INDUSTRY INNOVATIONS 2025
HARVEST RESULTS – May Sown Canola
2025 SA Crop Technology Centre (HRZ Millicent)

SA Canola HRZ (FAR SAC II C25-62)

Sown: 08/05/2025
Harvested: 19/12/2025
Soil type: Organosol over grey clay

Previous Crop: 2024 wheat, 2023 barley
FAR code: FAR SAC II C25-62
GSR (Apr-Nov): 647mm

The Germplasm Evaluation Network (GEN) is a FAR Australia 'Industry Innovations' initiative that tests crop variety performance across FAR Australia's national network of Crop Technology Centres. GEN sites test variety performance with and without fungicide. FAR Australia provides the control varieties and breeders enter their chosen lines for evaluation.

Key Points:

- *Oilseed yields ranged from 3.74 – 5.17 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=0.059), there was an overall trend of 110 kg/ha yield increase when fungicides were applied, there was no significant interaction between variety and fungicide application (p=0.541).*
- *Nuseed Eagle TF was the highest yielding of the FAR funded control varieties while the coded line RGT65-082TT (5.15 t/ha) significantly outperformed all other varieties.*
- *Nuseed Eagle TF, Pioneer 45Y95 CL, and RGT-9636TF were the second highest yielding cultivars in the trial.*
- *Disease infection and fungicide application did not have a great effect on test weight or oil content, however Hyola Regiment XC (48.7%) gave significantly higher oil contents than all other varieties but was not amongst the high yielding cultivars.*
- *Pioneer 45Y95 CL had significantly higher incidence of blackleg canker in both the stems and raceme (p=<0.001)*
- *CT222309 (TT) had significantly higher incidence of upper canopy infection (UCI) on the racemes (p=<0.001), and for sclerotia on the stems (p=<0.001).*
- *RGT-9636TF was the only variety with significant lodging (p=0.004).*

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

The following three tables (Table 1-3) of data examine the influence of twelve spring canola varieties with and without SDHI seed treatment (treated and untreated) and a single 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 (2025) 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 8 sown

		Management Level					
Variety	**Blackleg**	**Untreated**		**Plus fungicide**		**Mean**	
	Rating	**Yield t/ha**		**Yield t/ha**		**Yield t/ha**	
Nuseed Eagle TF	R	4.86	-	4.99	-	4.93	b
Pioneer 45Y95 CL	RMR	4.68	-	5.01	-	4.84	b
Hyola Blazer TT	RMR	4.21	-	4.30	-	4.25	de
PY525G RR	MR	4.32	-	4.30	-	4.31	d
AN23LR014	--	4.33	-	4.48	-	4.40	cd
RGT Baseline (TT)	MRMS	4.58	-	4.49	-	4.53	c
RGT65-082TT	--	5.17	-	5.13	-	5.15	a
RGT65-074CL	--	3.99	-	4.20	-	4.10	e
RGT-9636TF	--	4.65	-	4.95	-	4.80	b
CT222309 (TT)	--	3.74	-	3.88	-	3.81	f
223907 (CL)	--	4.33	-	4.30	-	4.31	d
Hyola Regiment XC	R	4.34	-	4.48	-	4.41	cd
Mean		**4.43**	**-**	**4.54**	**-**	**4.49**	
LSD Variety p = 0.05		0.20		**P val**		<0.001	
LSD Management p = 0.05		ns		**P val**		0.059	
LSD Variety x Man. p = 0.05		ns		**P val**		0.541	

