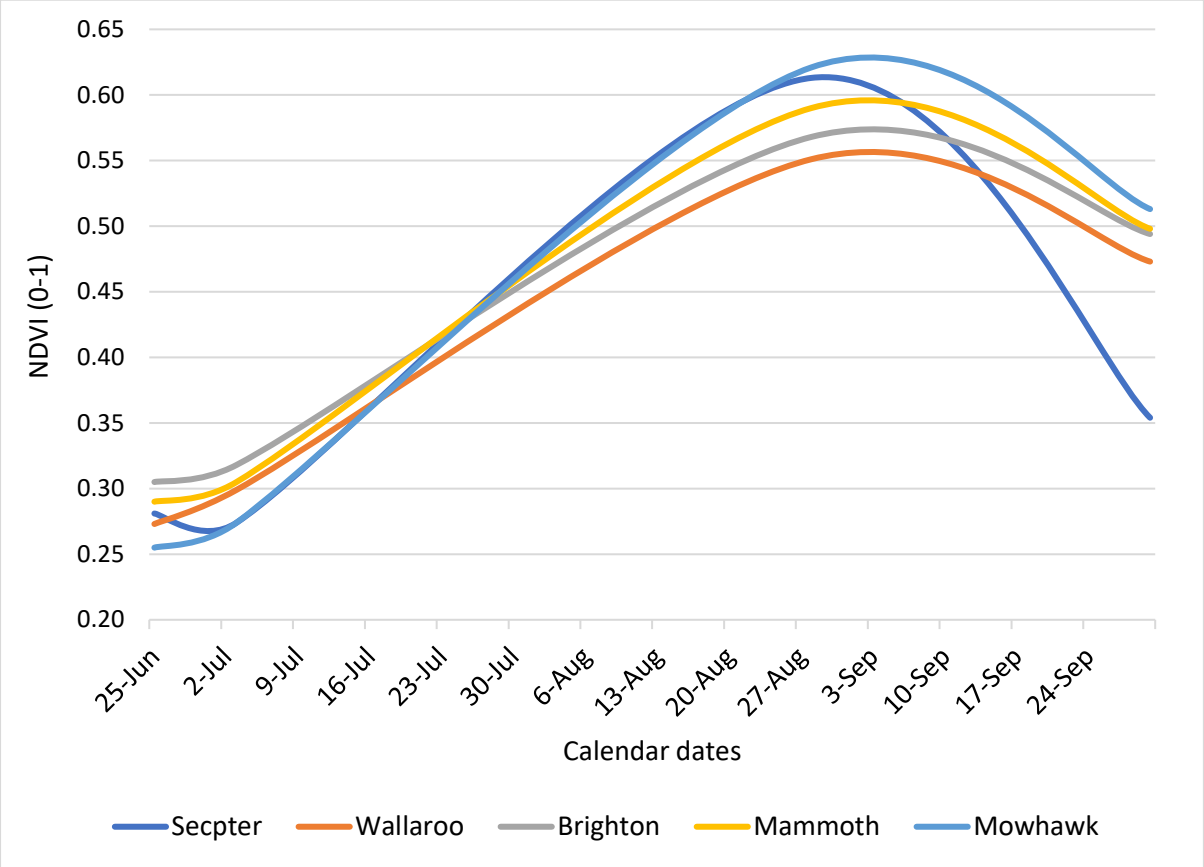

Figure 2. Influence of variety on NDVI (0-1) assessed on 25 June, 3 July, 28 August and 30 September.

Table 3: Number of days from sowing (25 April) to GS30 (stem elongation)

	Cultivar	Days to GS30 (Stem Elongation)
1.	Scepter *(s)*	74
2.	Mammoth *(s)*	85
3.	Wallaroo *(w)*	88
4.	Brighton *(w)*	98
5.	Mowhawk *(w)*	103

Note: w = Winter Wheat, s = Spring Wheat

Trial inputs

Table 4. Trial input and management details.

Sowing date:		**25 April 2024**	
Harvest date:		**12 December 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	25 Apr	125 kg MAP (28.5kg P/ha & 13.75kg N/ha)	
Pre-em herbicide:	24 Apr	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	31 Jul	Verno Copper 10 g/ha	
		LVE MCPA 570 0.50 L/ha	
		Clopyralid 750 SG 40 g/ha	
Insecticide:	31 Jul	Trojan 12 mL/ha	
Nitrogen:	18Jun	140 kg urea/ha (64.4 kg N/ha)	
	20 Jul	160 kg urea/ha (73.6 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha

WA Gibson Wheat TOS 2 (FAR WAE II W24-21-02)

Sown: 10 May 2024
Harvested: 12 December 2024
Previous Crop: 2023 Canola

FAR Code: FAR WAE II W24-21-02
GSR (Apr-Oct): 278.6mm
Soil Type: Loamy sand (deep ripped 2022)

Key Points

- *Variety was the main driver of yield differences in this trial with LRPB Vortex significantly higher yielding than all other varieties in the trial.*
- *Equally, variety was the only factor to influence protein and test weight results, however the addition of fungicide did improve screenings on average.*
- *Of the varieties with milling quality, only the APW varieties Mammoth (tested as IGW6755) and LRPB Vortex produced protein levels high enough to reach their maximum grade (>10.5%).*
- *Test weights scores were low in all varieties for achieving their respective maximum grade with the highest result in LRPB Vortex of 67.5 kg/hL still below the threshold of 74 kg/hL for APW (or AH) classifications.*
- *Screening results across the trial were generally good with most varieties achieving under 5% with the exception of Wallaroo and Genie.*
- *The drier and warmer conditions experienced in the 2024 season produced a more hostile season for slower developing varieties. This can be seen in the yield results for the two winter varieties Wallaroo and Brighton (previously tested as V14051-172) as well as the very slow developing spring wheat Mammoth (previously tested as IGW6755).*
- *Given the drier than average conditions during the growing season, disease infection had no statistical impact on this trial. Despite yellow leaf spot, Stagonospora nodorum blotch and powdery mildew being identified in the trial, levels of these diseases were all below 1% plot infection and no comparisons between varietal resistance can be concluded.*

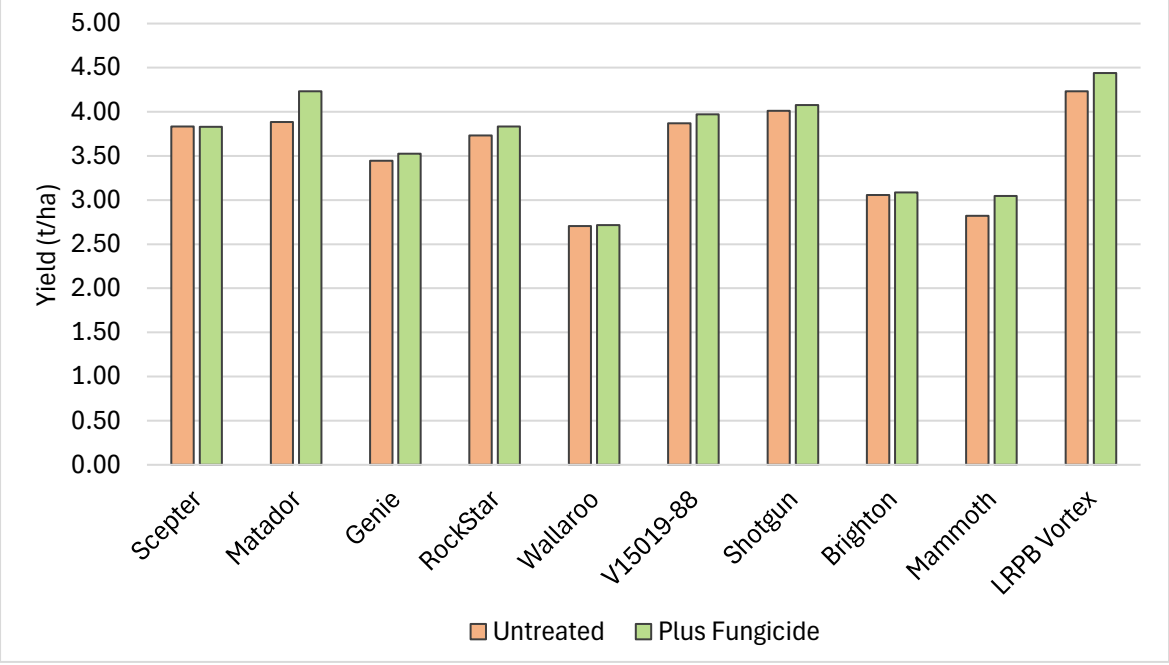

Figure 1. Influence of variety and fungicide application on grain yield (t/ha).

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

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

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter *(s)*	3.83	-	3.83	-	**3.83**	**c**
2.	LRPB Matador *(s)*	3.88	-	4.23	-	**4.06**	**b**
3.	Genie *(s)*	3.45	-	3.53	-	**3.49**	**d**
4.	RockStar *(s)*	3.73	-	3.83	-	**3.78**	**c**
5.	Wallaroo *(w)*	2.71	-	2.72	-	**2.71**	**f**
6.	V15019-88 *(s)*	3.87	-	3.97	-	**3.92**	**bc**
7.	Shotgun (RAC3227) *(s)*	4.01	-	4.08	-	**4.04**	**b**
8.	Brighton (V14051-172) *(w)*	3.06	-	3.09	-	**3.07**	**e**
9.	Mammoth (IGW6755) *(s)*	2.82	-	3.05	-	**2.93**	**e**
10.	LRPB Vortex *(s)*	4.23	-	4.44	-	**4.34**	**a**
	Mean	**3.56**	**-**	**3.68**	**-**	**3.62**	
	LSD Cultivar p = 0.05	0.16		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.080	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.470	

Note: w = Winter Wheat, s = Spring Wheat

Table 2. Influence of variety and fungicide application on grain protein (%).

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	11.3	-	11.2	-	**11.2**	**de**
2.	LRPB Matador	11.6	-	11.3	-	**11.4**	**cd**
3.	Genie	11.7	-	11.4	-	**11.6**	**c**
4.	RockStar	11.1	-	11.2	-	**11.1**	**e**
5.	Wallaroo	12.6	-	12.6	-	**12.6**	**a**
6.	V15019-88	11.4	-	11.0	-	**11.2**	**de**
7.	Shotgun	11.1	-	11.1	-	**11.1**	**e**
8.	Brighton	12.4	-	12.0	-	**12.2**	**b**
9.	Mammoth	12.7	-	12.4	-	**12.5**	**a**
10.	LRPB Vortex	10.5	-	10.5	-	**10.5**	**f**
	Mean	**11.6**	**-**	**11.5**	**-**		
	LSD Cultivar p = 0.05	0.3		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.325	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.461	

Note: w = Winter Wheat, s = Spring Wheat

Table 3. Influence of variety and fungicide application on test weights (kg/hL).

Test Weight (kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	64.6	-	63.9	-	**64.3**	**bcd**
2.	LRPB Matador	63.3	-	68.1	-	**65.7**	**abc**
3.	Genie	61.5	-	64.6	-	**63.0**	**cd**
4.	RockStar	62.5	-	62.8	-	**62.7**	**d**
5.	Wallaroo	62.8	-	63.7	-	**63.3**	**cd**
6.	V15019-88	67.0	-	66.8	-	**66.9**	**ab**
7.	Shotgun	63.9	-	65.8	-	**64.9**	**a-d**
8.	Brighton	66.2	-	66.0	-	**66.1**	**ab**
9.	Mammoth	64.2	-	65.5	-	**64.8**	**a-d**
10.	LRPB Vortex	68.1	-	66.9	-	**67.5**	**a**
	Mean	**64.4**	**-**	**65.4**	**-**		
	LSD Cultivar p = 0.05	2.8		**P value**		0.008	
	LSD Management p = 0.05	ns		**P value**		0.296	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.534	

Note: w = Winter Wheat, s = Spring Wheat

Table 4. Influence of variety and fungicide application on screenings (% < 2.2mm).

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter	2.9	-	2.6	-	**2.8**	**d**
2.	LRPB Matador	5.4	-	4.2	-	**4.8**	**bc**
3.	Genie	11.5	-	10.5	-	**11.0**	**a**
4.	RockStar	3.3	-	2.9	-	**3.1**	**d**
5.	Wallaroo	5.8	-	5.3	-	**5.6**	**b**
6.	V15019-88	2.6	-	2.2	-	**2.4**	**d**
7.	Shotgun	3.0	-	3.4	-	**3.2**	**d**
8.	Brighton	3.6	-	2.6	-	**3.1**	**d**
9.	Mammoth	4.0	-	3.1	-	**3.6**	**cd**
10.	LRPB Vortex	2.7	-	2.6	-	**2.7**	**d**
	Mean	**4.5**	**a**	**3.9**	**b**		
	LSD Cultivar p = 0.05	1.3		**P value**		<0.001	
	LSD Management p = 0.05	0.5		**P value**		0.042	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.979	

Crop reflectance data (canopy greenness) – NDVI

Table 5. Influence of wheat variety (average of plus and minus fungicide managements) on the canopy reflectance/greenness (0-1)- assessed on 31 July and 30 September 2024.

NDVI (0-1)		31 July		30 September	
1.	Scepter	0.50	d	0.40	cde
2.	LRPB Matador	0.55	ab	0.42	cd
3.	Genie	0.52	bcd	0.44	c
4.	RockStar	0.53	bcd	0.42	cd
5.	Wallaroo	0.51	cd	0.48	b
6.	V15019-88	0.54	abc	0.41	cde
7.	Shotgun	0.54	abc	0.39	de
8.	Brighton	0.57	a	0.50	b
9.	Mammoth	0.54	a-d	0.55	a
10.	LRPB Vortex	0.54	a-d	0.37	e
	Mean	0.53		0.44	
	LSD p = 0.05	0.04		0.05	
	P Value	0.036		<0.001	

Disease assessment data

Table 6. Influence of fungicide and variety on plot disease infection levels (%) of yellow leaf spot– assessed September 13.

Yellow Leaf Spot Infection %							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	0.0	-	0.0	-	0.0	b
2.	LRPB Matador	0.3	-	0.1	-	0.2	ab
3.	Genie	0.0	-	0.0	-	0.0	b
4.	RockStar	0.4	-	0.0	-	0.2	ab
5.	Wallaroo	0.0	-	0.0	-	0.0	b
6.	V15019-88	0.0	-	0.0	-	0.0	b
7.	Shotgun	0.0	-	0.0	-	0.0	b
8.	Brighton	0.3	-	0.0	-	0.1	b
9.	Mammoth	0.5	-	0.3	-	0.4	a
10.	LRPB Vortex	0.1	-	0.0	-	0.0	b
	Mean	**0.2**	**-**	**0.0**	**-**	**0.1**	
	LSD Cultivar p = 0.05	0.2		**P value**		0.036	
	LSD Management p = 0.05	ns		**P value**		0.077	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.740	

Table 7. Influence of fungicide and variety on plot disease infection levels (%) of Stagonospora Nodorum Blotch– assessed September 13.

Stagonospora Nodorum Blotch Infection %							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	0.0	-	0.0	-	0.0	-
2.	LRPB Matador	0.0	-	0.1	-	0.1	-
3.	Genie	0.0	-	0.0	-	0.0	-
4.	RockStar	0.0	-	0.0	-	0.0	-
5.	Wallaroo	0.0	-	0.0	-	0.0	-
6.	V15019-88	0.0	-	0.0	-	0.0	-
7.	Shotgun	0.0	-	0.0	-	0.0	-
8.	Brighton	0.0	-	0.0	-	0.0	-
9.	Mammoth	0.0	-	0.0	-	0.0	-
10.	LRPB Vortex	0.0	-	0.0	-	0.0	-
	Mean	**0.0**	**-**	**0.0**	**-**	**0.1**	
	LSD Cultivar p = 0.05	ns		**P value**		0.496	
	LSD Management p = 0.05	ns		**P value**		0.297	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.496	

Table 8. Influence of fungicide and variety on plot disease infection levels (%) of Powdery Mildew– assessed September 13.

Powdery Mildew Infection %							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	0.1	-	0.0	-	0.0	-
2.	LRPB Matador	0.0	-	0.0	-	0.0	-
3.	Genie	0.6	-	0.0	-	0.3	-
4.	RockStar	0.6	-	0.0	-	0.3	-
5.	Wallaroo	0.0	-	0.0	-	0.0	-
6.	V15019-88	0.0	-	0.0	-	0.0	-
7.	Shotgun	0.0	-	0.0	-	0.0	-
8.	Brighton	0.0	-	0.0	-	0.0	-
9.	Mammoth	0.0	-	0.0	-	0.0	-
10.	LRPB Vortex	0.0	-	0.0	-	0.0	-
	Mean	**0.1**	**-**	**0.0**	**-**		
	LSD Cultivar p = 0.05	ns		**P value**		0.348	
	LSD Management p = 0.05	ns		**P value**		0.130	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.348	

Trial inputs

Table 9. Trial input and management details.

Sowing date:		**10 May 2024**	
Harvest date:		**12 December 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	10 May	125 kg MAP (28.5kg P/ha & 13.75kg N/ha)	
Pre-em herbicide:	9 May	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	31 Jul	Verno Copper 10 g/ha	
		LVE MCPA 570 0.50 L/ha	
		Clopyralid 750 SG 40 g/ha	
Insecticide:	31 Jul	Trojan 12 mL/ha	
Nitrogen:	18 Jun	140 kg urea/ha (64.4 kg N/ha)	
	20 Jul	160 kg urea/ha (73.6 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha

WA Gibson Barley TOS 1 (FAR WAE II B24-22-01)

Sown: 24 April 2024
Harvested: 04 November 2024
Previous Crop: 2023 Canola

FAR Code: FAR WAE II B24-22-01
GSR (Apr-Oct): 278.6mm
Soil Type: Loamy sand (deep ripped 2022)

Key Points

- *An extremely dry start to the season and low disease levels resulted in little or no response to fungicide application (p value = 0.322).*
- *Against these climatic conditions there were significant differences in variety performance with the two malting varieties Minotaur and Neo CL being significantly higher yielding than the other varieties tested except for the feed barley Rosalind.*
- *The slightly later developing longer season barley's IGB21130 and RGT Planet (as seen in the phenology scores and NDVI crop reflectance data were the lowest yielding in the trial.*
- *Minotaur recorded significantly better test weights than Neo CL, but there was no significant difference in protein, screenings and retentions.*
- *With low disease levels net form of net blotch RGT Planet was the most heavily infected (less than 10% plot infection during grain fill) but there was no significant response to fungicide indicating that factors other than disease were holding back yield performance.*
- *The barley GEN trial sown on the same research site on 10 May gave similar or slightly higher yields to this trial with crops waiting only 19 days for good opening rains as opposed to 35 days with this April crop. In the May sown trial Neo CL yielded 5.68 and Minotaur 5.60t/ha.*
- *Later maturity of IGB21130 correlated to significantly lower test weights than the other varieties tested.*

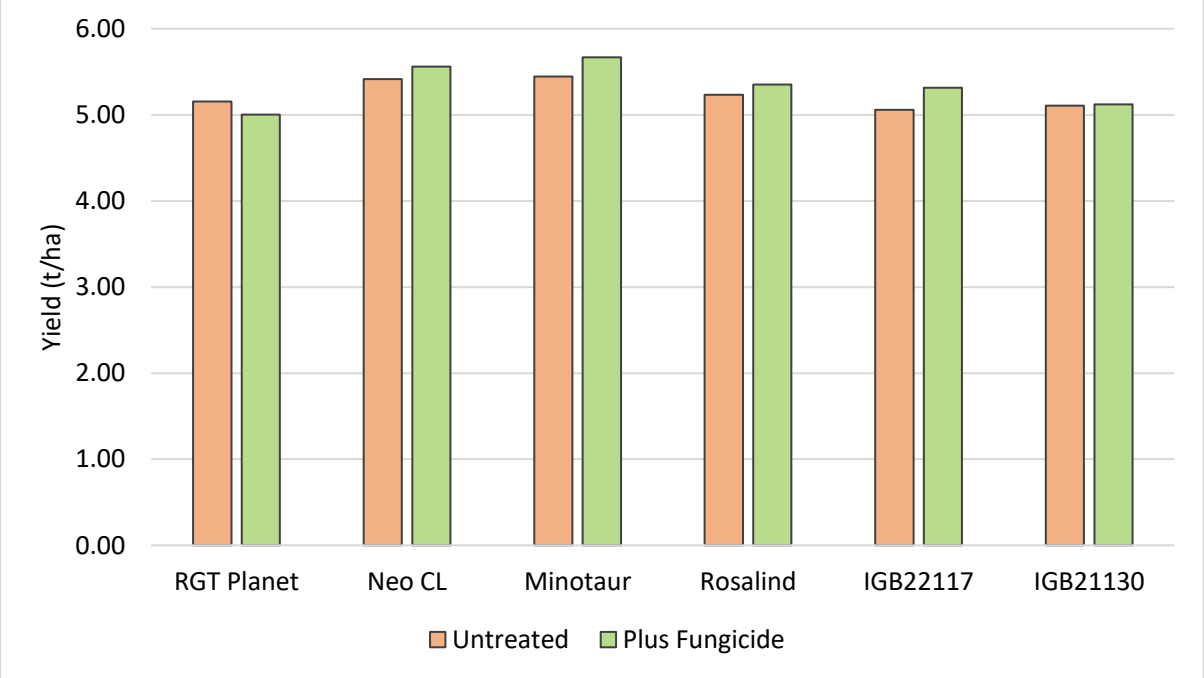

Figure 1. Influence of fungicide application and variety on yield (t/ha). All fungicide differences are not significant – April 24 sown.

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

Table 1. Influence of fungicide on the grain yield (t/ha) of barley varieties plus and minus fungicide – April 24 sown.

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	5.16	-	5.00	-	5.08	c
2.	Neo CL *(s)*	5.42	-	5.56	-	5.49	ab
3.	Minotaur *(s)*	5.45	-	5.67	-	5.56	a
4.	Rosalind *(s)*	5.23	-	5.35	-	5.29	bc
5.	IGB22117 *(s)*	5.06	-	5.32	-	5.19	c
6.	IGB21130 *(s)*	5.11	-	5.12	-	5.11	c
	Mean	**5.24**	**-**	**5.34**	**-**	**5.29**	
	LSD Cultivar p = 0.05	0.26		**P value**		0.003	
	LSD Management p = 0.05	ns		**P value**		0.322	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.637	

Table 2. Influence of fungicide application on the protein (%) of barley varieties plus and minus fungicide – November 4 harvest.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	11.3	-	11.1	-	**11.2**	**b**
2.	Neo CL	11.1	-	10.6	-	**10.8**	**b**
3.	Minotaur	11.1	-	11.3	-	**11.2**	**b**
4.	Rosalind	11.9	-	11.3	-	**11.6**	**a**
5.	IGB22117	12.1	-	11.5	-	**11.8**	**a**
6.	IGB21130	11.2	-	11.1	-	**11.1**	**b**
	Mean	**11.5**	**-**	**11.2**	**-**	**11.3**	
	LSD Variety p = 0.05	0.4		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.368	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.353	

Table 3. Influence of fungicide application on the test weights (kg/hL) of barley varieties plus and minus fungicide – November 4 harvest.

Test Weight (Kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	63.1	-	63.2	-	**63.2**	**ab**
2.	Neo CL	61.0	-	61.9	-	**61.5**	**bc**
3.	Minotaur	64.8	-	64.6	-	**64.7**	**a**
4.	Rosalind	61.0	-	59.0	-	**60.0**	**c**
5.	IGB22117	63.3	-	64.3	-	**63.8**	**a**
6.	IGB21130	59.9	-	60.0	-	**60.0**	**c**
	Mean	**62.2**	**-**	**62.2**	**-**	**62.2**	
	LSD Variety p = 0.05	1.8		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.981	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.603	

Table 4. Influence of fungicide on the retention (% > 2.5mm) of barley varieties plus and minus fungicide – November 4 harvest.

