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Innovations**

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INDUSTRY INNOVATIONS 2024: PROVISIONAL HARVEST RESULTS – April Sown Canola 2024 VIC Crop Technology Centre (HRZ Gnarwarre)

Sown: 19 April 2024

Harvested: 12 December 2024

Rotation position: 2023 Wheat

Soil type: Clay

FAR code: FAR VIC II C24-44

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

Key Points:

- *A 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 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)

The following three tables (Table 1-3) of data examine the influence of eight canola varieties and a two-spray fungicide application on the seed yield and seed quality at the FAR Australia Victoria Crop Technology Centre at Gnarwarre in the HRZ. Although in 2024 Growing Season Rainfall (GSR) April – October was only 271 mm based on SILO interpolated data.

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).

Variety	Management Level		Management Level		Management Level	
	Untreated		Plus fungicide		Mean	
	Yield t/ha		Yield t/ha		Yield t/ha	
Pioneer PY525G OptiGly	2.75	b-e	2.45	ef	2.60	cd
Nuseed Eagle TF	2.96	abc	3.04	abc	3.00	b
45Y95 CL	3.30	a	3.14	ab	3.22	a
Hyola Blazer TT	2.67	c-f	2.93	a-d	2.80	bc
Hyola Continuum CL	2.71	c-f	2.91	bcd	2.81	b
Hyola Regiment XC	2.95	abc	3.07	abc	3.01	b
AN23LR014	3.00	abc	2.78	bcd	2.89	b
RGT65-074CL	2.63	def	2.32	f	2.48	d
Mean	2.87		2.83			
LSD Variety p = 0.05	0.21		P val		<0.001	
LSD Management p = 0.05	ns		P val		0.774	
LSD Variety x Man. p = 0.05	0.30		P val		0.029	

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

Variety	Management Level		Management Level		Management Level	
	Untreated		Plus fungicide		Mean	
	Test Weight kg/ha		Test Weight kg/ha		Test Weight kg/ha	
Pioneer PY525G OptiGly	64.5	-	64.9	-	64.7	c
Nuseed Eagle TF	63.9	-	64.3	-	64.1	d
45Y95 CL	63.5	-	63.3	-	63.4	e
Hyola Blazer TT	65.4	-	65.1	-	65.3	ab
Hyola Continuum CL	65.3	-	65.2	-	65.3	ab
Hyola Regiment XC	64.7	-	65.0	-	64.9	bc
AN23LR014	63.5	-	63.1	-	63.3	e
RGT65-074CL	65.6	-	65.2	-	65.4	a
Mean	64.6		64.5			
LSD Variety p = 0.05	0.5		P val		<0.001	
LSD Management p = 0.05	ns		P val		0.893	
LSD Variety x Man. p = 0.05	ns		P val		0.468	

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

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

Table 4. Trial input and management details for the trial (kg, g, mL/ha, L/ha).

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

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