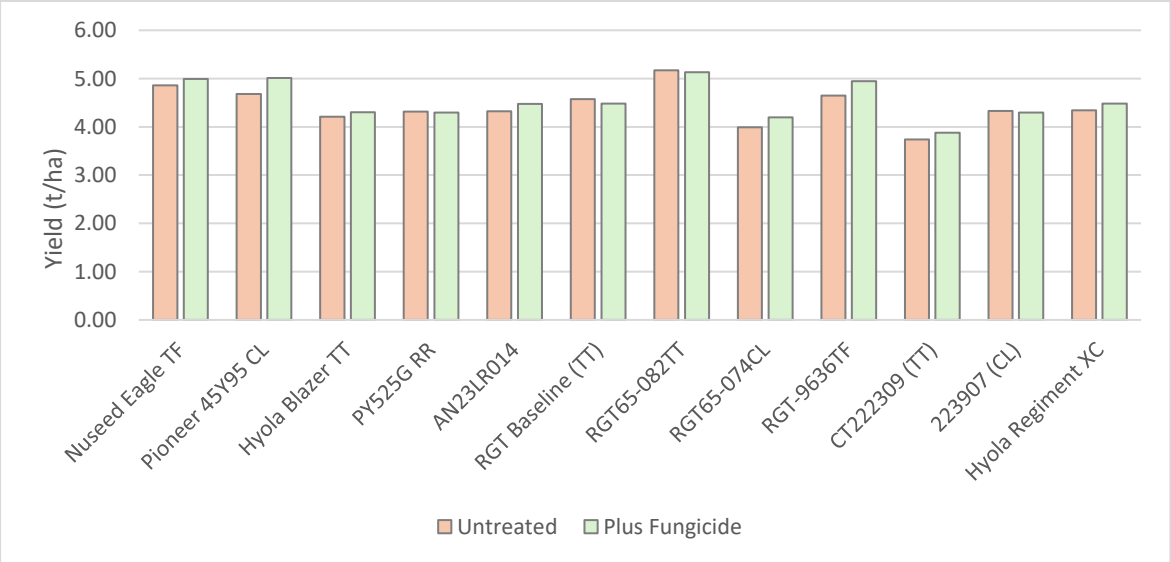

Figure 1. Influence of variety and fungicide application on grain yield (t/ha) of canola (varieties grown plus and minus fungicide) (P values and LSD available in Table 1.) – May 8 sown.

Table 2. Influence of variety and fungicide application on the test weights (kg/hL) – December 19 harvest.

	Management Level					
Variety	**Untreated**		**Plus fungicide**		**Mean**	
	Test Weights (kg/hL)		**Test Weights (kg/hL)**		**Test Weights (kg/hL)**	
Nuseed Eagle TF	60.6	-	60.5	-	**60.5**	**c**
Pioneer 45Y95 CL	61.4	-	61.7	-	**61.6**	**bc**
Hyola Blazer TT	63.0	-	60.8	-	**61.9**	**abc**
PY525G RR	61.3	-	62.5	-	**61.9**	**abc**
AN23LR014	59.7	-	60.5	-	**60.1**	**c**
RGT Baseline (TT)	62.4	-	60.5	-	**61.5**	**bc**
RGT65-082TT	63.2	-	62.4	-	**62.8**	**ab**
RGT65-074CL	60.7	-	62.7	-	**61.7**	**abc**
RGT-9636TF	56.4	-	56.9	-	**56.6**	**d**
CT222309 (TT)	63.9	-	63.4	-	**63.6**	**a**
223907 (CL)	61.9	-	64.6	-	**63.3**	**ab**
Hyola Regiment XC	63.6	-	63.7	-	**63.7**	**a**
Mean	**61.5**	**-**	**61.7**	**-**	**61.6**	
LSD Variety p = 0.05	2.1		**P val**		<0.001	
LSD Management p = 0.05	ns		**P val**		0.894	
LSD Variety x Man. p = 0.05	ns		**P val**		0.511	

Table 3. Influence of variety and fungicide application on the oil content (%) - December 19 harvest.

	Management Level					
Variety	**Untreated**		**Plus fungicide**		**Mean**	
	Oil (%)		**Oil (%)**		**Oil (%)**	
Nuseed Eagle TF	46.3	-	46.8	-	**46.6**	**b**
Pioneer 45Y95 CL	45.2	-	45.8	-	**45.5**	**cd**
Hyola Blazer TT	45.1	-	44.6	-	**44.9**	**d**
PY525G RR	44.6	-	45.6	-	**45.1**	**cd**
AN23LR014	45.3	-	46.2	-	**45.7**	**c**
RGT Baseline (TT)	45.9	-	45.6	-	**45.7**	**c**
RGT65-082TT	45.3	-	45.1	-	**45.2**	**cd**
RGT65-074CL	43.0	-	43.1	-	**43.1**	**e**
RGT-9636TF	44.8	-	45.3	-	**45.0**	**cd**
CT222309 (TT)	45.3	-	45.5	-	**45.4**	**cd**
223907 (CL)	46.8	-	47.4	-	**47.1**	**b**
Hyola Regiment XC	48.6	-	48.7	-	**48.7**	**a**
Mean	**45.5**	**-**	**45.8**	**-**	**45.7**	
LSD Variety p = 0.05	0.8		**P val**		<0.001	
LSD Management p = 0.05	ns		**P val**		0.400	
LSD Variety x Man. p = 0.05	ns		**P val**		0.698	