Retention (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	77.3	-	83.0	-	**80.2**	**b**
2.	Neo CL	82.8	-	89.1	-	**85.9**	**a**
3.	Minotaur	84.1	-	86.8	-	**85.5**	**a**
4.	Rosalind	83.1	-	86.8	-	**84.9**	**a**
5.	IGB22117	80.2	-	85.2	-	**82.7**	**ab**
6.	IGB21130	68.2	-	71.7	-	**70.0**	**c**
	Mean	**79.3**	**-**	**83.8**	**-**	**81.5**	
	LSD Variety p = 0.05	3.3		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.173	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.872	

Table 5. Influence of fungicide on the screenings (% < 2.2mm) of barley varieties plus and minus fungicide – November 4 harvest.

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	6.67	-	2.78	-	**4.72**	**-**
2.	Neo CL	5.56	-	2.78	-	**4.17**	**-**
3.	Minotaur	1.67	-	2.22	-	**1.94**	**-**
4.	Rosalind	2.78	-	5.00	-	**3.89**	**-**
5.	IGB22117	3.33	-	4.44	-	**3.89**	**-**
6.	IGB21130	2.78	-	1.67	-	**2.22**	**-**
	Mean	**3.8**	**-**	**3.1**	**-**	**3.47**	
	LSD Variety p = 0.05	ns		**P value**		0.703	
	LSD Management p = 0.05	ns		**P value**		0.534	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.654	

Crop reflectance data (canopy greenness) – NDVI

Table 6. Influence of barley variety on the canopy reflectance/greenness (0-1)- assessed on 25 June, 3 July, 28 August and 30 September 2024.

NDVI (0-1)		25 Jun		03 Jul		28 Aug		30 Sep	
1.	RGT Planet	0.38	a	0.39	b	0.70	bc	0.34	b
2.	Neo CL	0.38	a	0.42	ab	0.70	ab	0.31	cd
3.	Minotaur	0.37	a	0.42	ab	0.68	c	0.33	bc
4.	Rosalind	0.31	b	0.32	c	0.59	d	0.28	d
5.	IGB22117	0.30	b	0.34	c	0.60	d	0.35	ab
6.	IGB21130	0.39	a	0.45	a	0.72	a	0.37	a
	Mean	0.35		0.39		0.66		0.33	
	LSD p = 0.05	0.04		0.05		0.02		0.03	
	P Value	<0.001		<0.001		<0.001		<0.001	

Disease assessment

Table 7. Influence of barley variety on the Net Form of Net Blotch (NFNB)- assessed on 16 August 2024.

Net Form of Net Blotch plot infection %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	0.03	-	0.05	-	**0.04**	**a**
2.	Neo CL	0.00	-	0.00	-	**0.00**	**b**
3.	Minotaur	0.00	-	0.00	-	**0.00**	**b**
4.	Rosalind	0.00	-	0.00	-	**0.00**	**b**
5.	IGB22117	0.00	-	0.00	-	**0.00**	**b**
6.	IGB21130	0.03	-	0.00	-	**0.01**	**ab**
	Mean	**0.01**	**-**	**0.01**	**-**	**0.01**	
	LSD Variety p = 0.05	0.03		**P value**		0.026	
	LSD Management p = 0.05	ns		**P value**		1.000	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.546	

Table 8. Influence of barley variety on the Net Form of Net Blotch (NFNB)- assessed on 09 September 2024.

Net Form of Net Blotch plot infection %							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	9.5	-	8.5	-	**9.0**	**a**
2.	Neo CL	2.0	-	2.3	-	**2.1**	**b**
3.	Minotaur	6.8	-	2.8	-	**4.8**	**b**
4.	Rosalind	3.0	-	2.0	-	**2.5**	**b**
5.	IGB22117	5.0	-	2.5	-	**3.8**	**b**
6.	IGB21130	2.3	-	2.8	-	**2.5**	**b**
	Mean	**4.8**	**-**	**3.5**	**-**	**4.1**	
	LSD Variety p = 0.05	2.9		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.221	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.615	

Development (Phenology)

Table 9. Influence of variety on phenology (speed of development – Zadoks Growth Stage).

Zadoks Stage (GS) (0-100)		**11 Jun**	**19 Jul**	**06 Aug**	**17 Aug**	**28 Aug**	**15 Oct**
1.	RGT Planet	23	32	37	49	71	87
2.	Neo CL	22	32	41	45	73	90
3.	Minotaur	23	31	43	49	73	89
4.	Rosalind	30	33	41	47	71	91
5.	IGB22117	23	32	41	45	73	91
6.	IGB21130	22	31	37	41	65	90

Trial Inputs

Table 10: Trial input and management details.

Sowing date:		**24 April 2024**	
Harvest date:		**04 November 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	25 Apr	125 kg MAP (28.5kg P/ha & 13.75kg N/ha)	
Pre-em herbicide:	24 Apr	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	31 Jul	Verno Copper 10 g/ha	
		LVE MCPA 570 0.50 L/ha	
		Clopyralid 750 SG 40 g/ha	
Insecticide:	31 Jul	Trojan 12 mL/ha	
Nitrogen:	18Jun	140 kg urea/ha (64.4 kg N/ha)	
	20 Jul	160 kg urea/ha (73.6 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator 0.50 L/ha

WA Gibson Barley TOS 2 (FAR WAE II B24-23-02)

Sown: 10 May 2024
Harvested: 07 November 2024
Previous Crop: 2023-Canola

FAR Code: FAR WAE II B24-23-02
GSR (Apr-Oct): 278.6mm
Soil Type: Loamy Sand (deep ripped 2022)

Key Points

- *A drier season at the start and finish resulted in 279mm growing season rainfall (GSR) and grain yields that ranged from 4.64 – 6.07t/ha depending on variety and fungicide input.*
- *Net form net blotch infection (NFNB) and phenology appeared to be key drivers of yield with Cyclops, Neo CL, Minotaur and Bigfoot CL (AGTB0669) having the highest yields and lowest (<2.5% plot infection) NFNB infections.*
- *Although there was no significant yield response to fungicide application (p=0.12) there was a general trend to indicate a yield increase from a two-spray fungicide programme in those varieties showing the highest levels of NFNB in untreated crops.*
- *The highest levels of NFNB infection in untreated crops were recorded in RGT Planet, KWS Thalis, RGT Orbiter and RGT Asteroid, and although fungicide lifted yields, fungicide protection was ineffective in these varieties during grain fill, suggesting fungicide resistance in the NFNB pathogen is influencing results.*
- *As a general trend the quicker developing varieties tended to perform slightly stronger than the later developing varieties, which was most evident in comparisons of Neo CL and Rosalind (quicker developing) with IGB21130 (slower developing).*
- *The warmer drier grain fill period had the effect of increasing screenings and reducing retentions, particularly in the later developing varieties.*
- *No varieties achieved malt (as per CBH 2024/25 receival requirements) due to low test weights.*

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 effects, whilst generally positive, were smaller and not statistically significant (Tables 1-5 & Figure 1).

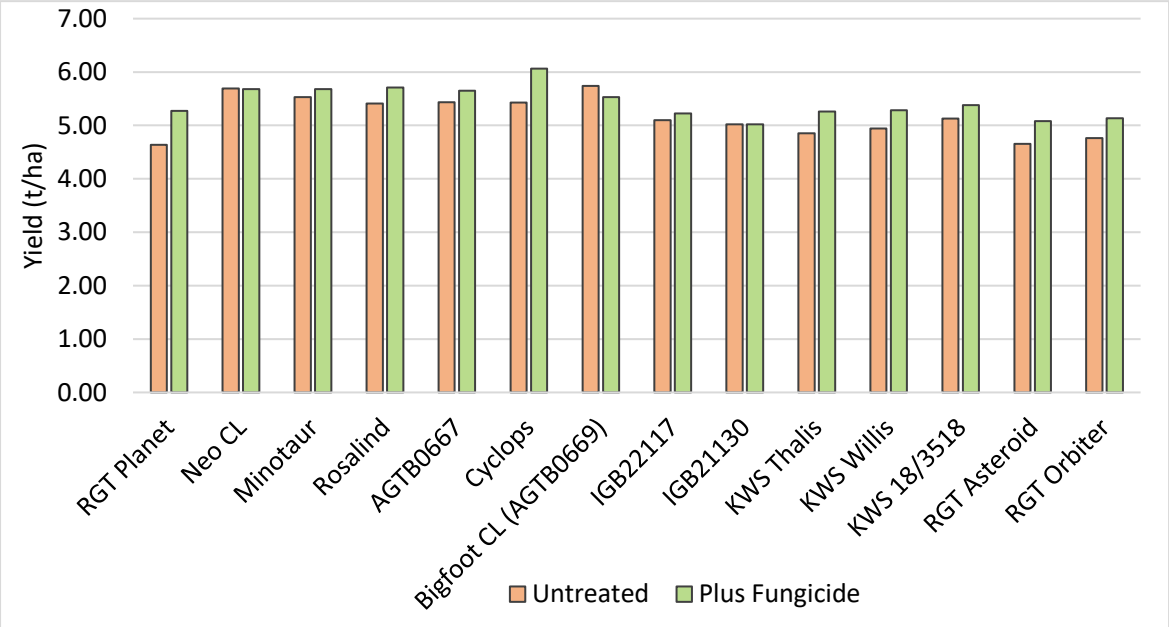

Figure 1. Influence of fungicide and variety on yield (t/ha). All fungicide differences are not significant – May 10 sown (staggered late May germination).

Table 1. Influence of fungicide on the grain yield (t/ha) of barley varieties plus and minus fungicide – May 10 sown.

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	4.64	-	5.27	-	**4.96**	**cd**
2.	Neo CL *(s)*	5.69	-	5.68	-	**5.68**	**a**
3.	Minotaur *(s)*	5.53	-	5.68	-	**5.60**	**a**
4.	Rosalind *(s)*	5.41	-	5.71	-	**5.56**	**ab**
5.	AGTB0667 *(s)*	5.43	-	5.65	-	**5.54**	**ab**
6.	Cyclops *(s)*	5.43	-	6.07	-	**5.75**	**a**
7.	Bigfoot CL (AGTB0669) *(s)*	5.74	-	5.53	-	**5.64**	**a**
8.	IGB22117 *(s)*	5.10	-	5.22	-	**5.16**	**cd**
9.	IGB21130 *(s)*	5.02	-	5.02	-	**5.02**	**cd**
10.	KWS Thalis *(s)*	4.85	-	5.26	-	**5.06**	**cd**
11.	KWS Willis *(s)*	4.94	-	5.28	-	**5.11**	**cd**
12.	KWS 18/3518 *(s)*	5.13	-	5.38	-	**5.25**	**bc**
13.	RGT Asteroid *(s)*	4.65	-	5.08	-	**4.87**	**d**
14.	RGT Orbiter *(s)*	4.77	-	5.14	-	**4.95**	**cd**
	Mean	**5.17**	**-**	**5.43**	**-**	**5.30**	
	LSD Variety p = 0.05	0.33		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.121	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.424	

For the same input of nitrogen fertiliser (approximately 152kg N/ha) Neo CL produced significantly lower proteins (10.3%) than all other varieties except AGTB0667, Bigfoot CL, and Cyclops (Table 2). Proteins across all varieties and fungicide input fell within the CBH malt requirement range of 9.5-12.8%. However, test weights were generally poor, and despite some significant differences between varieties no variety or treatment achieved the minimum 64 kg/hL requirement for malt. Retention and screenings varied significantly across varieties, and better results were typically seen in varieties that developed quicker and filled grain in more favourable conditions (Table 3).

Table 2. Influence of fungicide on the protein (%) of barley varieties plus and minus fungicide – November 7 harvest.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	12.1	-	11.7	-	**11.9**	**a**
2.	Neo CL	10.5	-	10.2	-	**10.3**	**d**
3.	Minotaur	11.3	-	10.7	-	**11.0**	**c**
4.	Rosalind	11.5	-	11.4	-	**11.4**	**abc**
5.	AGTB0667	10.8	-	11.0	-	**10.9**	**cd**
6.	Cyclops	11.2	-	10.5	-	**10.9**	**cd**
7.	Bigfoot CL	11.2	-	10.4	-	**10.8**	**cd**
8.	IGB22117	11.3	-	11.1	-	**11.2**	**bc**
9.	IGB21130	11.4	-	11.2	-	**11.3**	**abc**
10.	KWS Thalis	11.4	-	11.1	-	**11.2**	**abc**
11.	KWS Willis	11.1	-	11.3	-	**11.2**	**bc**
12.	KWS 18/3518	11.1	-	11.8	-	**11.4**	**abc**
13.	RGT Asteroid	12.0	-	11.6	-	**11.8**	**ab**
14.	RGT Orbiter	11.6	-	11.4	-	**11.5**	**abc**
	Mean	**11.3**	**-**	**11.1**	**-**	**11.2**	
	LSD Variety p = 0.05	0.7		**P value**		0.002	
	LSD Management p = 0.05	ns		**P value**		0.494	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.813	

Table 3. Influence of fungicide on the test weights (kg/hL) of barley varieties plus and minus fungicide – November 7 harvest.

Test Weight (Kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	60.6	-	58.8	-	**59.7**	**ab**
2.	Neo CL	59.7	-	59.4	-	**59.6**	**ab**
3.	Minotaur	59.1	-	61.9	-	**60.5**	**a**
4.	Rosalind	58.3	-	59.2	-	**58.7**	**abc**
5.	AGTB0667	55.5	-	55.6	-	**55.5**	**e**
6.	Cyclops	55.6	-	56.8	-	**56.2**	**de**
7.	Bigfoot CL	58.8	-	56.9	-	**57.9**	**bcd**
8.	IGB22117	59.6	-	59.9	-	**59.7**	**ab**
9.	IGB21130	58.4	-	57.2	-	**57.8**	**bcd**
10.	KWS Thalis	58.3	-	59.8	-	**59.0**	**ab**
11.	KWS Willis	56.0	-	56.5	-	**56.3**	**de**
12.	KWS 18/3518	57.6	-	58.4	-	**58.0**	**bcd**
13.	RGT Asteroid	57.0	-	57.1	-	**57.0**	**cde**
14.	RGT Orbiter	59.0	-	59.6	-	**59.3**	**ab**
	Mean	**58.1**	**-**	**58.4**	**-**	**58.2**	
	LSD Variety p = 0.05	2.0		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.687	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.647	

Table 4. Influence of fungicide on the retention (% > 2.5mm) of barley varieties plus and minus fungicide – November 7 harvest.

Retention (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	74.4	-	74.1	-	**74.3**	**cd**
2.	Neo CL	84.7	-	89.1	-	**86.9**	**a**
3.	Minotaur	77.5	-	84.4	-	**80.9**	**ab**
4.	Rosalind	85.4	-	82.1	-	**83.8**	**ab**
5.	AGTB0667	83.8	-	85.8	-	**84.8**	**a**
6.	Cyclops	74.8	-	82.6	-	**78.7**	**bc**
7.	Bigfoot CL	85.7	-	87.8	-	**86.7**	**a**
8.	IGB22117	78.3	-	78.8	-	**78.5**	**bc**
9.	IGB21130	60.9	-	59.5	-	**60.2**	**e**
10.	KWS Thalis	78.1	-	78.4	-	**78.2**	**bc**
11.	KWS Willis	80.2	-	82.9	-	**81.6**	**ab**
12.	KWS 18/3518	75.5	-	74.0	-	**74.7**	**cd**
13.	RGT Asteroid	72.2	-	70.7	-	**71.4**	**d**
14.	RGT Orbiter	68.6	-	78.0	-	**73.3**	**cd**
	Mean	**77.1**	**-**	**79.2**	**-**	**78.1**	
	LSD Variety p = 0.05	6.0		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.379	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.652	

Table 5. Influence of fungicide on the screenings (% < 2.2mm) of barley varieties plus and minus fungicide – November 7 harvest.

		Screenings (&)					
	Variety	Untreated		Plus fungicide		Mean	
1.	RGT Planet	4.5	-	4.7	-	**4.6**	**bcd**
2.	Neo CL	2.9	-	2.1	-	**2.5**	**f**
3.	Minotaur	4.1	-	2.5	-	**3.3**	**def**
4.	Rosalind	3.3	-	4.7	-	**4.0**	**c-f**
5.	AGTB0667	3.0	-	3.2	-	**3.1**	**def**
6.	Cyclops	4.8	-	3.9	-	**4.3**	**b-e**
7.	Bigfoot CL	2.9	-	2.8	-	**2.9**	**ef**
8.	IGB22117	4.0	-	4.1	-	**4.1**	**c-f**
9.	IGB21130	9.2	-	10.0	-	**9.6**	**a**
10.	KWS Thalis	3.6	-	3.6	-	**3.6**	**def**
11.	KWS Willis	2.9	-	2.6	-	**2.7**	**ef**
12.	KWS 18/3518	4.6	-	4.9	-	**4.7**	**bcd**
13.	RGT Asteroid	5.9	-	5.7	-	**5.8**	**b**
14.	RGT Orbiter	6.3	-	4.5	-	**5.4**	**bc**
	Mean	**4.4**	**-**	**4.2**	**-**	**4.3**	
	LSD Variety p = 0.05	1.7		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.732	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.907	

Disease assessment data

At the start of grain fill NFNB was the principal disease present in the trial (Figure 2) with evidence that despite two foliar fungicides, treated plots were not controlling the infection. This lack of control has been widely observed in HRZ regions in both 2023 and 2024 indicating that the NFNB pathogen is increasingly resistant to our fungicide arsenal, in this case DMI and SDHI fungicides.

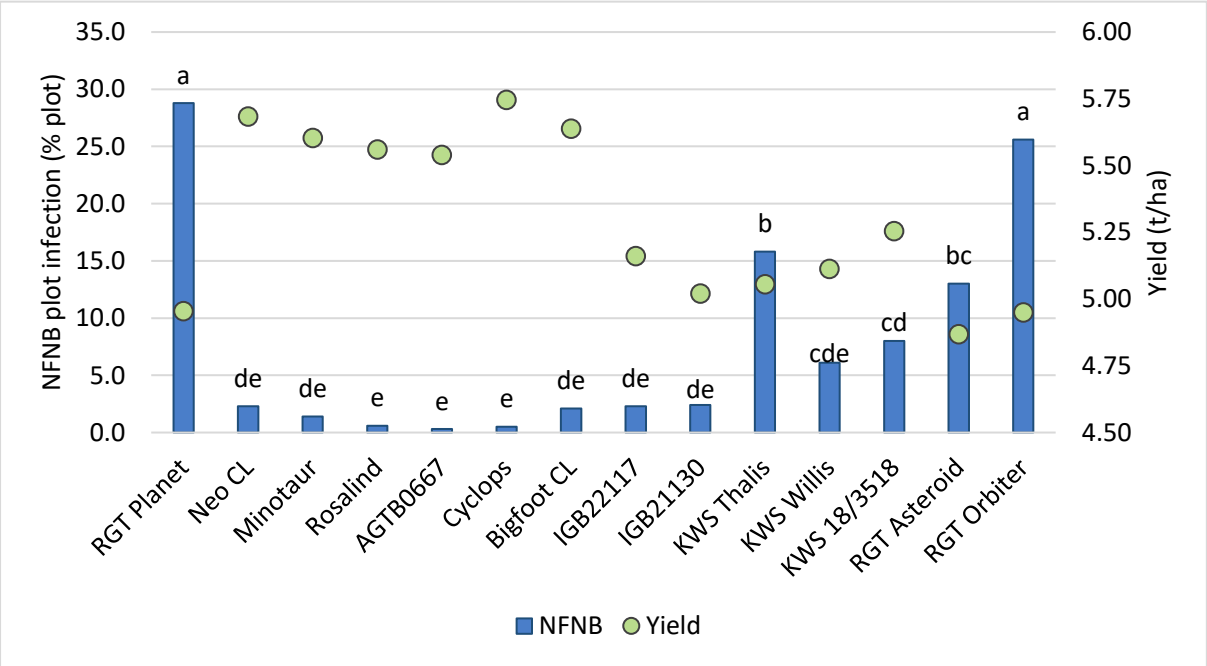

Figure 2. Influence of variety (average of plus and minus fungicide managements) on plot % infection of Net form net blotch (NFNB) (mean of treated & untreated) compared with grain yield – assessed September 9 (NFNB, Cultivar LSD (p<0.05) = 7.1, P value = <0.001).

Development (Phenology)

Whilst there are not large differences in barley phenology compared to wheat, at mid stem elongation there were differences in the speed of development, with the control variety Rosalind being quicker and IGB21130 being the slowest developing (Table 6). At head emergence differences in crop development were much more difficult to differentiate, although the differences between Rosalind and IGB21130 were still apparent. Normalised Difference Vegetation Indices (NDVIs) recorded during grain fill revealed a significant increase in crop canopy greenness due to the application of fungicide (Table 6).

Table 6. Influence of variety on phenology (speed of development – Zadoks Growth Stage) and Normalised Difference Vegetation Index (NDVI, mean of treated and untreated crops).

		Zadoks Stage		NDVI (30 Sep)					
Variety		**17 Aug**	**8 Sep**	**Untreated**		**Plus Fungicide**		**Mean**	
1.	RGT Planet *(s)*	37	57	0.41	-	0.49	-	**0.45**	**abc**
2.	Neo CL *(s)*	41	58	0.39	-	0.44	-	**0.42**	**cd**
3.	Minotaur *(s)*	39	58	0.40	-	0.45	-	**0.43**	**bcd**
4.	Rosalind *(s)*	43	61	0.35	-	0.40	-	**0.37**	**e**
5.	AGTB0667 *(s)*	37	58	0.36	-	0.42	-	**0.39**	**de**
6.	Cyclops *(s)*	41	58	0.44	-	0.50	-	**0.47**	**ab**
7.	Bigfoot CL *(s)*	41	59	0.44	-	0.46	-	**0.45**	**abc**
8.	IGB22117 *(s)*	41	57	0.41	-	0.43	-	**0.42**	**cd**
9.	IGB21130 *(s)*	32	53	0.44	-	0.51	-	**0.48**	**a**
10.	KWS Thalis *(s)*	41	57	0.42	-	0.51	-	**0.47**	**ab**
11.	KWS Willis *(s)*	37	58	0.45	-	0.52	-	**0.49**	**a**
12.	KWS 18/3518 *(s)*	37	56	0.44	-	0.50	-	**0.47**	**ab**
13.	RGT Asteroid *(s)*	37	56	0.36	-	0.45	-	**0.40**	**de**
14.	RGT Orbiter *(s)*	41	57	0.39	-	0.42	-	**0.40**	**de**
				0.41	**b**	**0.46**	**a**	**0.43**	
			LSD Variety p = 0.05	0.04		**P value**		<0.001	
			LSD Management p = 0.05	0.04		**P value**		0.015	
			LSD Variety x Man. p = 0.05	ns		**P value**		0.805	

Trial inputs

Table 7. Trial input and management details.

