PROVISIONAL HYC HARVEST RESULTS:

Canola Genotype x Environment x Management (GEM) Trial

2020 NSW Hyper Yielding Crops Research Centre

Hyper Yielding Crops (FAR2004-002SAX)

A Grains Research & Development Corporation (GRDC) national investment

Sown: 17 April, 2020
Harvested: 28 November, 2020 (spring cultivars) & 14 December, 2020 (winter cultivars)
Rotation position: Canola 2018, Wheat 2019.
Soil type: Clay loam

Key Messages:

- *45Y28 (RR), Xseed Condor and HyTTec Trifecta were the highest yielding cultivars, yielding just under 5 t/ha with high input management.*
- *Increasing nitrogen and fungicide input increased grain yield by an average of 0.74 t/ha.*
- *The three highest yielding cultivars had the strongest response to increased inputs, with an average response of 0.94 t/ha compared with an average of 0.62 t/ha for all other cultivars.*

Table 1. Influence of management strategy and variety on grain yield (t/ha).

	Management Level		
	Low input	**High input**	**Mean**
Cultivar	**Yield t/ha**	**Yield t/ha**	**Yield t/ha**
ATR Wahoo (spring)	3.40 fg	4.00 c	**3.70**
HyTTec Trifecta (spring)	4.03 c	4.96 a	**4.49**
SF Ignite TT (spring)	3.66 de	4.37 b	**4.01**
Nuseed Diamond (spring)	3.52 efg	4.28 b	**3.90**
45Y28 RR (spring)	3.92 c	4.92 a	**4.42**
Xseed Condor (spring)	3.94 c	4.84 a	**4.39**
Hyola 970CL (winter)	3.35 cd	3.88 cd	**3.61**
SF Edimax CL (winter)	2.79 i	3.41 fg	**3.10**
SF Nizza CL (winter)	3.04 h	3.60 ef	**3.32**
Mean	**3.51**	**4.25**	
LSD Cultivar p = 0.05	0.16	P val	<0.001
LSD Management p=0.05	0.08	P val	<0.001
LSD Cultivar x Man. P=0.05	0.23	P val	0.045

Please read the notes accompanying these express results for interpretation
Winter – winter canola, Spring – spring canola.
Yield figures followed by the same letter are not considered to be statistically different (p=0.05).

Issued: insert date

The GRDC Hyper Yielding Crops Project is led by FAR Australia in collaboration with:

*Plot yields: The trial was sown on 6 * 25 cm row spacing, 200 cm centre to centre. Yields are based on a plot width of 192.5 cm which assumes 10% lower yield in the inter-plot space (75 cm row space). Provisional results have been analysed through Genstat software with further analysis once final results are released.*

Table 2. Details of the management levels.

Plant population:		Target 45 plants/m²	
Available nitrogen (sowing)		140 kg/ha	
Organic Carbon		1.7%	
	Timing	**Low input**	**High input**
Basal Fertiliser:	17 April	130 kg/ha MAP (13 kg/ha N)	
	17 April	150 kg/ha SOA (30 kg/ha N)	
Nitrogen*:	6-leaf	30 kg/ha	30 kg/ha
	Bud visible		30 kg/ha
	Start flower		30 kg/ha
Total N Applied:		**73 kg/ha**	**133 kg/ha**
Fungicide*:	17 April	Flutriafol 500 on fertiliser 0.2 L/ha	
	30 May	Prosaro 0.45 L/ha	
	20% Bloom	Prosaro 0.45 L/ha	Aviator Xpro 0.8 L/ha
	50% Bloom		Prosaro 0.45 L/ha

All other inputs of insecticides and herbicides were standard across the trial.
**Nitrogen inputs and fungicide sprays were completed according to growth stages which were different for each cultivar.*

Meteorological Data – New South Wales Crop Technology Centre

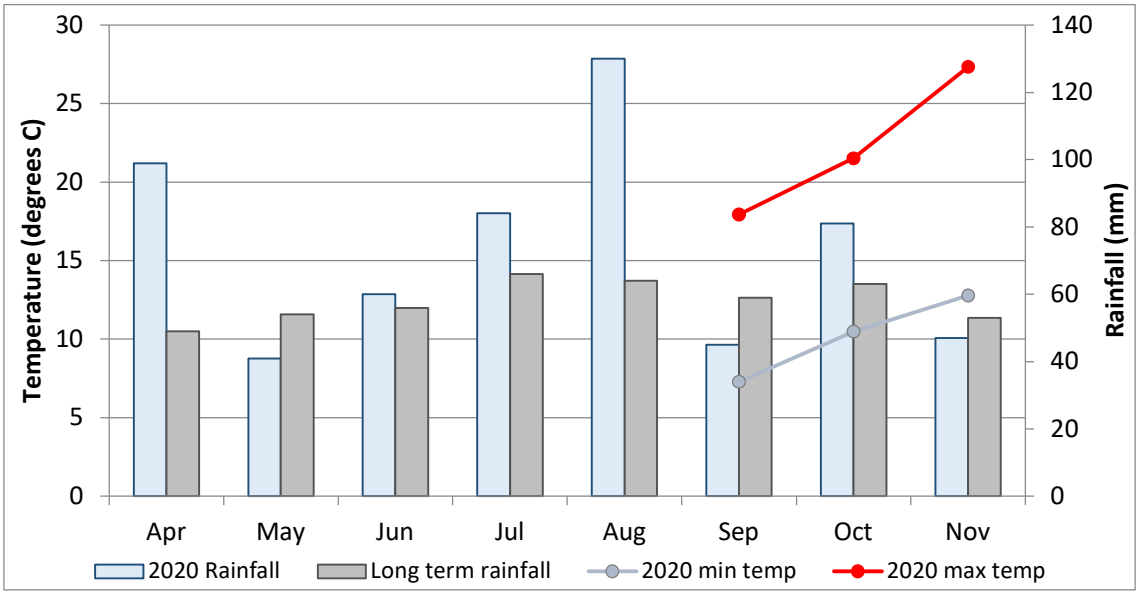

Figure 1. 2020 rainfall and long-term rainfall (1955-2020), min and max temperatures recorded at research site. Partial temperature data set due to timing of weather station installation.

FAR Australia and Brill Ag gratefully acknowledges the investment support of the GRDC in order to generate this research, project partners and the input of the Baldry Family.