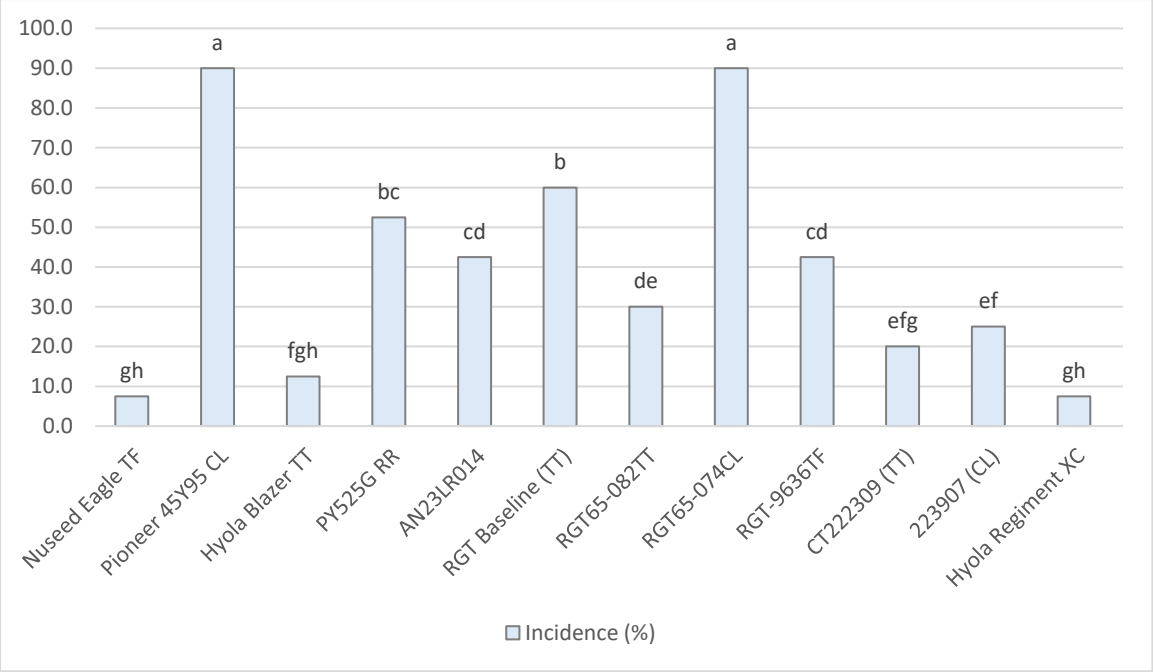

Figure 2. Influence of variety on the incidence of early blackleg canker infection in untreated plots (% of plants infected at 4-8 leaf) – July 18 assessed.

Table 4. Influence of variety and fungicide application on the severity (stem infection %) and incidence (% of stems infected) of **blackleg stem canker** – December 4 assessed.

	Management Level											
Variety	**Untreated**		**Fungicide protection**		**Mean**		**Untreated**		**Fungicide protection**		**Mean**	
	Severity (%)		**Severity (%)**		**Severity (%)**		**Incidence (%)**		**Incidence (%)**		**Incidence (%)**	
Nuseed Eagle TF	4.6	-	10.6	-	**7.6**	ab	40.0	-	30.0	-	**35.0**	c
Pioneer 45Y95 CL	11.8	-	12.4	-	**12.1**	a	82.5	-	75.0	-	**78.8**	a
Hyola Blazer TT	2.4	-	3.9	-	**3.1**	bc	20.0	-	7.5	-	**13.8**	d
PY525G RR	5.1	-	10.1	-	**7.6**	ab	42.5	-	57.5	-	**50.0**	b
AN23LR014	0.5	-	0.7	-	**0.6**	c	12.5	-	15.0	-	**13.8**	d
RGT Baseline (TT)	13.9	-	10.0	-	**11.9**	a	72.5	-	42.5	-	**57.5**	b
RGT65-082TT	4.2	-	3.5	-	**3.9**	bc	22.5	-	20.0	-	**21.3**	cd
RGT65-074CL	6.6	-	8.4	-	**7.5**	ab	70.0	-	57.5	-	**63.8**	b
RGT-9636TF	1.9	-	6.3	-	**4.1**	bc	12.5	-	25.0	-	**18.8**	d
CT222309 (TT)	4.4	-	4.1	-	**4.3**	bc	12.5	-	22.5	-	**17.5**	d
223907 (CL)	0.4	-	3.7	-	**2.0**	bc	12.5	-	7.5	-	**10.0**	d
Hyola Regiment XC	0.2	-	2.6	-	**1.4**	c	15.0	-	10.0	-	**12.5**	d
Mean	**4.7**	**-**	**6.4**	**-**	**5.5**		**34.8**	**-**	**30.8**	**-**	**32.7**	
Variety	**LSD p = 0.05**	11.1	**P val**	<0.001			**LSD p = 0.05**	14.8	**P val**	<0.001		
Management	**LSD p = 0.05**	ns	**P val**	0.148			**LSD p = 0.05**	ns	**P val**	0.443		
Var. x Man.	**LSD p = 0.05**	ns	**P val**	0.906			**LSD p = 0.05**	ns	**P val**	0.171		