Sowing date:		**10 May 2024**	
Harvest date:		**7 November 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	10 May	125 kg MAP (28.5kg P/ha & 13.75kg N/ha)	
Pre-em herbicide:	9 May	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	31 Jul	Verno Copper 10 g/ha	
		LVE MCPA 570 0.50 L/ha	
		Clopyralid 750 SG 40 g/ha	
Insecticide:	31 Jul	Trojan 12 mL/ha	
Nitrogen:	18 Jun	140 kg urea/ha (64.4 kg N/ha)	
	20 Jul	160 kg urea/ha (73.6 kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha

Frankland River, WA

WA Frankland River Wheat TOS 2 (FAR WAA II W24-25-02)

Sown: 28 April 2024
Harvested: 29 November 2024
Previous Crop: 2023 Canola
FAR Code: FAR WAA II W24-25-02
GSR (Apr-Nov): 372mm
Soil Type: Forest gravels

Key Points

- *A drier season at the start and finish resulted in 372mm growing season rainfall (GSR) and grain yields that ranged from 4.16 – 5.21t/ha depending on variety and fungicide input.*
- *In general varieties with slower development during stem elongation were lower yielding, although Genie which was slower than RockStar still performed well.*
- *Varieties with heads out but had not yet flowered on the 5 September (RockStar GS55 & V15019-88 (milling spring wheat) GS57) were the highest yielding.*
- *Despite the presence of Stagonospora nodorum blotch (SNB) and yellow leaf spot (YLS) there was no significant grain yield increases from fungicide application, even in varieties with the higher levels of infection.*
- *The highest levels of SNB and YLS infection in untreated crops were recorded in Brighton, Mammoth, Stockade, and LRPB Vortex, and although fungicide significantly reduced infection, grain yields were not improved suggesting that sufficient green leaf was already present to achieve grain fill with the available soil moisture.*
- *The warmer drier grain fill period had the effect of increasing screenings particularly in the later maturing winter variety Mowhawk and the earlier flowering spring LRPB Vortex.*
- *Proteins in the trial averaged 11.1% with a range from 12.7% (LRPB Matador) down to 10.2% for the red grained winter wheat Triple 2. Screenings averaged 4.1% ranging from 2.4% (Mammoth) to 7.6% (LRPB Vortex). Test weights averaged 77.6 kg/hL.*

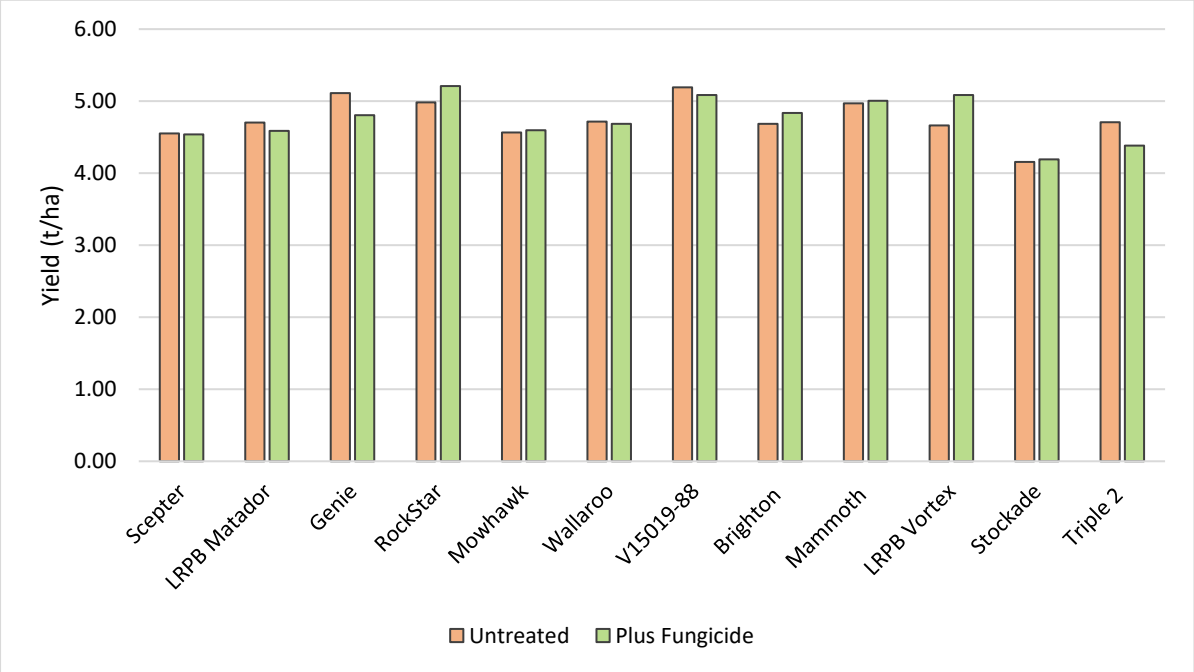

Figure 1. Influence of variety and fungicide on grain yield (t/ha). All fungicide differences are not statistically significant – April 28 sown

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

There were significant differences in yield and quality due to variety (P-Value=<0.001), but fungicide application had no statistically significant effects except on screenings where there was a significant interaction between fungicide management and variety (Tables 1 – 5 & Figure 1).

Table 1. Influence of fungicide application on the grain yield (t/ha) of winter and spring wheat (varieties grown plus and minus fungicide) – April 28 sown (emerged mid-May).

Yield (t/ha)							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter *(s)*	4.55	-	4.54	-	**4.55**	**d**
2.	LRPB Matador *(s)*	4.70	-	4.59	-	**4.65**	**cd**
3.	Genie *(s)*	5.11	-	4.80	-	**4.96**	**abc**
4.	RockStar *(s)*	4.99	-	5.21	-	**5.10**	**ab**
5.	Mowhawk *(s)*	4.57	-	4.60	-	**4.58**	**d**
6.	Wallaroo *(s)*	4.72	-	4.68	-	**4.70**	**cd**
7.	V15019-88 *(s)*	5.19	-	5.09	-	**5.14**	**a**
8.	Brighton (V14051-172) *(s)*	4.68	-	4.84	-	**4.76**	**bcd**
9.	Mammoth (IGW6755) *(s)*	4.97	-	5.01	-	**4.99**	**abc**
10.	LRPB Vortex *(s)*	4.66	-	5.08	-	**4.87**	**a-d**
11.	Stockade *(s)*	4.16	-	4.19	-	**4.17**	**e**
12.	Triple 2 (AGFWH010222) *(s)*	4.71	-	4.39	-	**4.55**	**d**
	Mean	**4.75**	**-**	**4.75**	**-**	**4.75**	
	LSD Cultivar p = 0.05	0.37		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.990	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.788	

Note: w = Winter Wheat, s = Spring Wheat

Table 2. Influence of variety and fungicide on the grain protein (%)– November 29 harvest.

Protein (%)							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	12.4	-	12.1	-	**12.3**	**a**
2.	LRPB Matador	12.9	-	12.4	-	**12.7**	**a**
3.	Genie	10.6	-	10.4	-	**10.5**	**de**
4.	RockStar	11.2	-	11.0	-	**11.1**	**bc**
5.	Mowhawk	10.6	-	10.7	-	**10.7**	**cd**
6.	Wallaroo	10.9	-	10.7	-	**10.8**	**cd**
7.	V15019-88	10.7	-	11.0	-	**10.8**	**cd**
8.	Brighton	10.5	-	10.7	-	**10.6**	**de**
9.	Mammoth	11.6	-	11.0	-	**11.3**	**b**
10.	LRPB Vortex	11.4	-	11.2	-	**11.3**	**b**
11.	Stockade	10.9	-	10.9	-	**10.9**	**bcd**
12.	Triple 2	10.5	-	9.9	-	**10.2**	**e**
	Mean	**11.2**	**-**	**11.0**	**-**	**11.1**	
	LSD Cultivar p = 0.05	0.7		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.224	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.478	

Table 3. Influence of variety and fungicide on the test weights (kg/hL) – November 29 harvest.

Test Weight (Kg/hL)							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	73.0	-	78.4	-	**75.7**	**-**
2.	LRPB Matador	77.2	-	78.7	-	**77.9**	**-**
3.	Genie	78.9	-	80.6	-	**79.8**	**-**
4.	RockStar	77.7	-	78.6	-	**78.1**	**-**
5.	Mowhawk	73.4	-	77.1	-	**75.3**	**-**
6.	Wallaroo	78.3	-	78.8	-	**78.5**	**-**
7.	V15019-88	76.5	-	77.8	-	**77.2**	**-**
8.	Brighton	79.0	-	79.2	-	**79.1**	**-**
9.	Mammoth	75.7	-	77.7	-	**76.7**	**-**
10.	LRPB Vortex	76.7	-	78.6	-	**77.7**	**-**
11.	Stockade	76.2	-	77.2	-	**76.7**	**-**
12.	Triple 2	78.1	-	78.3	-	**78.2**	**-**
	Mean	**76.7**	**-**	**78.4**	**-**	**77.6**	
	LSD Cultivar p = 0.05	ns		**P value**		0.522	
	LSD Management p = 0.05	ns		**P value**		0.177	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.538	

Table 4. Influence of variety and fungicide on screenings (% <2.0mm) – November 29 harvest.

Screenings (%)							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	5.2	bc	3.6	d-i	**4.4**	**bc**
2.	LRPB Matador	3.8	c-h	4.8	bcd	**4.3**	**c**
3.	Genie	4.4	b-e	3.9	c-h	**4.1**	**c**
4.	RockStar	2.9	f-j	2.9	f-j	**2.9**	**de**
5.	Mowhawk	5.1	bc	5.6	b	**5.3**	**b**
6.	Wallaroo	2.6	hij	2.3	ij	**2.5**	**e**
7.	V15019-88	4.3	b-e	4.2	c-g	**4.2**	**c**
8.	Brighton	3.4	e-i	3.7	d-h	**3.6**	**cd**
9.	Mammoth	3.2	e-i	1.6	j	**2.4**	**e**
10.	LRPB Vortex	7.1	a	8.1	a	**7.6**	**a**
11.	Stockade	3.4	e-i	4.2	c-f	**3.8**	**cd**
12.	Triple 2	2.8	g-j	4.3	b-e	**3.6**	**cd**
	Mean	**4.0**	**-**	**4.1**	**-**	**4.1**	
	LSD Cultivar p = 0.05	1.0		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.732	
	LSD Cultivar x Man. p = 0.05	1.3		**P value**		0.038	

Table 5. Influence of variety and fungicide on lodging (0-500 scale).

Lodging Index (0-500)							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	18.8	-	17.5	-	**18.1**	**a**
2.	LRPB Matador	16.3	-	12.5	-	**14.4**	**a**
3.	Genie	7.5	-	0.0	-	**3.8**	**bcd**
4.	RockStar	5.0	-	2.5	-	**3.8**	**bcd**
5.	Mowhawk	0.0	-	0.0	-	**0.0**	**d**
6.	Wallaroo	5.0	-	0.0	-	**2.5**	**cd**
7.	V15019-88	13.8	-	2.5	-	**8.1**	**b**
8.	Brighton	3.8	-	7.5	-	**5.6**	**bc**
9.	Mammoth	7.5	-	0.0	-	**3.8**	**bcd**
10.	LRPB Vortex	16.3	-	13.8	-	**15.0**	**a**
11.	Stockade	0.0	-	0.0	-	**0.0**	**d**
12.	Triple 2	0.0	-	0.0	-	**0.0**	**d**
	Mean	**7.8**	**a**	**4.7**	**b**	**6.3**	
	LSD Cultivar p = 0.05	5.4		**P value**		<0.001	
	LSD Management p = 0.05	3.0		**P value**		0.049	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.309	

There was little to no lodging in the trial, with small but significant differences in crop leaning.

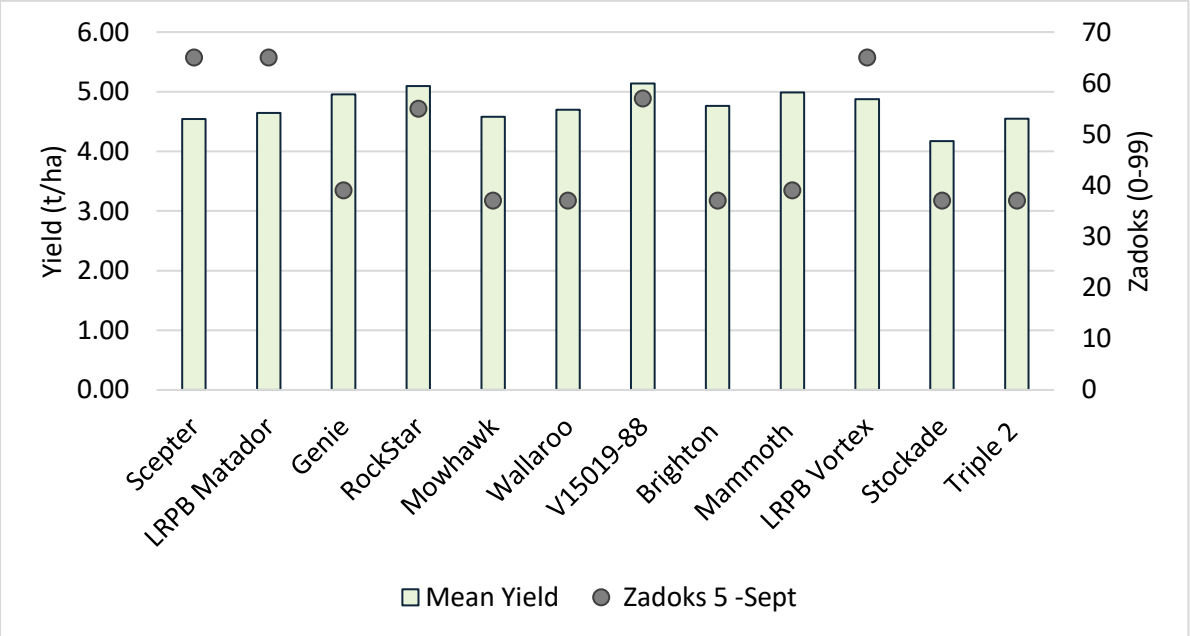

Figure 2. Influence of variety phenology (Zadoks Growth Stage) on grain yield (t/ha, average of plus and minus fungicide managements) – harvested November 29 (Yield, Cultivar LSD ($p<0.05$) = 0.37, P value = <0.001)

Disease assessment data

Table 6. Influence of fungicide and variety on plot disease infection levels (%) of yellow leaf spot– assessed September 15.

Yellow Leaf Spot Infection %							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	3.3	c-f	1.4	def	**2.3**	**cde**
2.	LRPB Matador	4.5	cd	2.0	def	**3.3**	**cd**
3.	Genie	4.0	cde	0.9	def	**2.4**	**cde**
4.	RockStar	3.3	c-f	0.3	ef	**1.8**	**de**
5.	Mowhawk	0.1	f	0.1	f	**0.1**	**e**
6.	Wallaroo	0.4	ef	0.2	ef	**0.3**	**e**
7.	V15019-88	3.0	c-f	1.8	def	**2.4**	**cde**
8.	Brighton	12.5	a	2.3	c-f	**7.4**	**ab**
9.	Mammoth	15.0	a	3.5	c-f	**9.3**	**a**
10.	LRPB Vortex	6.0	bc	3.8	c-f	**4.9**	**bc**
11.	Stockade	8.5	b	0.8	def	**4.6**	**c**
12.	Triple 2	0.0	f	0.0	f	**0.0**	**e**
	Mean	**5.0**		**1.4**		**3.2**	
	LSD Cultivar p = 0.05	2.7		**P value**		<0.001	
	LSD Management p = 0.05	0.9		**P value**		0.001	
	LSD Cultivar x Man. p = 0.05	3.9		**P value**		<0.001	

Table 7. Influence of fungicide and variety on plot disease infection levels (%) of Stagonospora Nodorum Blotch– assessed September 15.

Stagonospora Nodorum Blotch Infection %							
Variety		**Untreated**		**Plus Fungicide**		**Mean**	
1.	Scepter	0.2	c	0.1	c	**0.1**	**c**
2.	LRPB Matador	0.2	c	0.1	c	**0.1**	**c**
3.	Genie	1.0	c	0.1	c	**0.5**	**c**
4.	RockStar	0.3	c	0.2	c	**0.2**	**c**
5.	Mowhawk	0.0	c	0.1	c	**0.0**	**c**
6.	Wallaroo	0.3	c	0.1	c	**0.2**	**c**
7.	V15019-88	0.2	c	0.1	c	**0.1**	**c**
8.	Brighton	7.5	a	1.1	c	**4.3**	**a**
9.	Mammoth	4.0	b	0.7	c	**2.3**	**b**
10.	LRPB Vortex	0.8	c	0.0	c	**0.4**	**c**
11.	Stockade	5.0	b	0.7	c	**2.8**	**b**
12.	Triple 2	0.0	c	0.0	c	**0.0**	**c**
	Mean	**1.6**		**0.3**		**0.9**	
	LSD Cultivar p = 0.05	1.0		**P value**		<0.001	
	LSD Management p = 0.05	1.1		**P value**		0.028	
	LSD Cultivar x Man. p = 0.05	1.5		**P value**		<0.001	

Trial inputs

Table 8. Trial input and management details.

Sowing date:		**28 April 2024**	
Harvest date:		**29 November 2024**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	28 Apr	139 kg/ha MAP/MOP/MnSO4 (66/29/5) blend	
Pre-em herbicide:	28 Apr	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	5 Jul	Zinc sulphate mono 35% 0.5 kg/ha	
		Magnesium sulphate 20 kg/ha	
		LVE MCPA 570 0.40 L/ha	
		Jaguar 0.80 L/ha	
Insecticide:	31 Jul	Trojan 10 mL/ha	
Nitrogen:	24 Jun	220kg/ha Urea (40%)/MOP (60%) blend (40.5 kg N/ha)	
	20 Jul	160 kg urea/ha (73.6 kg N/ha)	
	4 Aug	50 kg/ha urea (23 kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha

WA Frankland River Barley TOS 2 (FAR WAA II B24-27-02)

Sown: 28 April 2024
Harvested: 29 November 2024
Previous Crop: 2023 Canola
FAR Code: FAR WAA II B24-27-02
GSR (Apr-Nov): 372mm
Soil Type: Forest gravels

Key Points

- *A drier season at the start and finish resulted in 372mm growing season rainfall (GSR) and grain yields that ranged from 4.93 – 6.10t/ha.*
- *These yields were approximately 0.9t/ha higher than the wheat GEN trial sown at the same time, although trials were in close proximity they were not statistically comparable.*
- *There was a statistically significant yield response to fungicide application indicating that fungicides in general improved yields of barley varieties in an environment with high net form net blotch (NFNB) pressure.*
- *Small phenology differences seemed less related to yield outcomes since slower varieties such as IGB21130 and Rosalind a faster variety were statistically similar.*
- *The highest yielding varieties Minotaur and IGB21130 yielded almost 6t/ha but were not statistically different to a raft of other varieties that yielded the same, Neo CL, Rosalind, IGB22117 and KWS 18/3518 (tested previously as FAR SB5).*
- *All six of these high yielding varieties had the lowest level of NFNB infection with 5% or less canopy infection.*
- *Varieties had a significant effect on test weights, screenings, retentions and proteins with Neo CL producing the lowest grain protein.*
- *There were no varieties that achieved malt as per CBH 2024/25 receival requirements due to low test weights and generally high proteins.*
- *The lowest screenings and highest retentions were produced by KWS Willis and Minotaur.*

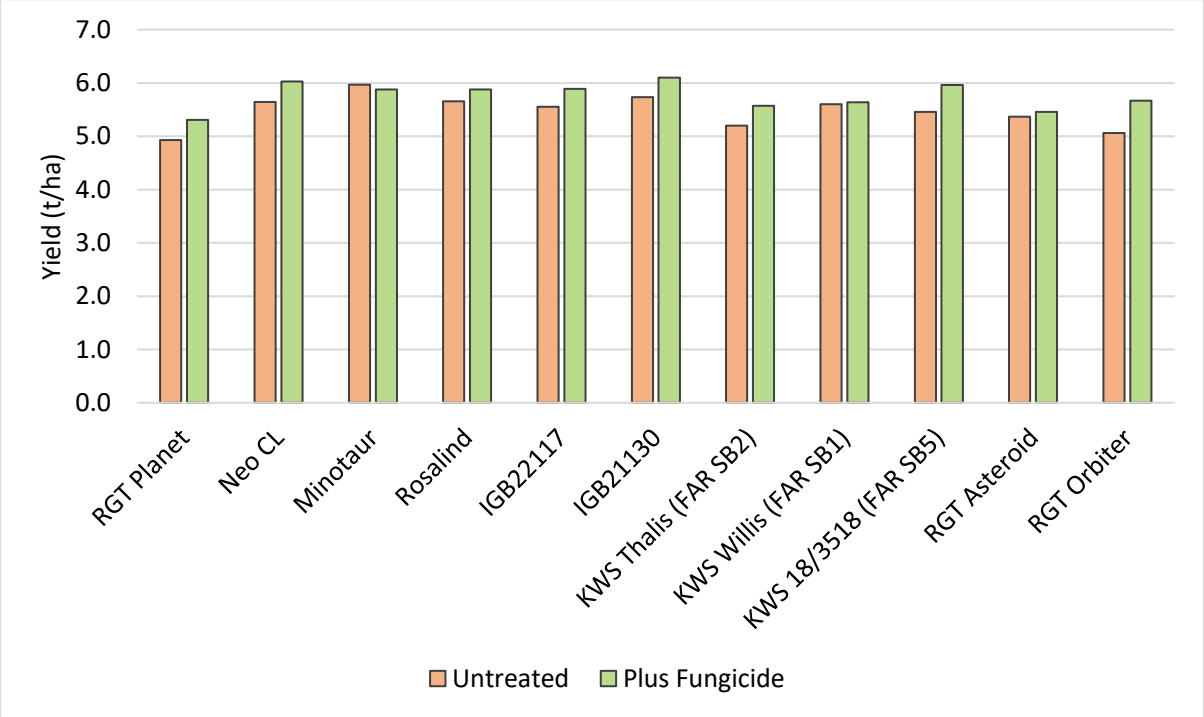

Figure 1. Influence of fungicide and variety on yield (t/ha). (P Value= 0.271, LSD= 0.37)

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 effects, whilst generally positive, were smaller and not statistically significant (p=0.008) (Tables 1 – 3 & Figure 1).

Table 1. Influence of fungicide on the grain yield (t/ha) of barley varieties plus and minus fungicide – April 28 sown.

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	4.93	-	5.31	-	**5.12**	c
2.	Neo CL *(s)*	5.64	-	6.03	-	**5.84**	ab
3.	Minotaur *(s)*	5.97	-	5.88	-	**5.92**	a
4.	Rosalind *(s)*	5.65	-	5.88	-	**5.76**	ab
5.	IGB22117 *(s)*	5.55	-	5.89	-	**5.72**	ab
6.	IGB21130 *(s)*	5.73	-	6.10	-	**5.92**	a
7.	KWS Thalis (FAR SB2) *(s)*	5.20	-	5.57	-	**5.38**	c
8.	KWS Willis (FAR SB1) *(s)*	5.60	-	5.64	-	**5.62**	bc
9.	KWS 18/3518 (FAR SB5) *(s)*	5.46	-	5.96	-	**5.71**	ab
10.	RGT Asteroid *(s)*	5.37	-	5.46	-	**5.41**	c
11.	RGT Orbiter *(s)*	5.06	-	5.67	-	**5.36**	cd
	Mean	**5.47**	**b**	**5.76**	**a**	**5.30**	
	LSD Variety p = 0.05	0.26		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.008	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.271	

Table 2. Influence of variety and fungicide application on the grain protein (%)- 29 November harvest.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	12.8	-	13.0	-	**12.9**	bcd
2.	Neo CL	12.3	-	12.6	-	**12.5**	d
3.	Minotaur	13.4	-	13.4	-	**13.4**	a
4.	Rosalind	13.0	-	13.0	-	**13.0**	abc
5.	IGB22117	13.2	-	13.5	-	**13.3**	ab
6.	IGB21130	13.0	-	12.7	-	**12.8**	cd
7.	KWS Thalis	12.7	-	12.8	-	**12.7**	cd
8.	KWS Willis	12.9	-	12.9	-	**12.9**	bcd
9.	KWS 18/3518	12.9	-	12.7	-	**12.8**	cd
10.	RGT Asteroid	13.0	-	13.2	-	**13.1**	abc
11.	RGT Orbiter	13.1	-	12.6	-	**12.9**	bcd
	Mean	**12.9**	**-**	**12.9**	**-**	**12.9**	
	LSD Variety p = 0.05	0.4		**P Value**		0.006	
	LSD Management p = 0.05	ns		**P Value**		0.895	
	LSD Variety x Man. p = 0.05	ns		**P Value**		0.680	

Table 3. Influence of variety and fungicide application on the test weights (kg/hL)- 29 November harvest.