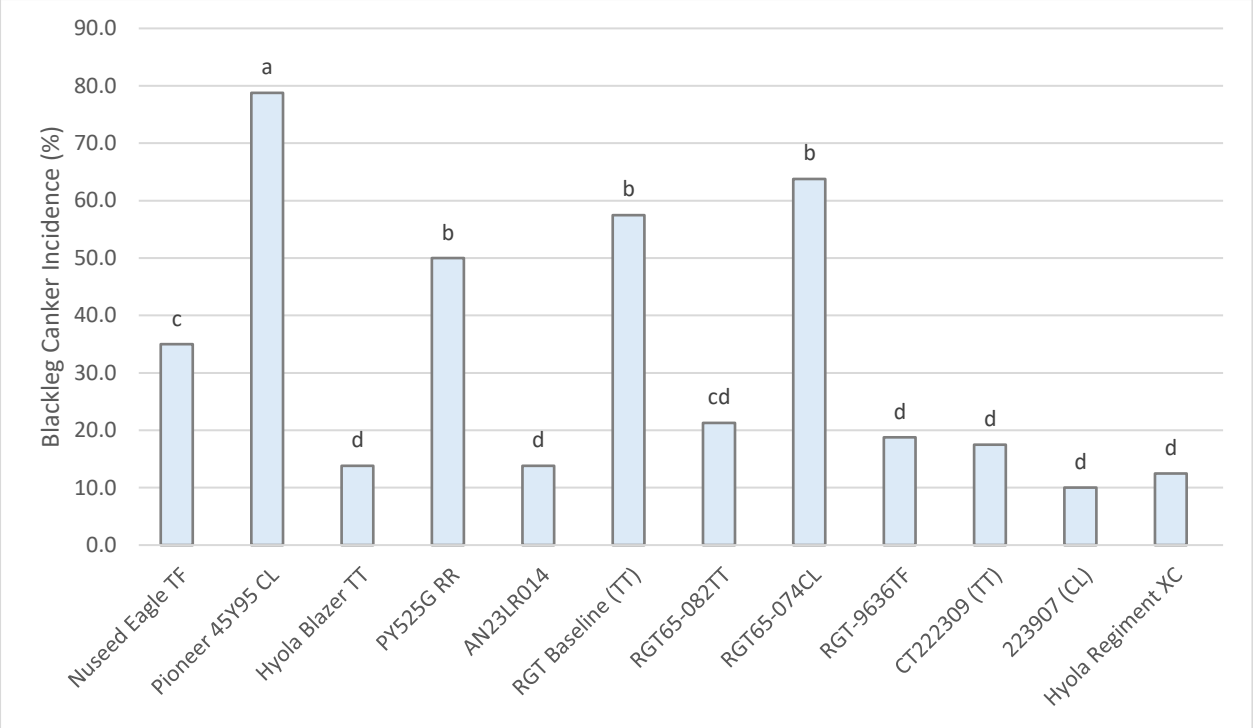

Figure 3. Influence of variety on the incidence of blackleg canker stem infection (% of stems infected) (P values and LSD can be found in Table 4) – December 4 assessed.

Table 5. Influence of variety and fungicide application on the severity (raceme infection %) and incidence (% of racemes infected) of **upper canopy infection (UCI)** blackleg canker – December 4 assessed.