Test Weight (Kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	59.9	-	61.7	-	**60.8**	cd
2.	Neo CL	59.2	-	61.1	-	**60.1**	cd
3.	Minotaur	60.9	-	64.4	-	**62.7**	ab
4.	Rosalind	61.2	-	61.3	-	**61.3**	a-d
5.	IGB22117	62.0	-	63.5	-	**62.7**	a
6.	IGB21130	58.5	-	61.1	-	**59.8**	d
7.	KWS Thalis	62.2	-	61.6	-	**61.9**	abc
8.	KWS Willis	61.5	-	62.2	-	**61.9**	abc
9.	KWS 18/3518	60.5	-	61.6	-	**61.0**	a-d
10.	RGT Asteroid	63.1	-	62.4	-	**62.7**	a
11.	RGT Orbiter	59.6	-	62.2	-	**60.9**	bcd
	Mean	**60.8**	**b**	**62.1**	**a**	**61.4**	
	LSD Variety p = 0.05	1.8		**P Value**		0.011	
	LSD Management p = 0.05	ns		**P Value**		0.004	
	LSD Variety x Man. p = 0.05	ns		**P Value**		0.361	

Table 4. Influence of variety and fungicide application on the retention (% > 2.5mm)- 29 November harvest.

Retention (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	70.6	i	82.9	fg	**76.7**	f
2.	Neo CL	86.4	def	91.6	abc	**89.0**	bcd
3.	Minotaur	89.6	a-e	94.1	a	**91.8**	ab
4.	Rosalind	86.9	c-f	87.2	c-f	**87.0**	d
5.	IGB22117	88.7	b-e	92.4	ab	**90.6**	abc
6.	IGB21130	67.3	i	75.8	h	**71.5**	g
7.	KWS Thalis	88.6	b-e	88.5	b-e	**88.5**	bcd
8.	KWS Willis	91.0	a-d	94.2	a	**92.6**	a
9.	KWS 18/3518	88.8	b-e	90.8	a-d	**89.8**	a-d
10.	RGT Asteroid	88.0	b-e	86.5	def	**87.3**	cd
11.	RGT Orbiter	81.3	g	85.0	efg	**81.6**	**ab**
	Mean	**84.3**	**b**	**88.1**	**a**	**86.2**	
	LSD Variety p = 0.05	3.5		**P Value**		<0.001	
	LSD Management p = 0.05	ns		**P Value**		0.020	
	LSD Variety x Man. p = 0.05	5.0		**P Value**		0.013	

Table 5. Influence of variety and fungicide application on the screenings (% < 2.2mm)- 29 November harvest.

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	7.5	a	3.3	bcd	**5.4**	a
2.	Neo CL	3.2	bcd	1.7	de	**2.5**	bc
3.	Minotaur	1.9	de	1.3	e	**1.6**	c
4.	Rosalind	2.5	b-e	2.6	b-e	**2.6**	bc
5.	IGB22117	2.5	cde	2.0	de	**2.2**	bc
6.	IGB21130	7.5	a	4.2	b	**5.9**	a
7.	KWS Thalis	2.3	cde	2.6	b-e	**2.4**	bc
8.	KWS Willis	1.7	de	1.2	e	**1.5**	c
9.	KWS 18/3518	2.4	cde	1.8	de	**2.1**	c
10.	RGT Asteroid	2.1	de	2.5	b-e	**2.3**	bc
11.	RGT Orbiter	4.0	bc	2.8	b-e	**3.4**	b
	Mean	**3.4**	**a**	**2.4**	**b**	**2.9**	
	LSD Variety p = 0.05	1.2		**P Value**		<0.001	
	LSD Management p = 0.05	ns		**P Value**		0.003	
	LSD Variety x Man. p = 0.05	1.7		**P Value**		0.006	

Disease assessment data

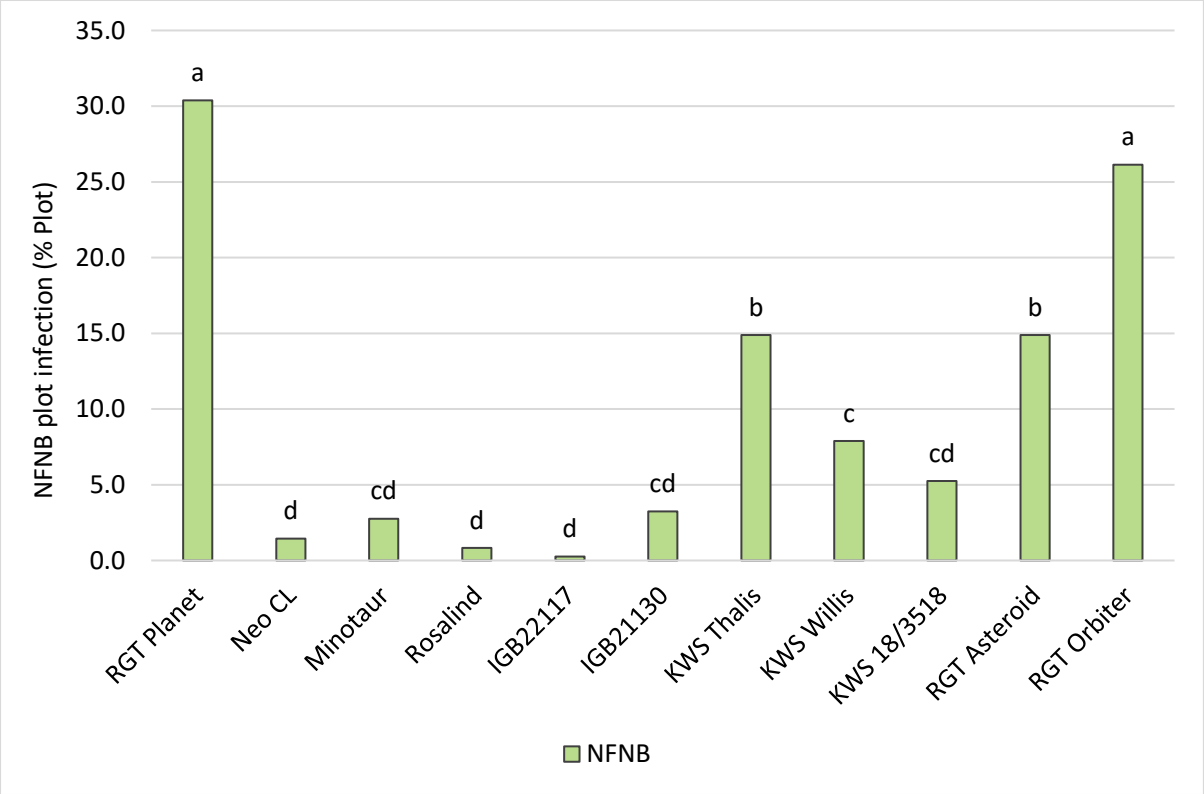

Figure 2. Influence of variety (average of plus and minus fungicide managements) on % plot infection of Net form net blotch (NFNB)– assessed September 15 (NFNB, Cultivar LSD ($p<0.05$) = 6.09, p value = 0.001).

Development (Phenology)

Table 6. Influence of variety on phenology (Zadoks Growth Stage, 00-99) and Normalised Difference Vegetation Index (NDVI, 0-1).

		Zadoks Stage		NDVI (2 Aug)					
	Variety	20 Aug	5 Sep	Untreated		Plus Fungicide		Mean	
1.	RGT Planet	49	59	0.72	-	0.73	-	0.72	cde
2.	Neo CL	49	57	0.76	-	0.76	-	0.76	a
3.	Minotaur	39	59	0.74	-	0.74	-	0.74	bc
4.	Rosalind	55	65	0.63	-	0.63	-	0.63	g
5.	IGB22117	49	61	0.65	-	0.65	-	0.65	f
6.	IGB21130	43	58	0.76	-	0.76	-	0.76	a
7.	KWS Thalis	49	57	0.72	-	0.72	-	0.72	de
8.	KWS Willis	45	57	0.74	-	0.73	-	0.73	bcd
9.	KWS 18/3518	49	57	0.70	-	0.71	-	0.71	e
10.	RGT Asteroid	49	61	0.74	-	0.72	-	0.73	bcd
11.	RGT Orbiter	49	61	0.74	-	0.76	-	0.75	ab
				0.72	**-**	**0.72**	**-**	**0.72**	
			LSD Variety p = 0.05	0.02		**P value**		<0.001	
			LSD Management p = 0.05	0.02		**P value**		0.845	
			LSD Variety x Man. p = 0.05	ns		**P value**		0.380	

Trial inputs

Table 7. Trial input and management details.

Sowing date:		**28 April 2024**	
Harvest date:		**29 November 2024**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	28 Apr	139 kg/ha MAP/MOP/MnSO4 (66/29/5) blend	
Pre-em herbicide:	28 Apr	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	5 Jul	Zinc sulphate mono 35% 0.5 kg/ha	
		Magnesium sulphate 20 kg/ha	
		LVE MCPA 570 0.40 L/ha	
		Jaguar 0.80 L/ha	
Insecticide:	31 Jul	Trojan 10 mL/ha	
Nitrogen:	24 Jun	220kg/ha Urea (40%)/MOP (60%) blend (40.5 kg N/ha)	
	20 Jul	160 kg urea/ha (73.6 kg N/ha)	
	4 Aug	50 kg/ha urea (23 kg N/ha)	
Fungicide:		**Untreated**	**Plus Fungicide**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator 0.50 L/ha

Scaddan, WA

WA Scaddan Wheat MRZ (FAR WAE II W24-47)

Sown: 09 May 2024
Harvested: 13 November 2024
Soil Type: Shallow sand over clay duplex soil (Deep ripped 2020)

Previous Crop: 2023 Field peas
FAR Code: FAR WAE II W24-47
GSR (Apr-Nov): 196mm

Key Points

- *A drier season at the start with no real opening rains until the last days of May followed by a dry spring resulting in wheat yields that ranged from 3.27 – 4.87t/ha.*
- *These grain yields were approximately 0.7t/ha lower than the equivalent barely GEN trial that yielded 4.00 – 5.60 t/ha (grown alongside with the same nitrogen input).*
- *With crops not properly emerging until June the shorter season favoured the spring wheat germplasm with the winter wheat being significantly lower yielding.*
- *There were significant yield differences due to both variety (p=<0.001) and fungicide application (p=0.006) with varieties giving similar yield increases to fungicide application (average increase with fungicide being 0.32t/ha).*
- *With levels of yellow leaf spot (Pyrenophora tritici-repentis) and Stagonospora Nodorum Blotch at levels below 1% during grain fill it is unclear where the significant fungicide effect has been generated.*
- *Shotgun (RAC3227) that has AH quality classification in SA/Vic was significantly higher yielding than all other varieties tested, except LRPB Vortex (APW classification in WA) and LRPB Matador which currently has a AH quality classification in SA/VIC.*
- *Scepter and V150919-88 yielded similarly and were the only cultivars to produce test weights of 80kg/hL when fungicide was applied.*
- *In contrast, the grain protein levels suggested that nitrogen uptake might have been either restricted or the overall nitrogen fertiliser input at approximately 80kg N/ha may have been low for this site.*

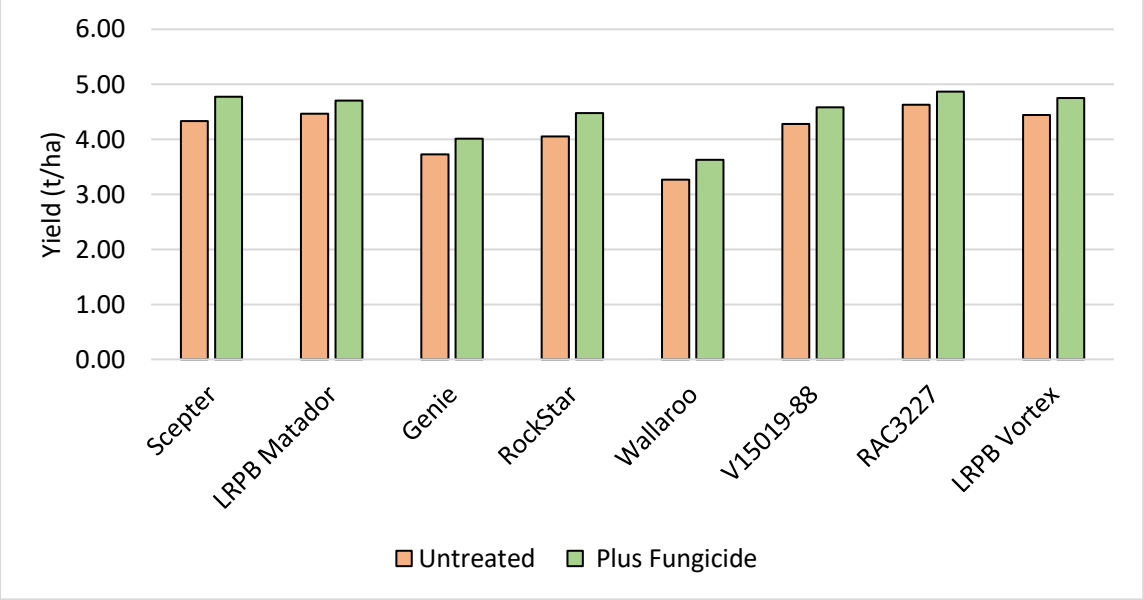

Figure 1. Influence of variety and fungicide application on grain yield (t/ha).

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

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

		Yield (t/ha)					
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	Scepter *(s)*	4.33	-	4.77	-	**4.55**	**b**
2.	LRPB Matador *(s)*	4.47	-	4.70	-	**4.58**	**ab**
3.	Genie *(s)*	3.73	-	4.01	-	**3.87**	**d**
4.	RockStar *(s)*	4.05	-	4.48	-	**4.26**	**c**
5.	Wallaroo *(w)*	3.27	-	3.63	-	**3.45**	**e**
6.	V150919-88 *(s)*	4.28	-	4.58	-	**4.43**	**bc**
7.	Shotgun (RAC3227) *(s)*	4.63	-	4.87	-	**4.75**	**a**
8.	LRPB Vortex *(s)*	4.44	-	4.75	-	**4.60**	**ab**
	Mean	**4.15**	**b**	**4.47**	**a**	**4.31**	
	LSD Cultivar p = 0.05	0.17		**P value**		<0.001	
	LSD Management p = 0.05	0.15		**P value**		0.006	
	LSD Cultivar x Man. p = 0.05	0.24		**P value**		0.877	

Note: w = Winter Wheat, s = Spring Wheat

Development (Phenology)

Table 2. Influence of variety on phenology (Zadoks Growth Stage, 00-99) and days to GS30 (start of stem elongation) from sowing (10 May 2024).

Variety		**Zadoks Growth Stage (GS) (0-99)**					**Days to GS30 from sowing**
		24 Jun	**30 Jul**	**12 Aug**	**29 Aug**	**7 Oct**	
1.	Scepter *(s)*	22	30	32	43	83	81
2.	LRPB Matador *(s)*	22	30	32	43	82	81
3.	Genie *(s)*	21	30	31	41	84	81
4.	RockStar *(s)*	22	30	32	41	83	81
5.	Wallaroo *(w)*	21	26	30	37	73	94
6.	V150919-88 *(s)*	21	30	31	41	81	81
7.	Shotgun (RAC3227) *(s)*	21	30	32	41	81	81
8.	LRPB Vortex *(s)*	21	31	32	43	82	77

Table 3. Influence of fungicide application on the grain quality (% protein, test weight and screenings) of wheat variety plus and minus fungicide.

	Variety	Protein (%)		Test Weight (kg/hL)		Screenings (%)	
1.	Scepter	10.6	cd	79.2	ab	2.8	cd
2.	LRPB Matador	10.8	bc	77.5	c	6.5	b
3.	Genie	11.1	b	77.8	bc	10.1	a
4.	RockStar	10.7	cd	77.4	c	3.5	c
5.	Wallaroo	12.1	a	77.8	bc	3.7	c
6.	V15019-88	10.8	bc	79.5	a	2.1	d
7.	Shotgun	10.1	e	76.7	c	2.9	cd
8.	LRPB Vortex	10.4	de	77.4	c	3.3	c
	LSD p = 0.05	0.4		1.5		1.1	
	Variety P-Value	<0.001		0.006		<0.001	
	Management						
1.	Untreated	10.9	-	77.2	b	4.8	-
2.	Plus Fungicide	10.8	-	78.6	a	3.9	-
	LSD p = 0.05	ns		1.4		1.4	
	Disease Management P-Value	0.736		0.050		0.137	
	Variety x Disease Management						
	No Fungicide						
1.	Scepter	10.7	-	78.0	-	3.3	-
2.	LRPB Matador	10.9	-	76.7	-	6.9	-
3.	Genie	11.1	-	77.5	-	10.6	-
4.	RockStar	10.7	-	75.9	-	4.2	-
5.	Wallaroo	12.1	-	77.4	-	4.4	-
6.	V15019-88	10.9	-	79.0	-	2.3	-
7.	Shotgun	10.2	-	76.4	-	2.9	-
8.	LRPB Vortex	10.3	-	76.8	-	3.5	-
	Plus Fungicide						
1.	Scepter	10.4	-	80.4	-	2.3	-
2.	LRPB Matador	10.8	-	78.2	-	6.0	-
3.	Genie	11.1	-	78.1	-	9.5	-
4.	RockStar	10.7	-	78.9	-	2.9	-
5.	Wallaroo	12.1	-	78.2	-	2.9	-
6.	V15019-88	10.7	-	80.1	-	1.9	-
7.	Shotgun	10.1	-	77.0	-	2.8	-
8.	LRPB Vortex	10.4	-	77.9	-	3.0	-
	LSD p = 0.05	ns		ns		ns	
	Variety x Disease Mang. P-Value	0.966		0.661		0.874	

Crop reflectance data (canopy greenness) – NDVI

Table 4. Influence of wheat variety on the canopy reflectance/greenness (0-1)- assessed on 4 October 2024.

NDVI (0-1)		4 October	
1.	Scepter	0.39	b
2.	LRPB Matador	0.38	b
3.	Genie	0.39	b
4.	RockStar	0.38	b
5.	Wallaroo	0.53	a
6.	V15019-88	0.38	b
7.	Shotgun	0.39	b
8.	LRPB Vortex	0.35	c
	Mean	0.40	
	LSD p = 0.05	0.02	
	P Value	<0.001	

Trial inputs

Table 5. Trial input and management details.

Sowing date:		**09 May 2024**	
Harvest date:		**13 November 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	9 May	125 kg MAP (28.5kg P/ha & 13.75kg N/ha)	
Pre-em herbicide:	9 May	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	31 Jul	LVE MCPA 570 1.00 L/ha	
		Priority 0.025L/ha	
Nutrition:	8 Jul	100kg/ha of Urea (46 kg N/ha)	
	25 August	87kg/ha of Sustain Urea (40 kg N/ha)	
Fungicide:		**Untreated**	**Plus fungicide**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha

WA Scaddan Barley MRZ (FAR WAE II B24-48)

Sown: 09 May 2024
Harvested: 12 November 2024
Soil Type: Shallow sand over clay duplex soil (Deep ripped 2020)

Previous Crop: 2023 Field peas

FAR Code: FAR WAE II B24-48
GSR (Apr-Nov): 196mm

Key Points

- *A drier season at the start with no real opening rains until the last days of May followed by a dry spring resulting in barley yields that ranged from 4.00 – 5.60t/ha.*
- *These grain yields were approximately 0.7t/ha higher than the equivalent wheat GEN trial that yielded 3.27 – 4.87 t/ha (grown alongside with the same nitrogen input).*
- *With opening rains 20 days after sowing the crop did not fully emerge until early June, a scenario similar to the wheat trial alongside.*
- *There was no significant yield response to fungicide application with low levels of spot form net blotch (SFNB) recorded in the trial (1% canopy infection or less) meaning that it is unlikely that disease would have been a factor in this trial.*
- *The exception to this appeared to be RGT Planet but the shorter season as a result of the late break restricted its ability to perform with slightly longer development.*
- *The highest yielding variety was the feed variety Bigfoot CL (AGTB0669) which was significantly higher yielding than all other varieties except the malting variety Minotaur that has again performed strongly in our WA trials as it did in 2023.*
- *In addition, Bigfoot CL (AGTB0669) the Clearfield® Intervix® herbicide tolerant variety produced the lowest screenings and highest retentions.*

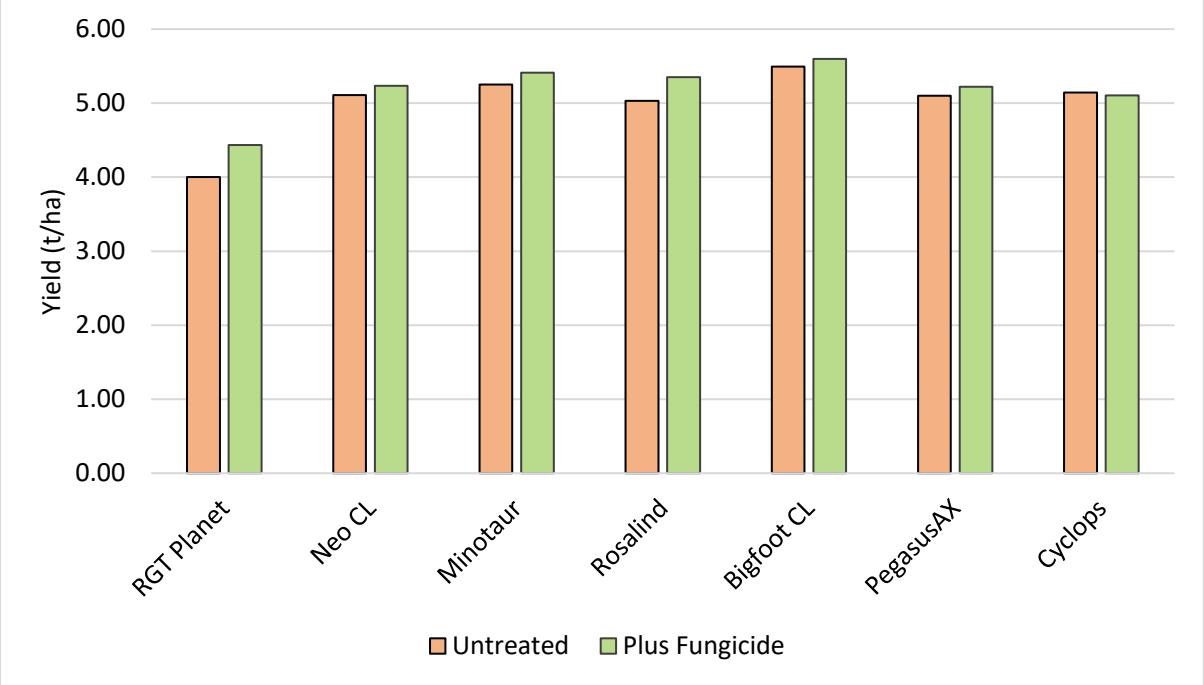

Figure 1. Influence of fungicide and variety on yield (t/ha). (P value=0.796, LSD=ns)

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 has little effect, although there was a generally positive result with Planet (0.44t/ha), but this yield effect was not statistically significant (Tables 1 – 5 & Figure 1).