						Management Level								
Variety	**Untreated**		**Fungicide protection**		**Mean**		**Untreated**		**Fungicide protection**		**Mean**			
	Severity (%)		**Severity (%)**		**Severity (%)**		**Incidence (%)**		**Incidence (%)**		**Incidence (%)**			
Nuseed Eagle TF	19.0	-	10.2	-	**14.6**	cde	32.5	-	27.5	-	**30.0**	cd		
Pioneer 45Y95 CL	50.4	-	39.9	-	**45.1**	ab	97.5	-	85.0	-	**91.3**	a		
Hyola Blazer TT	3.0	-	3.0	-	**3.0**	cde	10.0	-	17.5	-	**13.8**	def		
PY525G RR	14.0	-	19.6	-	**16.8**	c	42.5	-	42.5	-	**42.5**	bc		
AN23LR014	3.1	-	0.3	-	**1.7**	de	12.5	-	2.5	-	**7.5**	ef		
RGT Baseline (TT)	12.8	-	2.6	-	**7.7**	cde	30.0	-	15.0	-	**22.5**	c-f		
RGT65-082TT	3.5	-	0.0	-	**1.8**	de	10.0	-	0.0	-	**5.0**	f		
RGT65-074CL	0.4	-	0.0	-	**0.2**	e	5.0	-	0.0	-	**2.5**	f		
RGT-9636TF	20.6	-	11.4	-	**16.0**	cd	30.0	-	22.5	-	**26.3**	cde		
CT222309 (TT)	67.4	-	49.6	-	**58.5**	a	92.5	-	75.0	-	**83.8**	a		
223907 (CL)	40.9	-	41.8	-	**41.3**	b	60.0	-	60.0	-	**60.0**	b		
Hyola Regiment XC	9.9	-	2.9	-	**6.4**	cde	40.0	-	20.0	-	**30.0**	cd		
Mean	**20.4**	**-**	**15.1**	**-**	**17.8**		**38.5**	**-**	**30.6**	**-**	**34.6**			
Variety	**LSD p = 0.05**		14.7	**P val**	<0.001		**LSD p = 0.05**		20.9	**P val**	<0.001			
Management	**LSD p = 0.05**		ns	**P val**	0.109		**LSD p = 0.05**		6.6	**P val**	0.032			
Var. x Man.	**LSD p = 0.05**		ns	**P val**	0.959		**LSD p = 0.05**		ns	**P val**	0.986			

Table 6. Influence of variety and fungicide application on the severity (stem infection %) and incidence (% of stems infected) of **sclerotinia** – December 4 assessed.

	Management Level											
Variety	**Untreated**		**Fungicide protection**		**Mean**		**Untreated**		**Fungicide protection**		**Mean**	
	Severity (%)		**Severity (%)**		**Severity (%)**		**Incidence (%)**		**Incidence (%)**		**Incidence (%)**	
Nuseed Eagle TF	2.5	cd	6.0	cd	4.3	c	2.5	ef	10.0	c-f	6.3	bc
Pioneer 45Y95 CL	5.1	cd	2.0	cd	3.6	c	15.0	cde	2.5	ef	8.8	bc
Hyola Blazer TT	0.0	d	0.0	d	0.0	c	0.0	f	0.0	f	0.0	c
PY525G RR	0.0	d	9.6	cd	4.8	c	0.0	f	17.5	cd	8.8	bc
AN23LR014	2.3	cd	10.0	cd	6.1	bc	2.5	ef	20.0	bc	11.3	b
RGT Baseline (TT)	0.0	d	2.5	cd	1.3	c	0.0	f	10.0	c-f	5.0	bc
RGT65-082TT	2.6	cd	2.5	cd	2.6	c	5.0	def	2.5	ef	3.8	bc
RGT65-074CL	0.0	d	0.0	d	0.0	c	0.0	f	0.0	f	0.0	c
RGT-9636TF	3.5	cd	1.1	cd	2.3	c	5.0	def	5.0	def	5.0	bc
CT222309 (TT)	6.5	cd	26.9	a	16.7	a	12.5	c-f	32.5	ab	22.5	a
223907 (CL)	5.6	cd	23.1	ab	14.4	ab	12.5	c-f	35.0	a	23.8	a
Hyola Regiment XC	12.3	bc	0.3	cd	6.3	bc	15.0	cde	2.5	ef	8.8	bc
Mean	**3.4**	**-**	**7.0**	**-**	**5.2**		**5.8**	**-**	**11.5**	**-**	**8.7**	
Variety	**LSD p = 0.05**	8.6	**P val**	0.003			**LSD p = 0.05**	10.5	**P val**	<0.001		
Management	**LSD p = 0.05**	ns	**P val**	0.060			**LSD p = 0.05**	ns	**P val**	0.074		
Var. x Man.	**LSD p = 0.05**	12.2	**P val**	0.026			**LSD p = 0.05**	0.8	**P val**	0.007		

Table 7. Influence of variety on crop lodging (0-500).

	Management Level					
Variety	**Untreated**		**Fungicide protection**		**Mean**	
Nuseed Eagle TF	0.0	b	0.0	b	0.0	b
Pioneer 45Y95 CL	0.0	b	0.0	b	0.0	b
Hyola Blazer TT	0.0	b	0.0	b	0.0	b
PY525G RR	0.0	b	0.0	b	0.0	b
AN23LR014	0.0	b	0.0	b	0.0	b
RGT Baseline (TT)	0.0	b	0.0	b	0.0	b
RGT65-082TT	0.0	b	0.0	b	0.0	b
RGT65-074CL	0.0	b	0.0	b	0.0	b
RGT-9636TF	116.3	a	0.0	b	58.1	a
CT222309 (TT)	0.0	b	0.0	b	0.0	b
223907 (CL)	0.0	b	0.0	b	0.0	b
Hyola Regiment XC	0.0	b	0.0	b	0.0	b
Mean	**9.7**	**-**	**0.0**	**-**	**4.8**	
Variety	**LSD p = 0.05**	28.1	**P val**	0.004		
Management	**LSD p = 0.05**	ns	**P val**	0.190		
Var. x Man.	**LSD p = 0.05**	39.7	**P val**	0.004		

Table 8. Trial input and management details for the trial (kg, g, mL/ha, L/ha).

Sowing date:		**8 May**	
Harvest date:		**19 December**	
Seed rate:		60 seeds/m^2	
Seed treatment		All plots – SDHI seed treatment & insecticide	
Basal fertiliser:	8 May	145 Kg/ha MAP	
Pre-em herbicide:	8 May	Triflurlin 1.50 L/ha	
		Overwatch 1.25 L/ha	
Post-em herbicide overall:	30 June	Platinum Select 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:	19 may	Talstar 40 mL/ha	
Molluscicide:	8 May	Metarex 10 kg/ha	
	19 Nov	Snail bait	
Fertiliser:	12 June	SOA/Urea (50:50) 200 kg/ha (66 kg N/ha)	
	5 Aug	100 kg urea/ha (46 kg N/ha)	
	24 Aug	150 kg urea/ha (69 kg N/ha)	
Fungicide:		**Untreated**	**Fungicide Protection**
	BBCH 16	----	Prosaro 0.45 L/ha