Table 1. Influence of fungicide on the grain yield (t/ha) of barley varieties plus and minus fungicide – May 9 sown.

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	4.00	-	4.44	-	**4.22**	**c**
2.	Neo CL *(s)*	5.11	-	5.24	-	**5.17**	**b**
3.	Minotaur *(s)*	5.25	-	5.41	-	**5.33**	**ab**
4.	Rosalind *(s)*	5.03	-	5.35	-	**5.19**	**b**
5.	Bigfoot CL (AGTB0669) *(s)*	5.49	-	5.60	-	**5.55**	**a**
6.	PegasusAX (AGTB0667) *(s)*	5.10	-	5.22	-	**5.16**	**b**
7.	Cyclops *(s)*	5.14	-	5.11	-	**5.12**	**b**
	Mean	**5.17**	**-**	**5.43**	**-**	**5.30**	
	LSD Variety p = 0.05	0.31		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.277	
	LSD Variety x Man. p = 0.05	ns		**P value**		0.796	

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

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	11.5	-	11.6	-	**11.5**	**ab**
2.	Neo CL	10.3	-	10.7	-	**10.5**	**c**
3.	Minotaur	10.8	-	10.5	-	**10.6**	**c**
4.	Rosalind	11.7	-	11.9	-	**11.8**	**a**
5.	Bigfoot CL	10.9	-	10.6	-	**10.7**	**c**
6.	PegasusAX	11.1	-	10.9	-	**11.0**	**bc**
7.	Cyclops	10.8	-	10.8	-	**10.8**	**c**
	Mean	**11.0**	**-**	**11.0**	-	**11.0**	
	LSD Variety p = 0.05	0.6		**P Value**		<0.001	
	LSD Management p = 0.05	ns		**P Value**		0.902	
	LSD Variety x Man. p = 0.05	ns		**P Value**		0.906	

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

Test Weight (Kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	57.5	-	56.7	-	**57.1**	**bc**
2.	Neo CL	52.8	-	55.8	-	**54.3**	**d**
3.	Minotaur	59.8	-	60.1	-	**59.9**	**a**
4.	Rosalind	57.0	-	60.2	-	**58.6**	**ab**
5.	Bigfoot CL	60.0	-	59.7	-	**59.9**	**a**
6.	PegasusAX	57.6	-	57.9	-	**57.8**	**ab**
7.	Cyclops	54.9	-	54.4	-	**54.6**	**cd**
Mean		**57.1**	**-**	**57.8**	**-**	**57.5**	
LSD Variety p = 0.05		2.7		**P Value**		<0.001	
LSD Management p = 0.05		ns		**P Value**		0.164	
LSD Variety x Man. p = 0.05		ns		**P Value**		0.591	

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

Retention (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	74.4	-	75.7	-	**75.0**	**c**
2.	Neo CL	78.3	-	78.2	-	**78.3**	**bc**
3.	Minotaur	77.0	-	80.7	-	**78.8**	**bc**
4.	Rosalind	75.2	-	83.6	-	**79.4**	**bc**
5.	Bigfoot CL	86.2	-	88.7	-	**87.4**	**a**
6.	PegasusAX	74.4	-	77.8	-	**76.1**	**bc**
7.	Cyclops	80.3	-	80.2	-	**80.2**	**b**
Mean		**78.0**	**-**	**80.7**	-	**79.3**	
LSD Variety p = 0.05		4.7		**P Value**		<0.001	
LSD Management p = 0.05		ns		**P Value**		0.257	
LSD Variety x Man. p = 0.05		ns		**P Value**		0.586	

Table 5. Influence of variety and fungicide application on the screenings (% < 2.2mm)- 7 November harvest.

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	4.2	-	4.1	-	**4.1**	**ab**
2.	Neo CL	4.6	-	4.2	-	**4.4**	**a**
3.	Minotaur	3.6	-	2.8	-	**3.2**	**bc**
4.	Rosalind	4.9	-	3.2	-	**4.1**	**ab**
5.	Bigfoot CL	2.4	-	2.4	-	**2.4**	**c**
6.	PegasusAX	4.4	-	3.9	-	**4.2**	**a**
7.	Cyclops	4.3	-	4.1	-	**4.2**	**a**
Mean		**4.1**	**-**	**3.5**	-	**3.8**	
LSD Variety p = 0.05		1.0		**P Value**		0.001	
LSD Management p = 0.05		ns		**P Value**		0.267	
LSD Variety x Man. p = 0.05		ns		**P Value**		0.617	

Disease assessment data

Table 6: Influence of fungicide application and variety on Net Form of Net Blotch (NFNB) plot infection %- assessed on 29 August and 4 October 2024

Net Form of Net Blotch (NFNB) Plot Infection %			
	Variety	**29 August**	**4 October**
1.	RGT Planet	0.5 a	1.1 a
2.	Neo CL	0.0 b	0.1 b
3.	Minotaur	0.0 b	0.0 b
4.	Rosalind	0.1 b	0.0 b
5.	Bigfoot CL	0.0 b	0.0 b
6.	PegasusAX	0.0 b	0.0 b
7.	Cyclops	0.0 b	0.0 b
	LSD p = 0.05	0.33	0.65
	Variety P-Value	0.036	0.009
	Management		
1.	Untreated	0.1 -	0.3 -
2.	Plus Fungicide	0.1 -	0.1 -
	LSD p = 0.05	ns	ns
	Disease Management P-Value	0.718	0.182
	Variety x Disease Management		
	No Fungicide		
1.	RGT Planet	0.5 -	1.8 -
2.	Neo CL	0.0 -	0.3 -
3.	Minotaur	0.0 -	0.0 -
4.	Rosalind	0.0 -	0.0 -
5.	Bigfoot CL	0.0 -	0.0 -
6.	PegasusAX	0.0 -	0.0 -
7.	Cyclops	0.0 -	0.0 -
	Plus Fungicide		
1.	RGT Planet	0.5 -	0.5 -
2.	Neo CL	0.0 -	0.0 -
3.	Minotaur	0.0 -	0.0 -
4.	Rosalind	0.3 -	0.0 -
5.	Bigfoot CL	0.0 -	0.0 -
6.	PegasusAX	0.0 -	0.0 -
7.	Cyclops	0.0 -	0.0 -
	LSD p = 0.05	ns	ns
	Variety x Disease Mang. P-Value	0.985	0.411

Table 7: Influence of fungicide application and variety on Spot Form of Net Blotch (SFNB) plot infection %- assessed on 29 August and 4 October 2024

Spot Form Net Blotch (SFNB) Plot Infection %			
	Variety	**29 August**	**4 October**
1.	RGT Planet	0.3 -	1.0 -
2.	Neo CL	0.1 -	0.3 -
3.	Minotaur	0.4 -	0.5 -
4.	Rosalind	0.6 -	0.8 -
5.	Bigfoot CL	0.3 -	0.4 -
6.	PegasusAX	0.5 -	0.8 -
7.	Cyclops	0.3 -	0.5 -
	LSD p = 0.05	ns	ns
	Variety P-Value	0.331	0.147
	Management		
1.	Untreated	0.5 -	0.7 -
2.	Plus Fungicide	0.2 -	0.5 -
	LSD p = 0.05	ns	ns
	Disease Management P-Value	0.080	0.235
	Variety x Disease Management		
	No Fungicide		
1.	RGT Planet	0.5 -	1.0 -
2.	Neo CL	0.3 -	0.3 -
3.	Minotaur	0.8 -	0.5 -
4.	Rosalind	0.6 -	1.0 -
5.	Bigfoot CL	0.3 -	0.3 -
6.	PegasusAX	0.8 -	1.0 -
7.	Cyclops	0.0 -	1.0 -
	Plus Fungicide		
1.	RGT Planet	0.0 -	1.0 -
2.	Neo CL	0.0 -	0.3 -
3.	Minotaur	0.0 -	0.5 -
4.	Rosalind	0.5 -	0.5 -
5.	Bigfoot CL	0.3 -	0.5 -
6.	PegasusAX	0.3 -	0.5 -
7.	Cyclops	0.5 -	0.0 -
	LSD p = 0.05	ns	ns
	Variety x Disease Mang. P-Value	0.081	0.323

Development (Phenology)

Table 8. Influence of variety on phenology (Zadoks Growth Stage, 00-99) and Normalised Difference Vegetation Index (NDVI (0-1), mean of treated and untreated crops).

		Zadoks Stage		NDVI (13 Aug)					
Variety		**12 August**	**29 August**	**Untreated**		**Plus Fungicide**		**Mean**	
1.	RGT Planet *(s)*	31	37	0.69	-	0.71	-	**0.70**	**c**
2.	Neo CL *(s)*	32	45	0.76	-	0.76	-	**0.76**	**a**
3.	Minotaur *(s)*	32	45	0.76	-	0.75	-	**0.76**	**a**
4.	Rosalind *(s)*	33	47	0.69	-	0.69	-	**0.69**	**c**
5.	Bigfoot CL *(s)*	33	45	0.75	-	0.73	-	**0.74**	**ab**
6.	PegasusAX *(s)*	32	47	0.69	-	0.73	-	**0.71**	**bc**
7.	Cyclops *(s)*	33	47	0.70	-	0.72	-	**0.71**	**bc**
			Mean	**0.72**	**-**	**0.73**	**-**	**0.72**	
			LSD Variety p = 0.05	0.036		**P value**		<0.001	
			LSD Management p = 0.05	ns		**P value**		0.6496	
			LSD Variety x Man. p = 0.05	ns		**P value**		0.7731	

Trial inputs

Table 9. Trial input and management details.

Sowing date:		**9 May 2024**	
Harvest date:		**12 November 2024**	
Seed rate:		200 seeds/m^2	
Basal fertiliser:	9 May	125 kg MAP (28.5kg P/ha & 13.75kg N/ha)	
Pre-em herbicide:	9 May	TriflurX 2.00 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide:	30 Jul	Priority 25 ml/ha	
		MCPA 100 ml/ha	
Nitrogen:	8 Jul	100kg/ha of Urea (46 kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator 0.50 L/ha

Tasmanian Results

FAR AUSTRALIA

Industry Innovations

leading the way to a brighter grains industry

Hagley, Tasmania

Tas Irrigated Wheat (FAR TAS II W24-38)

Sown: 24 April 2024
Harvested: 31 January 2025
Soil Type: Chromosol
Previous Crop: 2024- Carrot seed

Cultivar: Various
FAR Code: FAR TAS II W24-38
GSR (Apr-Nov): 631mm
Irrigation: 45mm

Key Points

- *There was significant interaction in yield between variety and fungicide. The highest yielding treatment was AGFWHWW2 (previously tested as FAR WW2) under a two-spray fungicide program (12.57 t/ha). Reflection grown with fungicide was not statistically different from the top yielding variety, also achieving 12.35 t/ha. Both these treatments yielded significantly more than the equivalent plots grown without fungicide.*
- *Although yielding slightly less than the top variety, Longford, RGT Waugh and Anapurna still yielded strongly and gave no yield response to fungicide.*
- *Yields in excess of 11 t/ha were achieved by varieties with good stripe rust resistance and good standing power.*
- *The lowest yielding varieties on site were RGT Cesario, RGT Accroc and TA0109 and were all characterised by high (>70%) stripe rust (Yr) damage (both active infection and necrosis caused by Yr reaction), which was not fully controlled in this trial.*
- *There was no interaction between variety and fungicide for any grain quality parameters, with the differences only being produced by changes in variety.*
- *The only spring variety in the trial was KWS Expectum (previously tested as FAR SW1), a slow developing variety which has export quality status in Germany. It showed very favourable grain quality results with a mean protein of 13.3%, test weight of 79.2 kg/hL and screenings of 1.0%. It did however experience the most lodging in the trial with a lodging index score over 300 (out of a possible 500).*

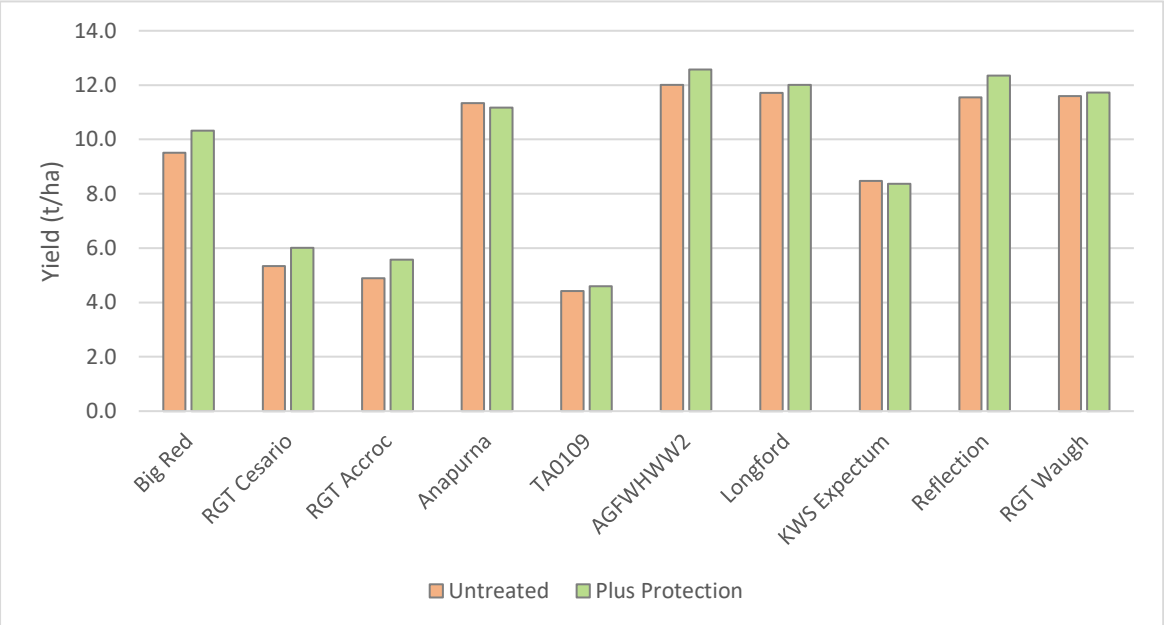

Figure 1. Influence of cultivar and fungicide on grain yield (t/ha), harvested on 28 January 2025.

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

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

Yield (t/ha)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed *(w)*	9.51	g	10.33	f	**9.92**	**d**
2.	RGT Cesario *(w)*	5.34	jk	6.01	i	**5.68**	**f**
3.	RGT Accroc *(w)*	4.89	kl	5.57	ij	**5.23**	**g**
4.	Anapurna *(w)*	11.34	de	11.17	e	**11.25**	**c**
5.	TA0109 *(w)*	4.42	l	4.59	l	**4.51**	**h**
6.	AGFWHWW2 (FAR WW2) *(w)*	12.00	bc	12.57	a	**12.29**	**a**
7.	Longford *(w)*	11.71	cd	12.01	bc	**11.86**	**b**
8.	KWS Expectum (FAR SW1) *(s)*	8.47	h	8.37	h	**8.42**	**e**
9.	Reflection *(w)*	11.55	cde	12.35	ab	**11.95**	**ab**
10.	RGT Waugh *(w)*	11.60	cde	11.73	cd	**11.66**	**b**
	Mean	**9.08**	**b**	**9.47**	**a**	**9.28**	
	LSD Cultivar p = 0.05	0.35		**P value**		<0.001	
	LSD Management p = 0.05	0.15		**P value**		0.004	
	LSD Cultivar x Man. p = 0.05	0.49		**P value**		0.030	

Note: w = Winter Wheat, s = Spring Wheat

Table 2. Influence of fungicide and cultivar on the protein (%) of wheat cultivars plus and minus fungicide – 31 January harvest.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	10.8	-	11.0	-	**10.9**	**e**
2.	RGT Cesario	11.2	-	11.1	-	**11.2**	**d**
3.	RGT Accroc	11.1	-	11.0	-	**11.0**	**de**
4.	Anapurna	11.9	-	11.8	-	**11.8**	**c**
5.	TA0109	12.0	-	12.1	-	**12.1**	**b**
6.	AGFWHWW2	10.8	-	10.9	-	**10.8**	**e**
7.	Longford	10.9	-	10.8	-	**10.8**	**e**
8.	KWS Expectum	13.3	-	13.3	-	**13.3**	**a**
9.	Reflection	10.1	-	10.4	-	**10.2**	**f**
10.	RGT Waugh	12.1	-	12.0	-	**12.1**	**b**
	Mean	**11.4**	**-**	**11.4**	**-**	**11.4**	
	LSD Cultivar p = 0.05	0.2		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.962	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.617	

Table 3. Influence of fungicide and cultivar on the test weight (Kg/hL) of wheat cultivars plus and minus fungicide – 31 January harvest.

Test Weight (kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	76.0	-	77.4	-	**76.7**	**b**
2.	RGT Cesario	73.1	-	72.0	-	**72.5**	**c**
3.	RGT Accroc	67.6	-	65.4	-	**66.5**	**e**
4.	Anapurna	76.4	-	76.3	-	**76.3**	**b**
5.	TA0109	70.3	-	69.6	-	**70.0**	**d**
6.	AGFWHWW2	76.2	-	76.8	-	**76.5**	**b**
7.	Longford	75.0	-	76.3	-	**75.6**	**b**
8.	KWS Expectum	79.5	-	79.0	-	**79.2**	**a**
9.	Reflection	73.8	-	73.4	-	**73.6**	**c**
10.	RGT Waugh	75.7	-	76.7	-	**76.2**	**b**
	Mean	**74.3**	**-**	**74.3**	**-**	**74.3**	
	LSD Cultivar p = 0.05	1.5		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.812	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.338	

Table 4. Influence of fungicide and cultivar on the screenings (%) of wheat cultivars plus and minus fungicide – 31 January harvest.

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	0.9	-	0.9	-	**0.9**	**e**
2.	RGT Cesario	2.6	-	2.3	-	**2.4**	**b**
3.	RGT Accroc	2.7	-	2.9	-	**2.8**	**b**
4.	Anapurna	1.8	-	1.7	-	**1.7**	**c**
5.	TA0109	3.5	-	4.6	-	**4.0**	**a**
6.	AGFWHWW2	1.6	-	1.3	-	**1.4**	**cd**
7.	Longford	1.6	-	1.5	-	**1.5**	**cd**
8.	KWS Expectum	1.1	-	1.0	-	**1.0**	**de**
9.	Reflection	1.9	-	1.9	-	**1.9**	**c**
10.	RGT Waugh	0.6	-	0.7	-	**0.6**	**e**
	Mean	**1.8**	**-**	**1.9**	**-**	**1.8**	
	LSD Cultivar p = 0.05	0.5		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.869	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.184	

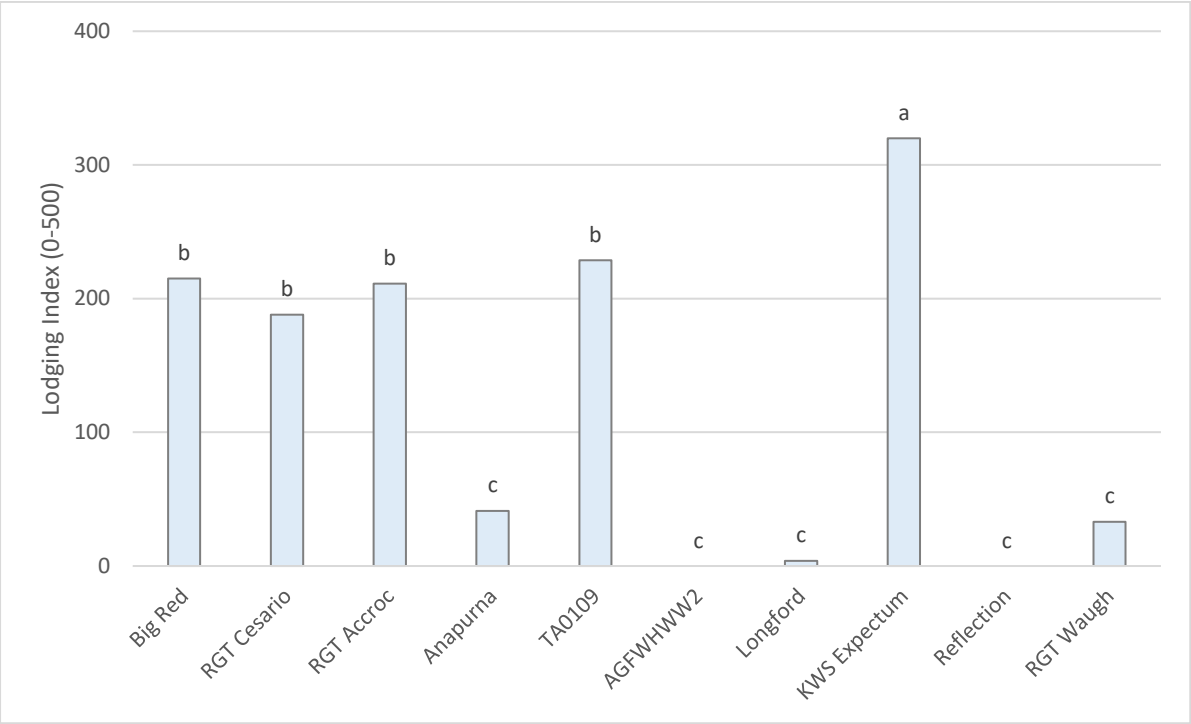

Figure 2. Influence of cultivar on crop lodging (mean of plus and minus fungicide) – 30 January assessed. (P value = <0.001, $LSD_{P<0.05}$ = 46.8).

Disease Assessment data

Table 6. Influence of fungicide and cultivar on stripe rust damage (%) of wheat cultivars plus and minus fungicide – 30 October assessed.

Stripe Rust							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	21.0	-	21.3	-	21.13	b
2.	RGT Cesario	70.0	-	72.5	-	71.25	a
3.	RGT Accroc	80.0	-	76.3	-	78.13	a
4.	Anapurna	16.5	-	18.0	-	17.25	b
5.	TA0109	66.3	-	85.0	-	75.63	a
6.	AGFWHWW2	1.8	-	4.8	-	3.25	c
7.	Longford	1.3	-	1.6	-	1.44	c
8.	KWS Expectum	4.8	-	7.0	-	5.89	c
9.	Reflection	0.0	-	1.8	-	0.88	c
10.	RGT Waugh	1.0	-	4.0	-	2.5	c
	Mean	26.25	-	29.22	-		
	LSD Cultivar p = 0.05	8.8		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.052	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.528	

Note: Stripe rust was not controlled by 'Plus fungicide' management with the two-spray program insufficient in terms of number of applications and poor timing.

Table 7. Influence of fungicide and cultivar on the Green leaf retention (%) of wheat cultivars plus and minus fungicide – 30 October assessed.