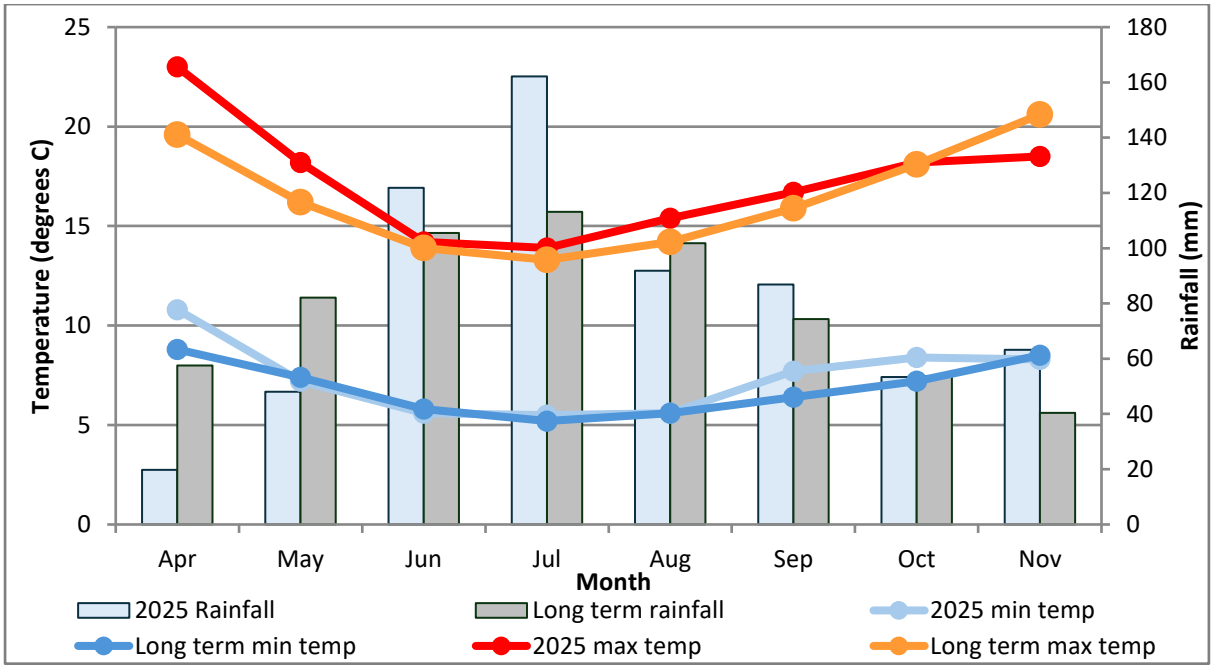

Figure 4. 2025 growing season rainfall and long-term rainfall recorded at Millicent (1877-2025). 2025 min and max temperatures, and long-term temperatures recorded at Mount Gambier (1941-2025). *Growing season rainfall April to November= 647mm.*

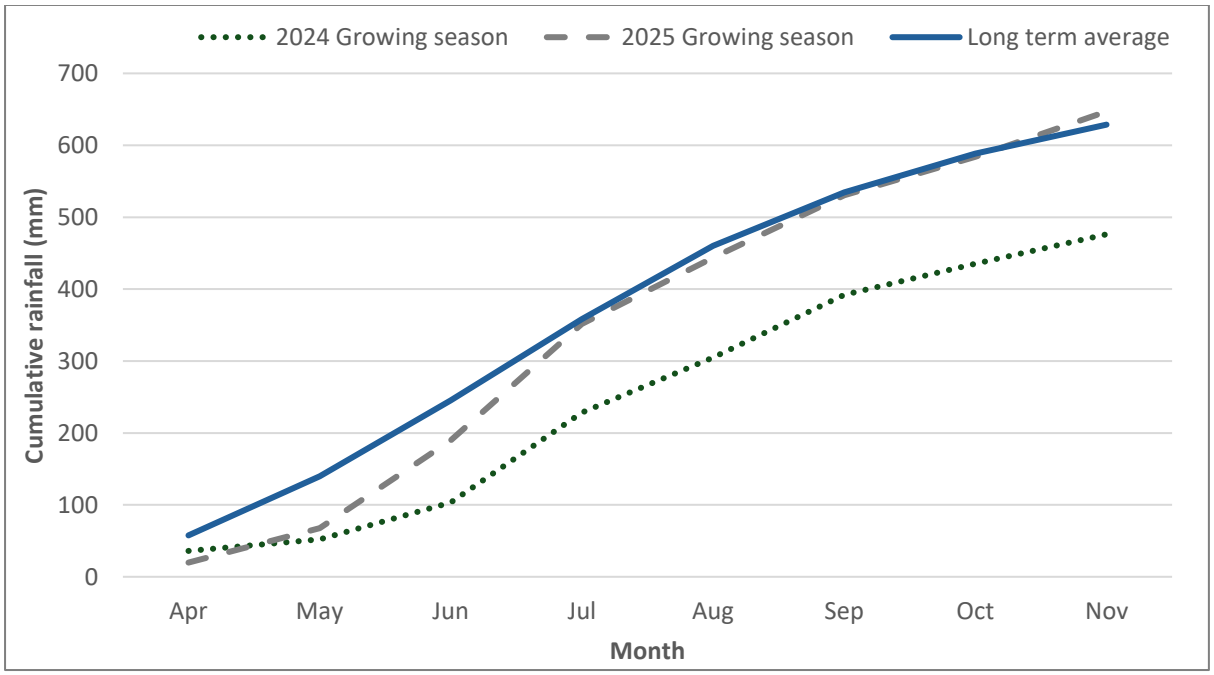

Figure 5. Cumulative growing season rainfall (April-November) for 2024, 2025, and the long-term average at Millicent (1877-2025).

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