Green leaf retention							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	BigRed	72.5	-	71.3	-	**71.9**	**c**
2.	RGT Cesario	25.0	-	21.3	-	**23.1**	**d**
3.	RGT Accroc	15.0	-	20.0	-	**17.5**	**d**
4.	Anapurna	80.0	-	78.8	-	**79.4**	**bc**
5.	TA0109	18.8	-	8.8	-	**13.8**	**d**
6.	AGFWHWW2 (FAR WW2)	88.8	-	91.3	-	**90.0**	**ab**
7.	Longford	96.0	-	95.8	-	**95.9**	**a**
8.	KWS Expectum (FAR SW1)	66.3	-	75.0	-	**70.6**	**c**
9.	Reflection	83.8	-	85.0	-	**84.4**	**b**
10.	RGT Waugh	83.8	-	85.0	-	**84.4**	**b**
	Mean	**63.0**	**-**	**63.2**	**-**	**63.1**	
	LSD Cultivar p = 0.05	1.9		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.974	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.798	

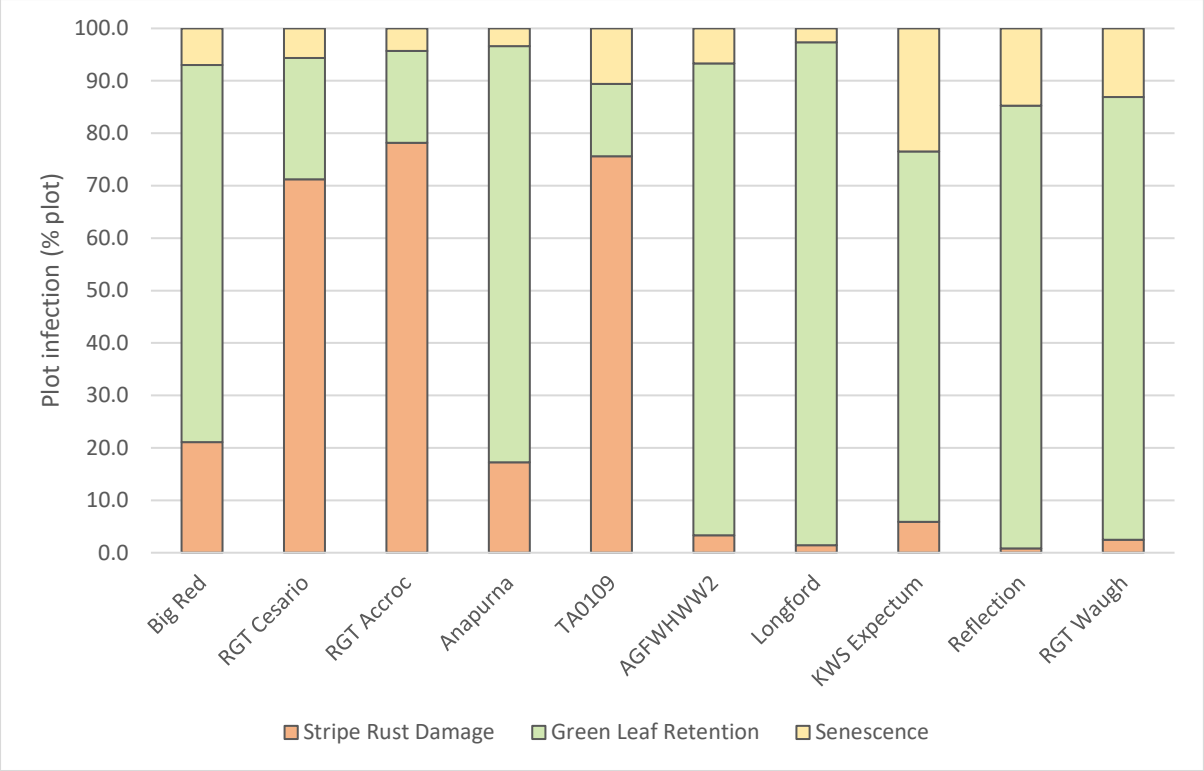

Figure 2. Influence of fungicide and cultivar on the mean stripe rust, stripe rust reaction (leaf necrosis), and green leaf retention (plot %) of wheat cultivars plus and minus fungicide – 30 October assessed.

Trial Inputs

Table 8. Trial input and management details**.**

Sowing date:		**24 April 2024**	
Harvest date:		**31 January 2025**	
Seed rate:		180 seeds/m^2	
Basal fertiliser:	24 Apr	100 kg MAP	
Nutrition:	15 Aug	61 kg N/ha & 7 kg S/ha	
	7 Oct	70 kg N/ha	
Fungicide:		**Untreated**	**Full Protection**
	GS31	----	Prosaro 0.30 L/ha
	GS59	----	Radial 0.84 L/ha

Tas Irrigated Spring Sowing Barley (FAR TAS II B24-39)

Sown: 17 September 2024
Harvested: 31 January 2025
Soil Type: Chromosol
Previous Crop: 2024- Carrot seed

Cultivar: Various
FAR Code: FAR TAS II B24-39
GSR (Apr-Nov): 345mm
Irrigation: 45mm

Key Points

- *Although no disease was identified in the trial on 22 November, there was statistically significant interaction in yield between variety and fungicide treatment.*
- *The top yielding variety was Rosalind, which gave no response to the addition of fungicide (11.79 t/ha). The result contrasts previously run spring sown barley research by FAR Australia in Tasmania where Rosalind has often struggled. However, this trial was sown around 2 weeks later than the trials previously conducted by FAR Australia and in turn has favoured a quicker developing variety. Historically an early September sowing has favoured slower, photoperiod insensitive varieties such as RGT Planet and Laureate.*
- *Despite the lack of disease recorded in November, several varieties gave significantly higher yields with the addition of fungicide. These varieties, RGT Planet, RGT Asteroid (and to a lesser extent) KWS Thalis and KWS Willis are all varieties that showed higher net form net blotch (NFNB) infection across much of the GEN network on the mainland.*
- *Laureate saw a significantly higher yield when grown without fungicide input. Although there was no interaction between variety and fungicide in canopy measurements, this variety, known for weaker stem strength, did record higher brackling and head loss compared to other varieties as well as a trend (p value 0.079) to have more lodging which may have distorted results.*
- *While ignoring actual malt accreditation for individual lines, all varieties produced favourable test weights (>65 kg/hL), retention (>70%) and screenings (<7%) needed for malting status. The only limiting factor for some varieties were proteins of >12% as was seen for Minotaur (malt), Rosalind (feed), Laureate and RGT Asteroid.*
- *At the time of writing RGT Planet and Minotaur are both accredited malting varieties with Neo CL and AGTB0318 currently under evaluation (both varieties stage 2 as of 2024 with a target decision in 2025).*

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

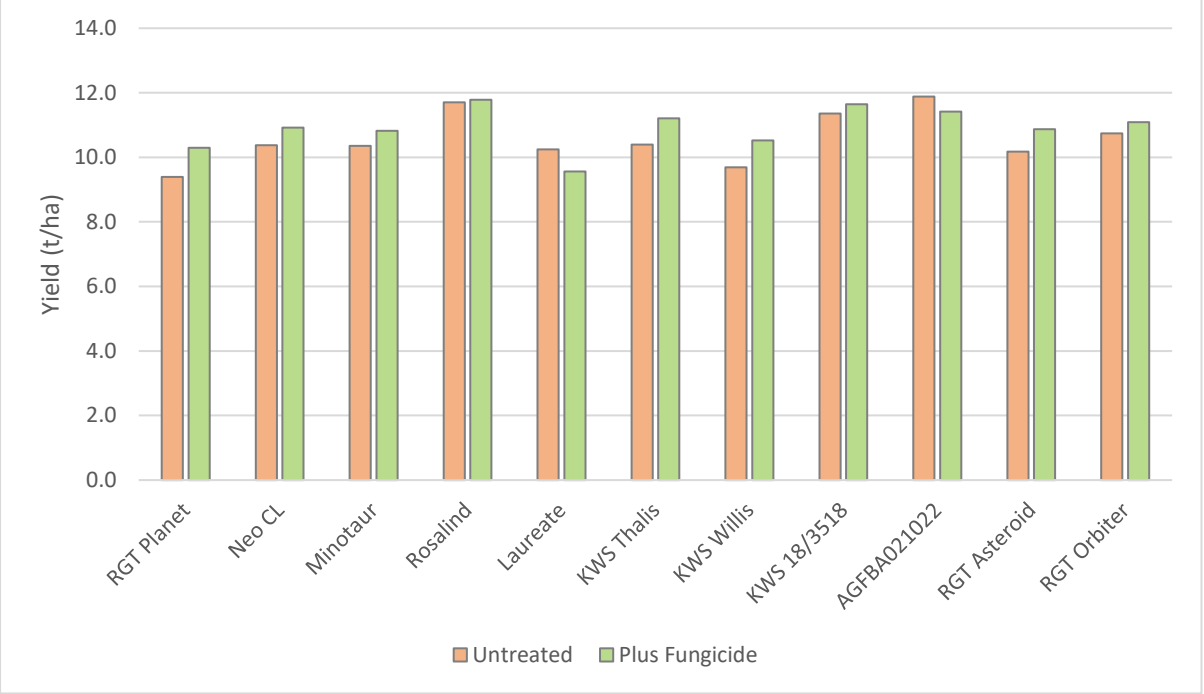

Figure 1. Influence of fungicide on the grain yield (t/ha) of barley cultivars plus and minus fungicide – 7 September sown.

Table 1. Influence of fungicide on the grain yield (t/ha) of spring sown spring barley (s) cultivars plus and minus fungicide – 31 January harvest.

		Yield (t/ha)					
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet *(s)*	9.40	i	10.30	efg	**9.85**	**d**
2.	Neo CL *(s)*	10.38	ef	10.92	cde	**10.65**	**b**
3.	Minotaur *(s)*	10.35	efg	10.83	c-f	**10.59**	**bc**
4.	Rosalind *(s)*	11.70	ab	11.79	a	**11.74**	**a**
5.	Laureate *(s)*	10.24	efg	9.56	hi	**9.90**	**d**
6.	KWS Thalis (FAR SB2) *(s)*	10.40	ef	11.21	abc	**10.80**	**b**
7.	KWS Willis (FAR SB1) *(s)*	9.70	ghi	10.53	def	**10.11**	**cd**
8.	KWS 18/3518 (FAR SB5) *(s)*	11.36	abc	11.64	ab	**11.50**	**a**
9.	AGFBA021022 *(s)*	11.88	a	11.42	abc	**11.65**	**a**
10.	RGT Asteroid *(s)*	10.18	fgh	10.87	cde	**10.53**	**bc**
11.	RGT Orbiter *(s)*	10.75	c-f	11.09	bcd	**10.92**	**b**
	Mean	**10.58**	**b**	**10.92**	**a**	**10.75**	
	LSD Cultivar p = 0.05	0.48		**P value**		<0.001	
	LSD Management p = 0.05	0.20		**P value**		0.011	
	LSD Cultivar x Man. p = 0.05	0.68		**P value**		0.019	

Table 2. Influence of fungicide on the protein (%) of barley cultivars plus and minus fungicide – 31 January harvest.

Protein (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	11.4	-	11.9	-	**11.7**	**cd**
2.	Neo CL	11.5	-	11.8	-	**11.6**	**cd**
3.	Minotaur	12.4	-	12.9	-	**12.6**	**a**
4.	Rosalind	12.7	-	12.8	-	**12.7**	**a**
5.	Laureate	12.1	-	11.8	-	**12.0**	**bc**
6.	KWS Thalis	11.6	-	11.8	-	**11.7**	**cd**
7.	KWS Willis	11.5	-	11.8	-	**11.7**	**cd**
8.	KWS 18/3518	11.5	-	11.4	-	**11.5**	**d**
9.	AGFBA021022	11.9	-	11.9	-	**11.9**	**bc**
10.	RGT Asteroid	12.2	-	12.1	-	**12.1**	**b**
11.	RGT Orbiter	11.5	-	11.8	-	**11.7**	**cd**
	Mean	**11.8**	**-**	**12.0**	**-**	**11.9**	
	LSD Cultivar p = 0.05	0.3		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.398	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.351	

Table 3. Influence of fungicide on the test weight (Kg/hL) of barley cultivars plus and minus fungicide – 31 January harvest.

Test Weight (kg/hL)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	66.3	-	67.1	-	**66.7**	**d**
2.	Neo CL	68.1	-	68.2	-	**68.1**	**b**
3.	Minotaur	69.0	-	69.3	-	**69.2**	**a**
4.	Rosalind	69.3	-	68.8	-	**69.1**	**a**
5.	Laureate	68.1	-	68.1	-	**68.1**	**bc**
6.	KWS Thalis	67.1	-	68.7	-	**67.9**	**bc**
7.	KWS Willis	67.1	-	67.6	-	**67.3**	**cd**
8.	KWS 18/3518	67.4	-	68.2	-	**67.8**	**bc**
9.	AGFBA021022	68.3	-	68.7	-	**68.5**	**ab**
10.	RGT Asteroid	69.3	-	68.7	-	**69.0**	**a**
11.	RGT Orbiter	67.8	-	68.4	-	**68.1**	**bc**
	Mean	**68.0**	**-**	**68.3**	**-**	**68.1**	
	LSD Cultivar p = 0.05	0.8		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.101	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.317	

Table 4. Influence of fungicide on the retention (% > 2.5mm) of barley cultivars plus and minus fungicide – 31 January harvest.

Retention (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	86.4	i	90.0	fgh	**88.2**	**e**
2.	Neo CL	92.8	b-e	93.4	a-d	**93.1**	**bc**
3.	Minotaur	91.6	def	93.4	a-d	**92.5**	**bc**
4.	Rosalind	90.4	fg	89.2	gh	**89.8**	**d**
5.	Laureate	95.2	a	95.4	a	**95.3**	**a**
6.	KWS Thalis	88.0	hi	92.0	c-f	**90.0**	**d**
7.	KWS Willis	91.8	c-f	94.4	ab	**93.1**	**bc**
8.	KWS 18/3518	90.8	efg	93.8	a-d	**92.3**	**c**
9.	AGFBA021022	95.4	a	95.1	a	**95.2**	**a**
10.	RGT Asteroid	94.0	abc	94.0	abc	**94.0**	**ab**
11.	RGT Orbiter	93.2	a-d	94.3	ab	**93.7**	**abc**
	Mean	**91.8**	**-**	**93.2**	**-**	**92.5**	
	LSD Cultivar p = 0.05	1.6		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.181	
	LSD Cultivar x Man. p = 0.05	2.2		**P value**		0.020	

Table 5. Influence of fungicide on the screenings (%) of barley cultivars plus and minus fungicide – 31 January harvest.

Screenings (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	3.9	-	2.7	-	**3.3**	**a**
2.	Neo CL	2.2	-	1.8	-	**2.0**	**de**
3.	Minotaur	2.5	-	2.2	-	**2.4**	**cd**
4.	Rosalind	2.7	-	2.7	-	**2.7**	**bc**
5.	Laureate	1.3	-	1.4	-	**1.3**	**f**
6.	KWS Thalis	3.8	-	2.5	-	**3.1**	**ab**
7.	KWS Willis	2.3	-	1.8	-	**2.0**	**de**
8.	KWS 18/3518	2.9	-	1.7	-	**2.3**	**cd**
9.	AGFBA021022	1.4	-	1.3	-	**1.3**	**f**
10.	RGT Asteroid	1.6	-	1.6	-	**1.6**	**ef**
11.	RGT Orbiter	2.2	-	1.7	-	**1.9**	**de**
	Mean	**2.4**	**-**	**1.9**	**-**	**2.2**	
	LSD Cultivar p = 0.05			**P value**			
	LSD Management p = 0.05			**P value**			
	LSD Cultivar x Man. p = 0.05			**P value**			

Table 6. Influence of fungicide and cultivar on crop lodging (0-500)- assessed 28 January.

Lodging (0-500)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	5.0	-	31.3	-	**18.1**	**-**
2.	Neo CL	72.5	-	117.5	-	**95.0**	**-**
3.	Minotaur	45.0	-	6.3	-	**25.6**	**-**
4.	Rosalind	22.5	-	25.0	-	**23.8**	**-**
5.	Laureate	31.3	-	93.8	-	**62.5**	**-**
6.	KWS Thalis	46.3	-	40.0	-	**43.1**	**-**
7.	KWS Willis	6.3	-	80.0	-	**43.1**	**-**
8.	KWS 18/3518	6.3	-	10.0	-	**8.1**	**-**
9.	AGFBA021022	5.0	-	8.8	-	**6.9**	**-**
10.	RGT Asteroid	37.5	-	37.5	-	**37.5**	**-**
11.	RGT Orbiter	0.0	-	25.0	-	**12.5**	**-**
	Mean	**25.2**	**-**	**43.2**	**-**	**34.2**	
	LSD Cultivar p = 0.05	ns		**P value**		0.079	
	LSD Management p = 0.05	ns		**P value**		0.417	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.730	

Table 7. Influence of fungicide and cultivar on brackling (%)- assessed 28 January.

Brackling (%)							
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	57.5	-	38.8	-	**48.1**	**ab**
2.	Neo CL	36.8	-	16.3	-	**26.5**	**cde**
3.	Minotaur	22.5	-	11.3	-	**16.9**	**e**
4.	Rosalind	22.5	-	13.8	-	**18.1**	**e**
5.	Laureate	37.5	-	45.0	-	**41.3**	**abc**
6.	KWS Thalis	63.8	-	38.8	-	**51.3**	**a**
7.	KWS Willis	46.3	-	21.3	-	**33.8**	**bcd**
8.	KWS 18/3518	16.3	-	10.0	-	**13.1**	**e**
9.	AGFBA021022	16.3	-	13.8	-	**15.0**	**e**
10.	RGT Asteroid	27.5	-	13.8	-	**20.6**	**de**
11.	RGT Orbiter	15.0	-	21.3	-	**18.1**	**e**
	Mean	**32.9**	**-**	**22.2**	**-**	**27.5**	
	LSD Cultivar p = 0.05	15.4		**P value**		<0.001	
	LSD Management p = 0.05	ns		**P value**		0.254	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.384	

Table 8. Influence of fungicide and cultivar on head loss (heads/m^2)- assessed 31 January.

Head Loss (heads/m^2)								
Variety		**Untreated**		**Plus fungicide**		**Mean**	
1.	RGT Planet	28.8	-	23.1	-	**25.9**	**b**
2.	Neo CL	136.3	-	20.6	-	**78.4**	**a**
3.	Minotaur	30.6	-	18.1	-	**24.4**	**b**
4.	Rosalind	6.3	-	11.9	-	**9.1**	**b**
5.	Laureate	65.0	-	73.1	-	**69.1**	**a**
6.	KWS Thalis	29.4	-	9.4	-	**19.4**	**b**
7.	KWS Willis	28.1	-	15.0	-	**21.6**	**b**
8.	KWS 18/3518	14.4	-	28.1	-	**21.3**	**b**
9.	AGFBA021022	24.4	-	24.4	-	**24.4**	**b**
10.	RGT Asteroid	36.9	-	16.3	-	**26.6**	**b**
11.	RGT Orbiter	21.9	-	20.0	-	**20.9**	**b**
	Mean	**38.4**	**-**	**23.6**	**-**	**31.0**	
	LSD Cultivar p = 0.05	38.9		**P value**		0.014	
	LSD Management p = 0.05	ns		**P value**		0.205	
	LSD Cultivar x Man. p = 0.05	ns		**P value**		0.115	

Development (Phenology)

Table 9. Influence of variety on phenology (Zadoks Growth Stage, 00-99).

Zadoks Growth Stage (GS) (0-99)			
Variety		**31 October**	**20 November**
1.	RGT Planet	23-30	49
2.	Neo CL	25-30	42
3.	Minotaur	26-30	59
4.	Rosalind	32	55
5.	Laureate	31	42
6.	KWS Thalis	26-30	49
7.	KWS Willis	25-30	42
8.	KWS 18/3518	25-30	42
9.	AGFBA021022	25-30	45-49
10.	RGT Asteroid	25-30	42
11.	RGT Orbiter	24-30	49

Disease Assessment data

No disease observed in the trial when assessed on 22 November 2024.

Trial Inputs

Table 10. Trial input and management details.

Sowing date:			**17 September 2024**
Harvest date:			**31 January 2025**
Seed rate:			250 seeds/m^2
Basal fertiliser:	17 Sep		100 kg MAP
Nutrition:	20 Oct		81 kg N/ha
Fungicide:		**Untreated**	**Full Protection**
	GS31	----	Prosaro 0.30 L/ha
	GS39	----	Aviator Xpro 0.50 L/ha
Irrigation:	28 Oct		20mm
	8 Nov		25mm

Meteorological Data

Gnarwarre, Vic

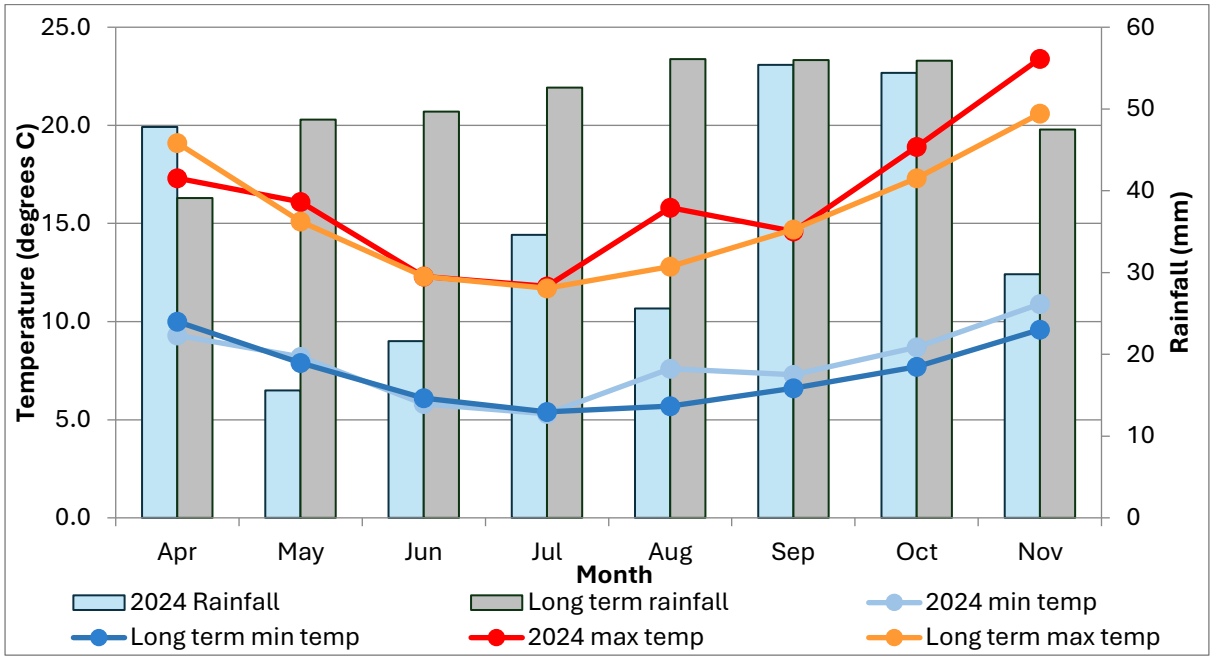

Figure 1. 2024 growing season rainfall and long-term rainfall recorded at Winchelsea Post Office (1898 -2024) and long-term min and max temperatures recorded at Mount Gellibrand (2000 to 2024) for the growing season (April to November). *Rainfall April to November = 284.8mm.*

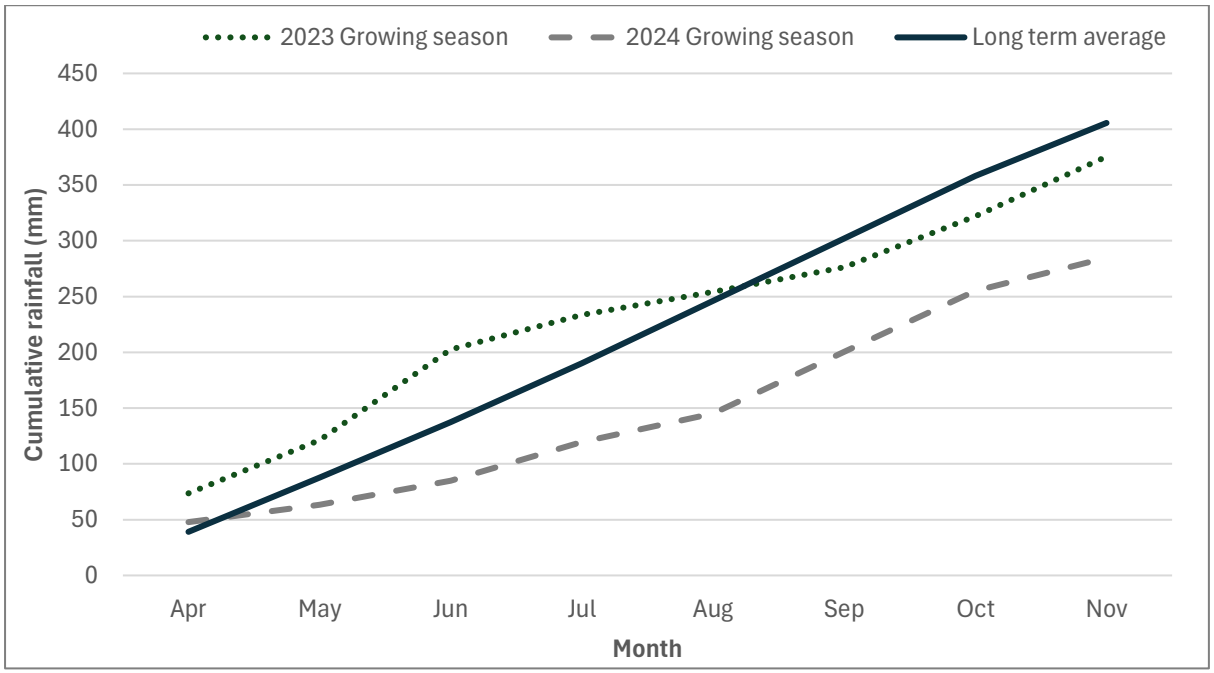

Figure 2. Cumulative growing season rainfall for 2023, 2024 and the long-term average for the growing season (April- November).

Millicent, SA

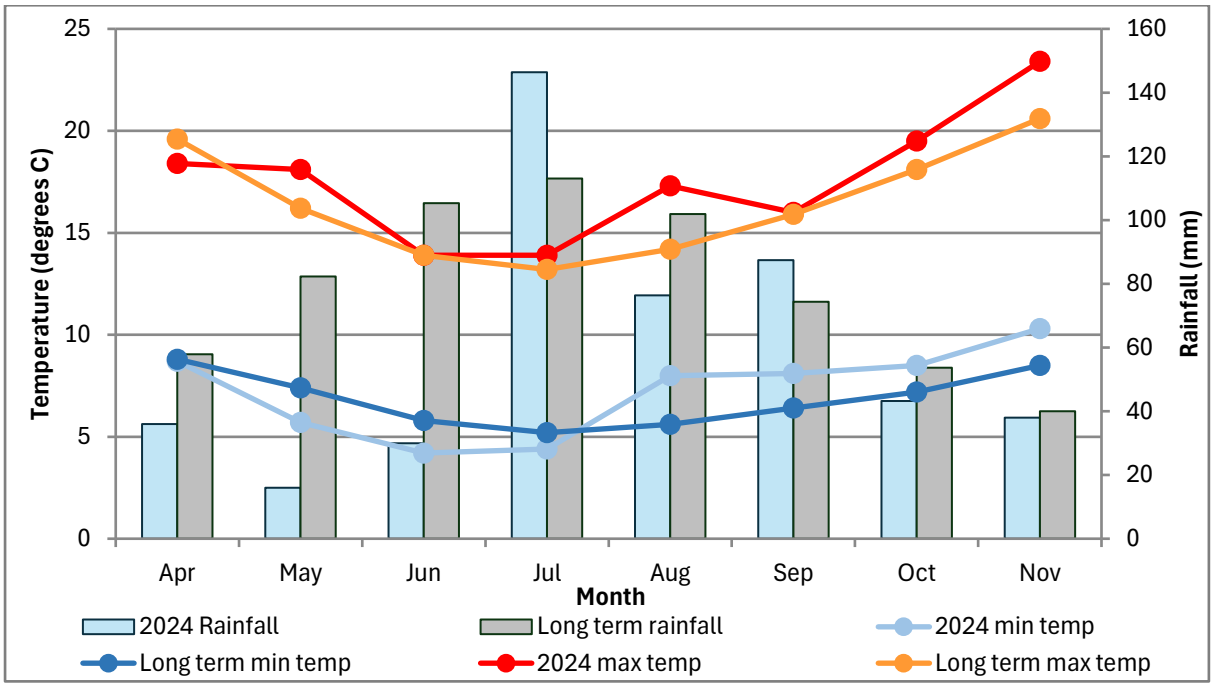

Figure 1. 2024 growing season (Apr-Nov) and long-term rainfall and minimum and maximum temperatures recorded at Millicent (rainfall) and Mount Gambier Aero (temperature). *Rainfall April to November = 473.4mm.*

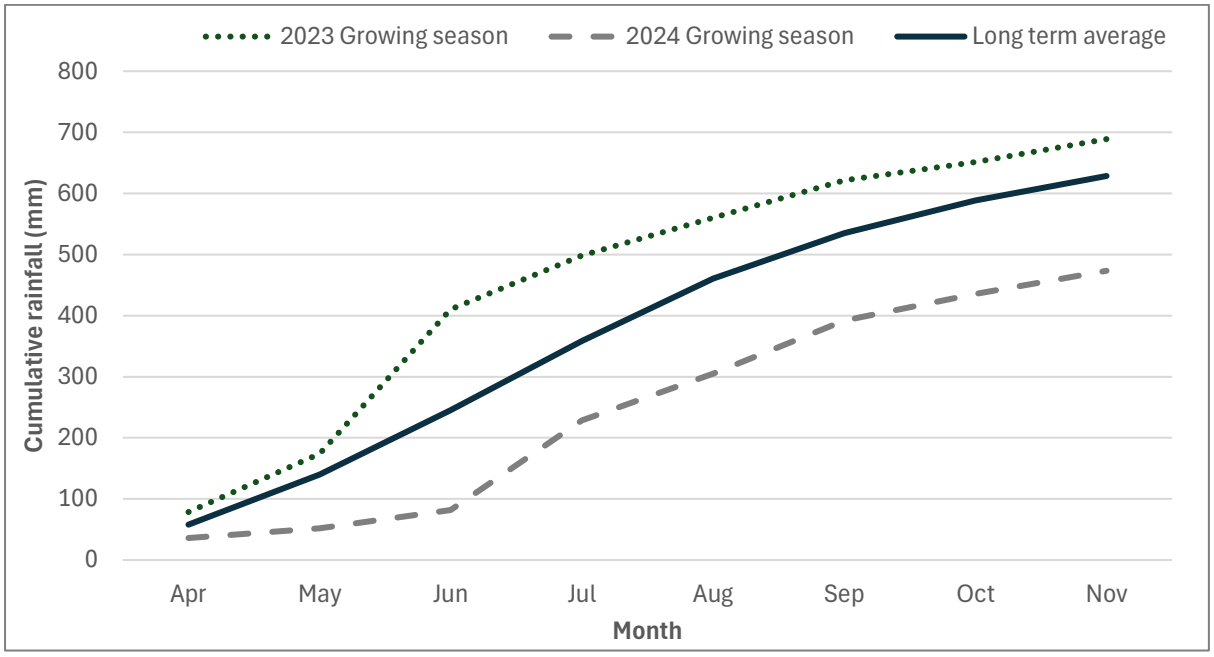

Figure 2. Cumulative growing season rainfall for 2023, 2024 and the long-term average for the growing season (April- November).

Bordertown, SA

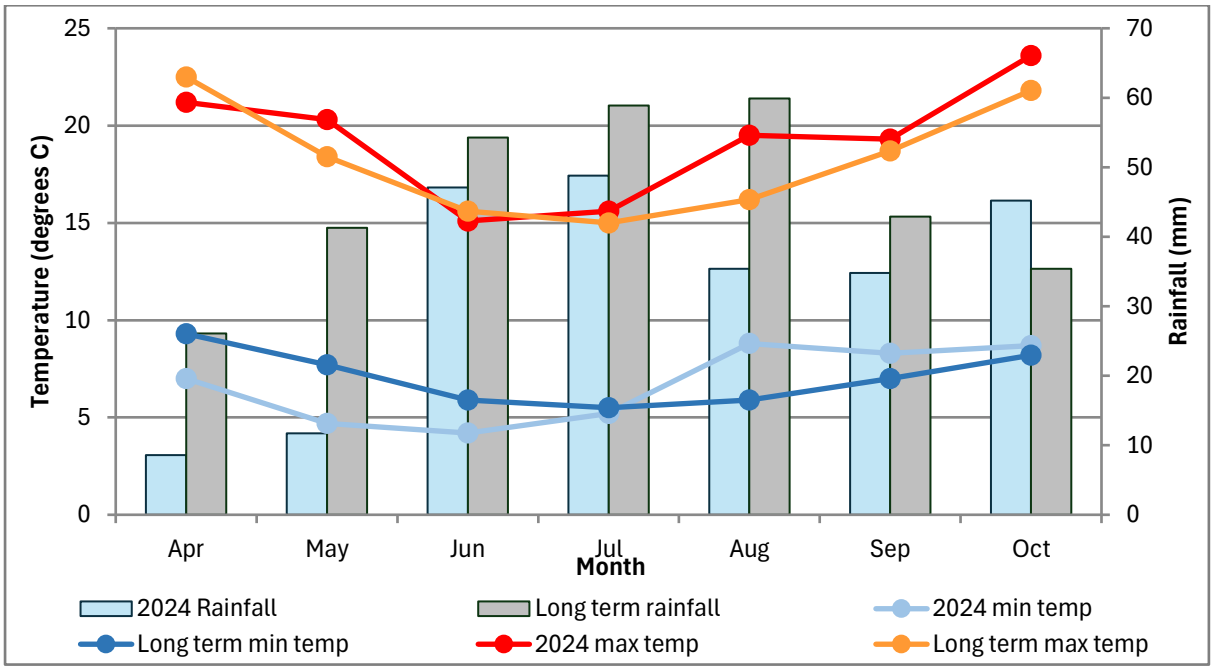

Figure 1. 2024 growing season rainfall and long-term rainfall recorded at Bordertown (Industrial Estate) (2002-2024) and long-term min and max temperatures recorded at Keith (1906-2024) for the growing season (April to October). *Rainfall April to October = 231.6mm.*

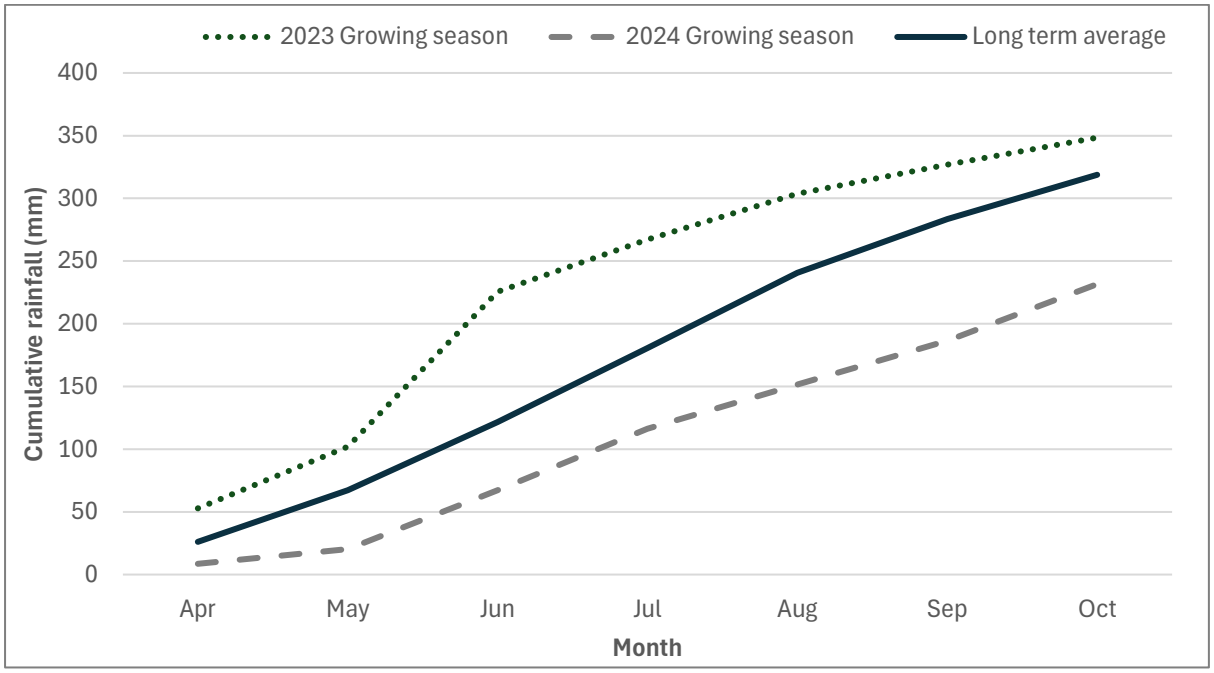

Figure 2. Cumulative growing season rainfall for 2023, 2024 and the long-term average for the growing season (April- October).

Wallendbeen, NSW

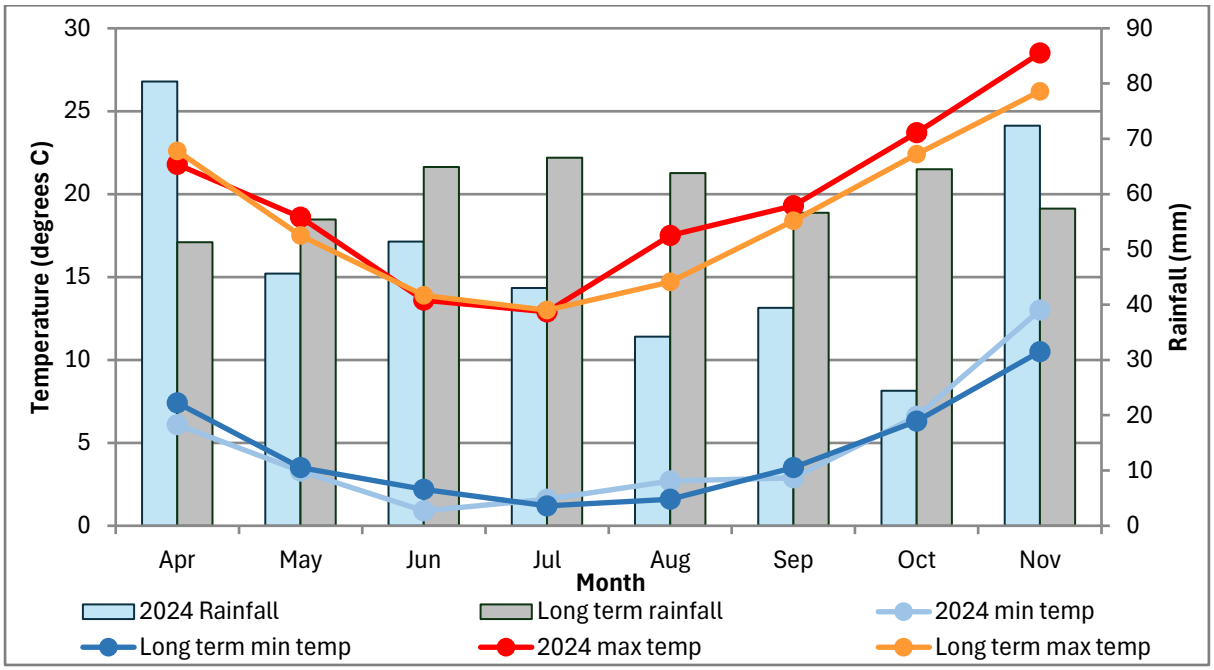

Figure 1. 2024 growing season rainfall and long-term rainfall recorded at Wallendbeen (Corang) (1914 -2024) and long-term min and max temperatures recorded at Cootamundra Airport (1995-2024) for the growing season (April to November). *Rainfall April to November = 390.8mm.*

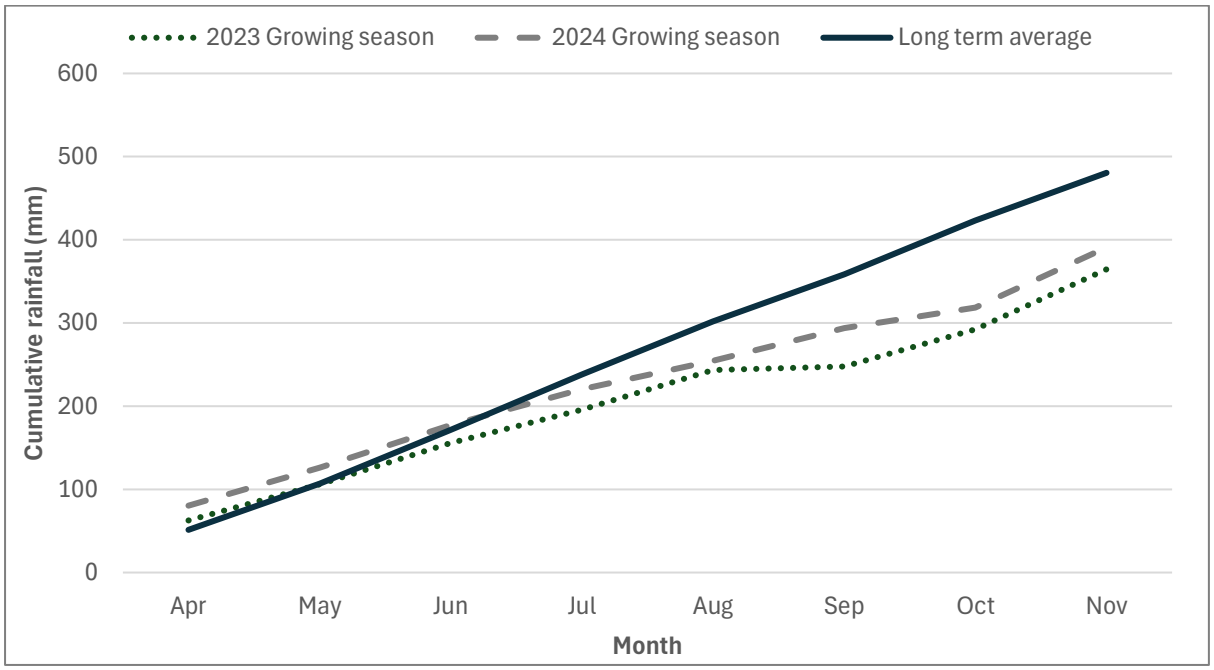

Figure 2. Cumulative growing season rainfall for 2023, 2024 and the long-term average for the growing season (April- November).

Gibson, WA

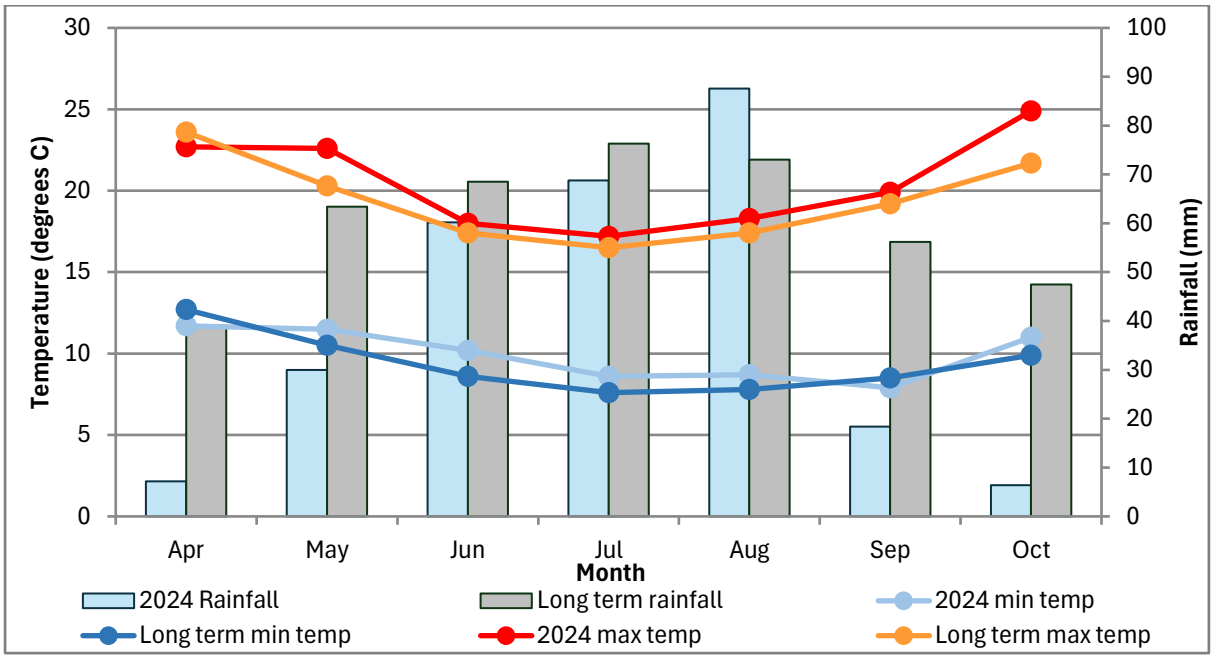

Figure 1. 2024 growing season rainfall, long-term rainfall, 2024 min and max temperatures, and long-term temperatures recorded at Esperance Aero (1950-2024). R*ainfall April to October = 278.6mm.*

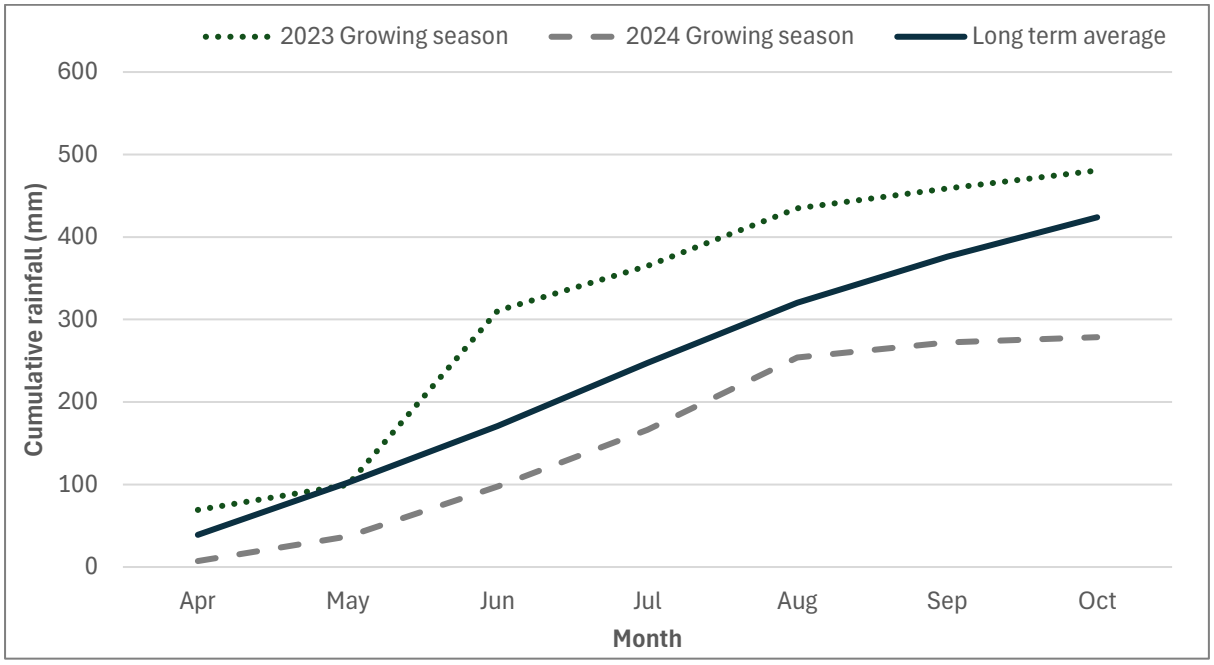

Figure 2. Cumulative growing season rainfall for 2023, 2024 and the long-term average for the growing season (April- October).

Frankland River, WA

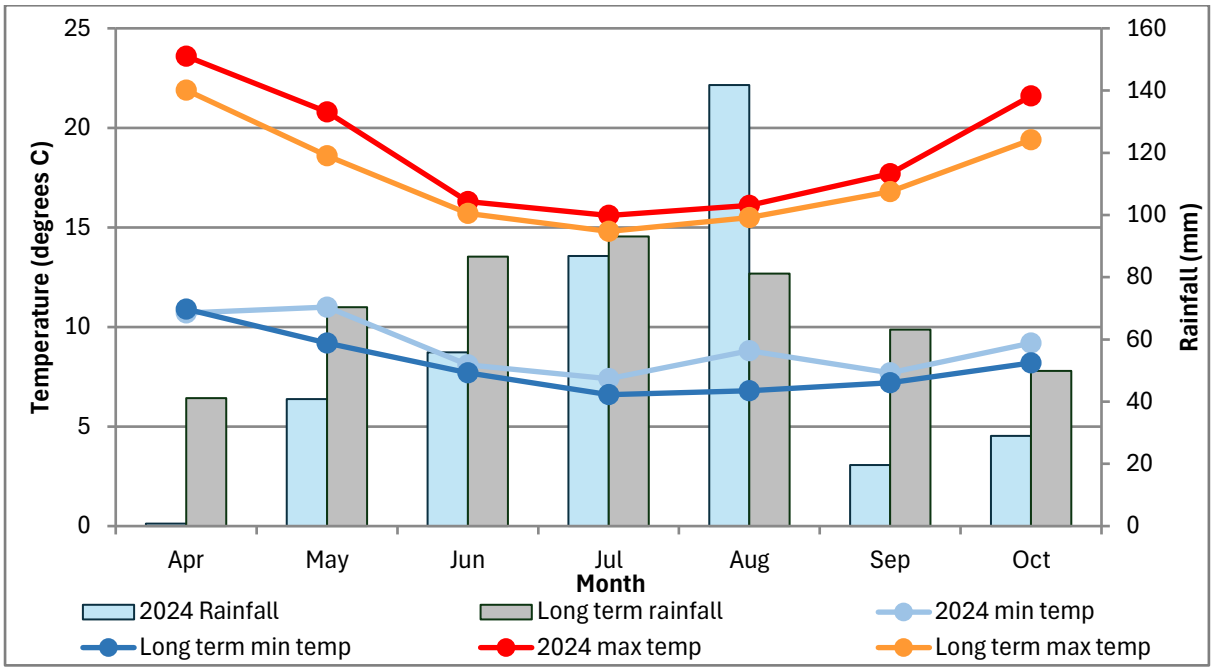

Figure 1. 2024 growing season rainfall, long-term rainfall, 2024 min and max temperatures, and long-term temperatures recorded at Frankland (1923-2024). R*ainfall April to October = 372mm.*

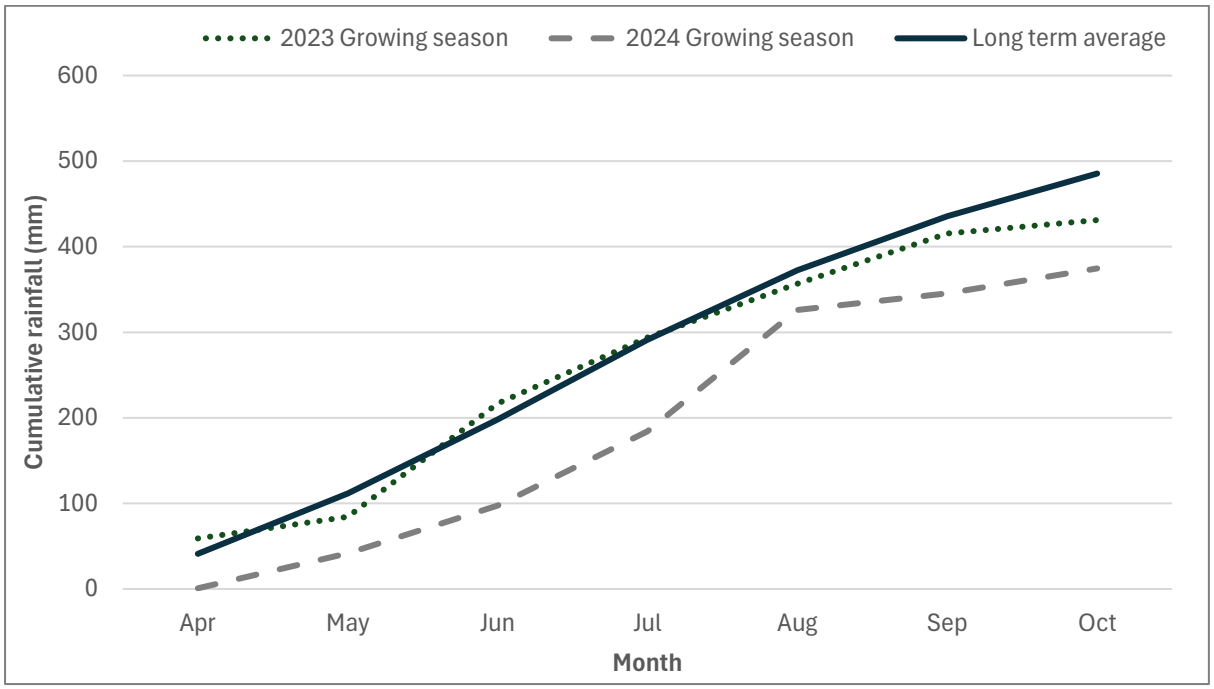

Figure 2. Cumulative growing season rainfall for 2023, 2024 and the long-term average for the growing season (April- October).

Scaddan, WA

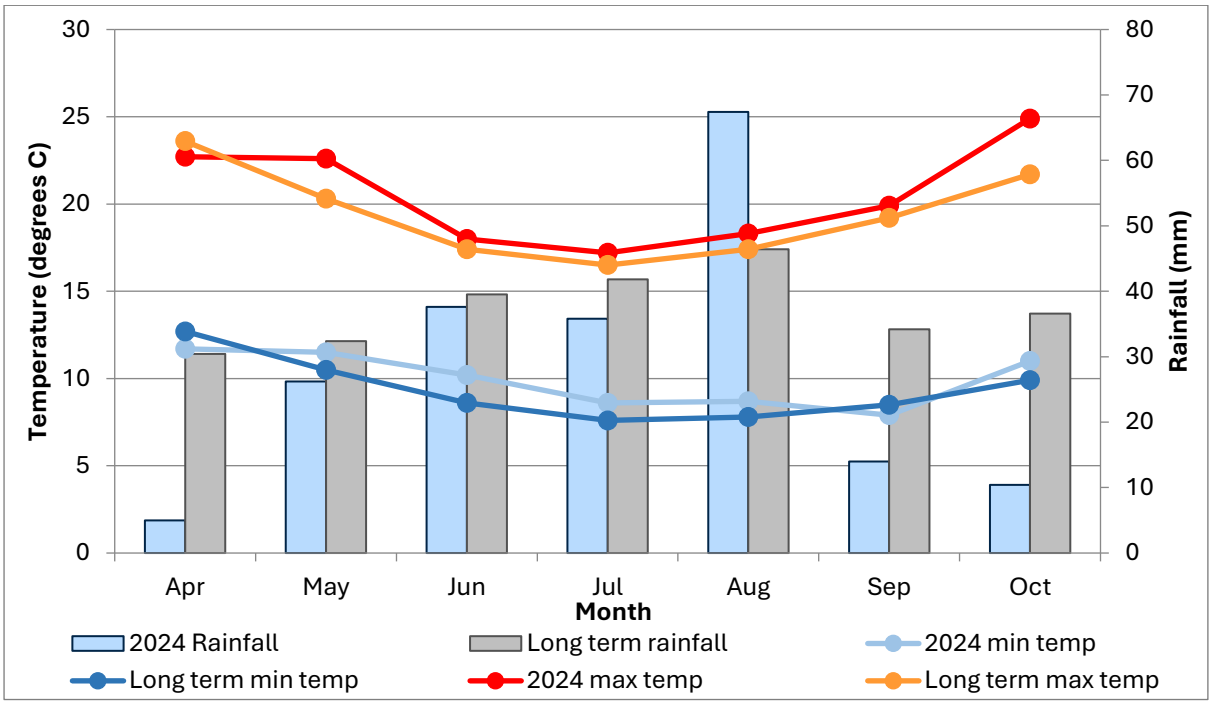

Figure 1. 2024 growing season rainfall, long-term rainfall recorded at Braeside (2002-2024) and 2024 min and max temperatures, and long-term temperatures recorded at Esperance Aero (1950-2024). *Growing season rainfall April to October = 196mm.*

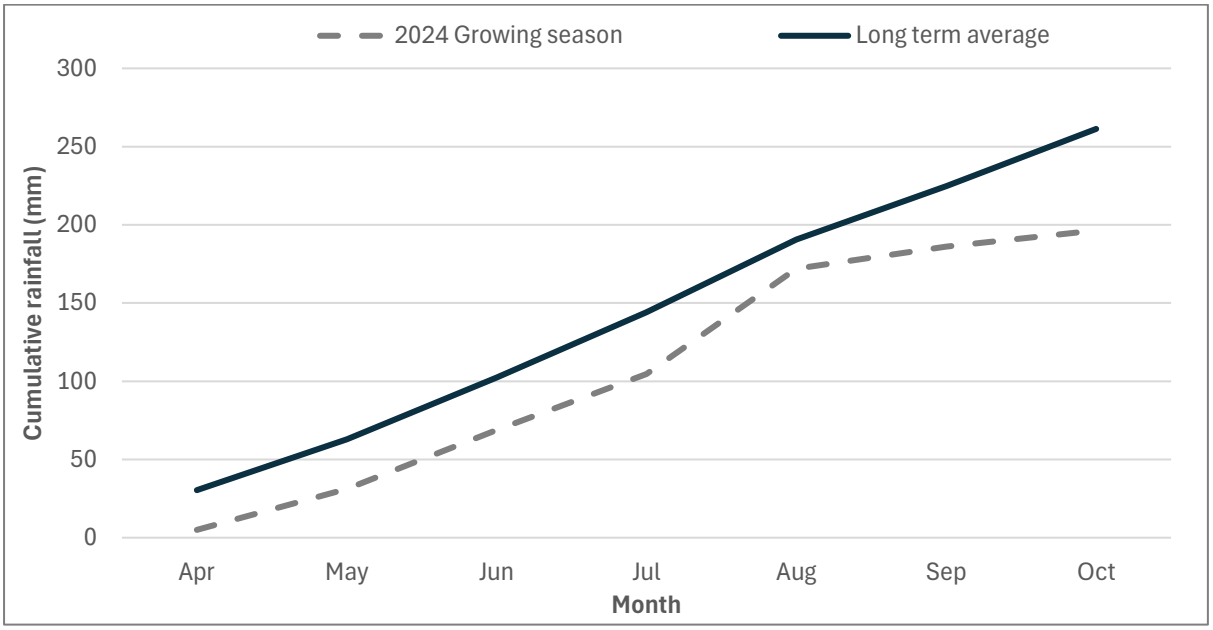

Figure 2. Cumulative growing season rainfall for 2024 and the long-term average for the growing season (April- October).

Hagley (Autumn Sown), TAS

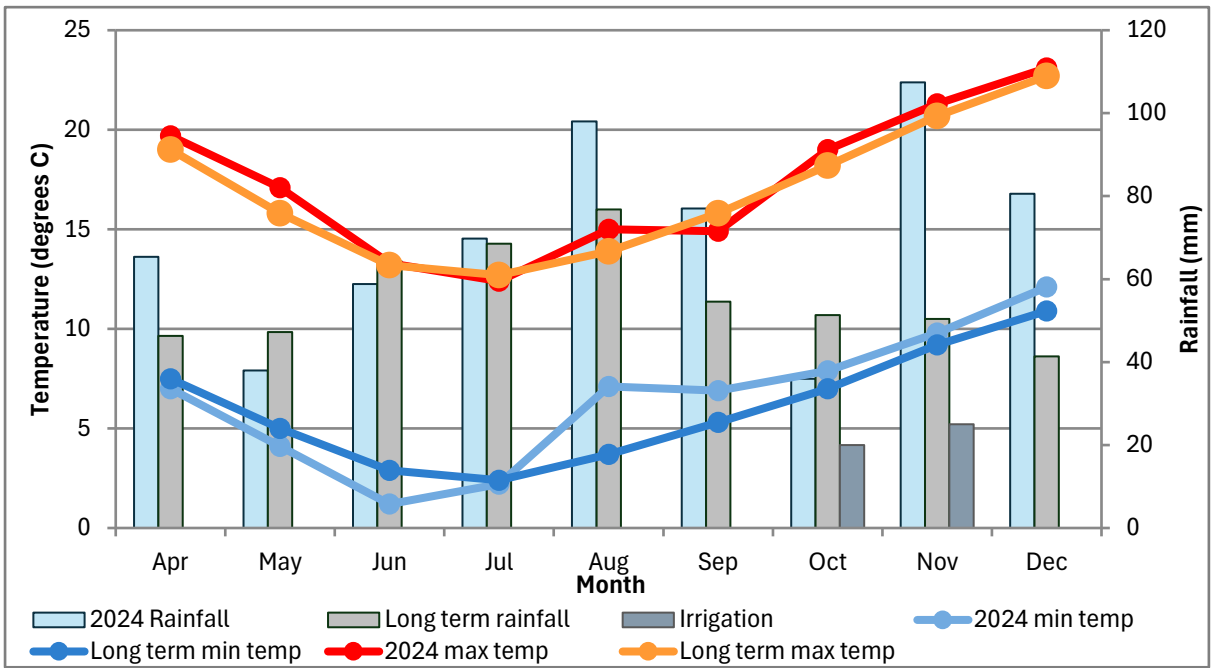

Figure 1. 2024 growing season rainfall and long-term rainfall recorded at Strathbridge (Meander River) (1985 -2024) and long-term min and max temperatures recorded at Launceston (Ti Tree Bend) (1980-2024) for the growing season (April to December). *Rainfall and irrigation April to December = 676mm.*

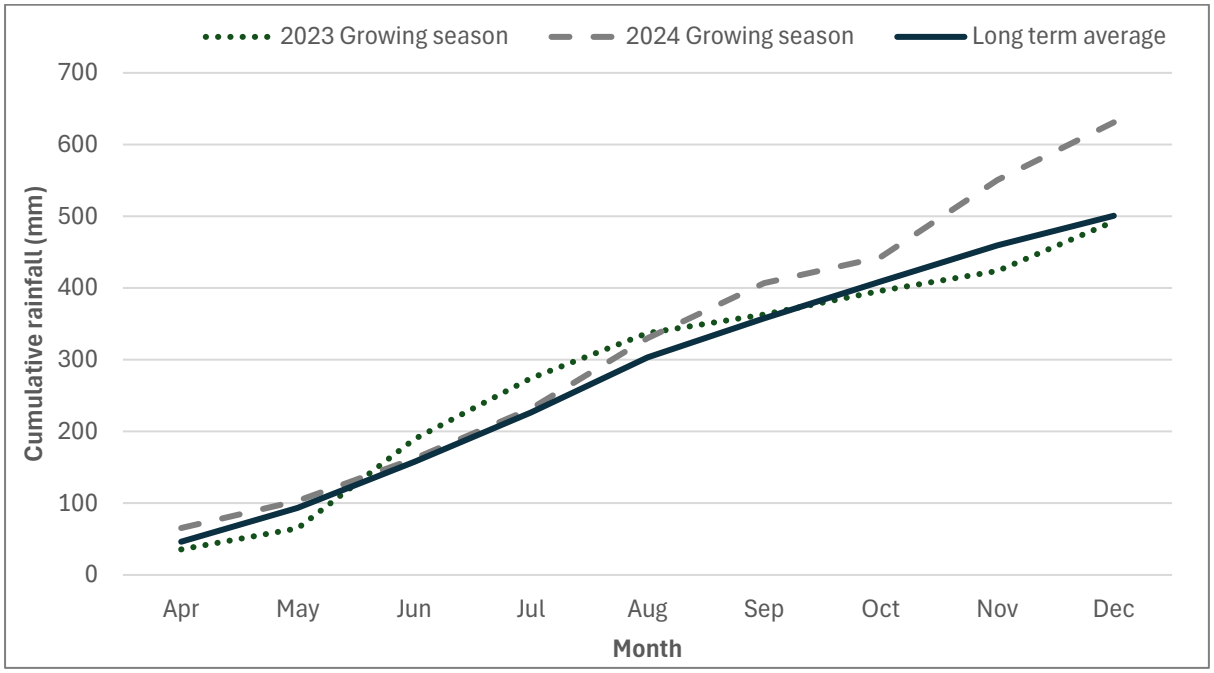

Figure 2. Cumulative growing season rainfall for 2023, 2024 and the long-term average for the growing season (April- December).

Hagley (Spring Sown), TAS

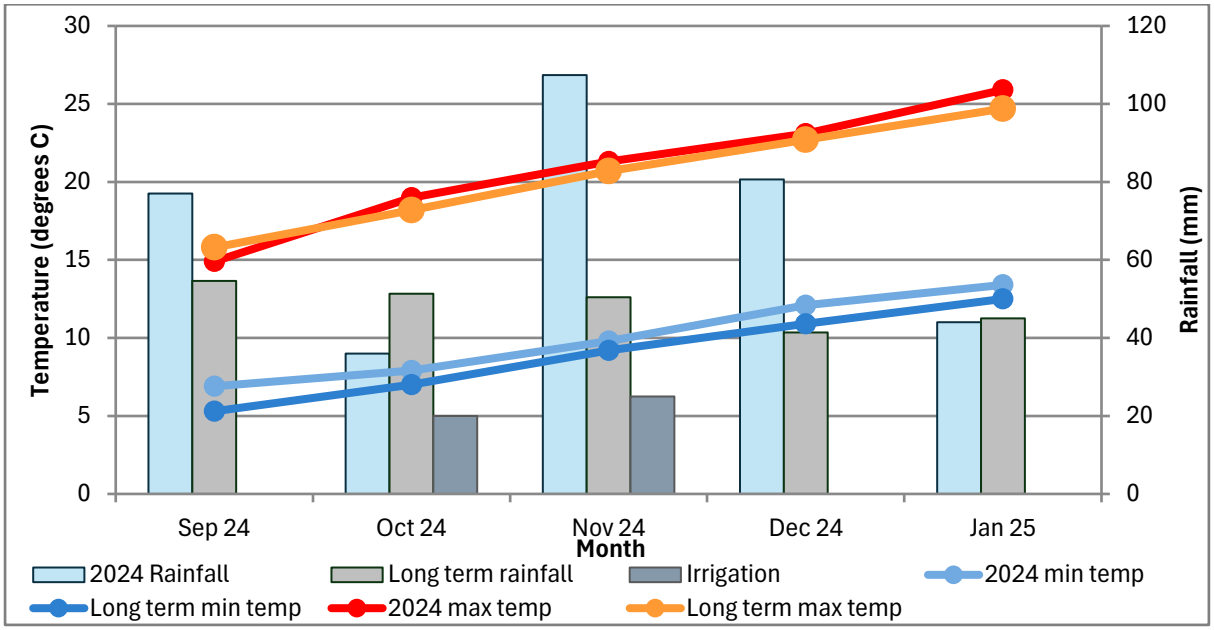

Figure 9 2024 growing season rainfall and long-term rainfall recorded at Strathbridge (Meander River) (1985 -2024) and long-term min and max temperatures recorded at Launceston (Ti Tree Bend) (1980-2024) for the growing season (April to December). *Rainfall and irrigation April to December = 390mm.*

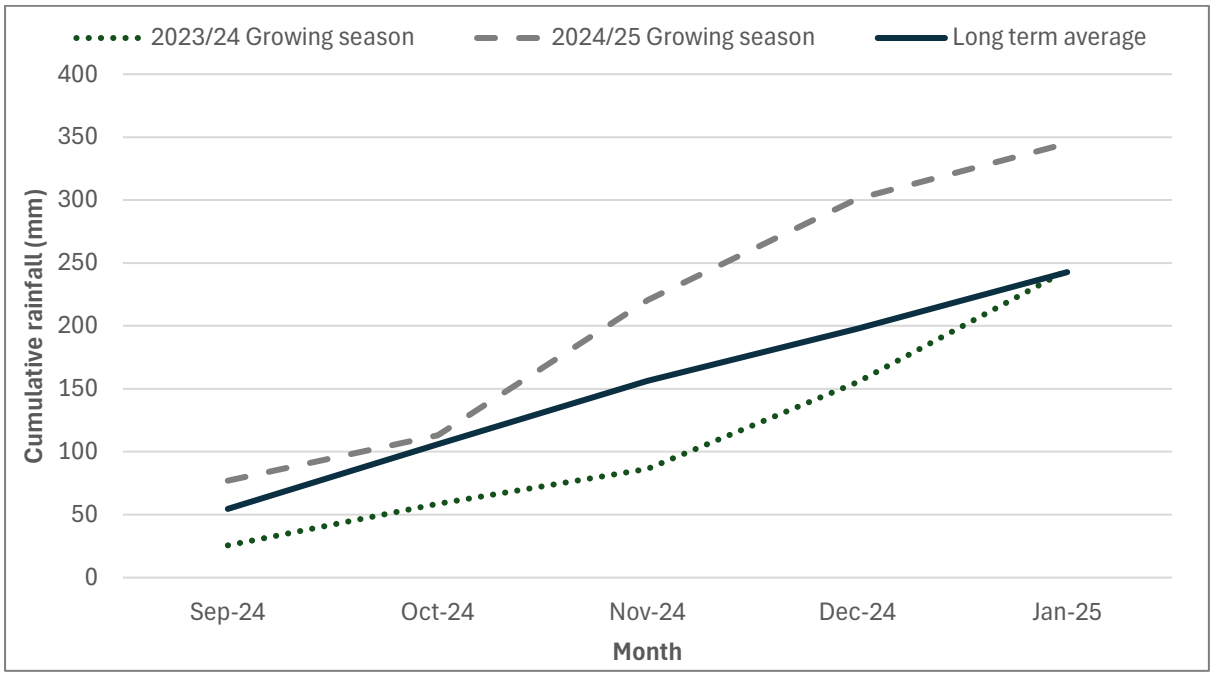

Figure 2. Cumulative growing season rainfall for 2023/24, 2024/25 and the long-term average for the growing season (September- January).