

HARVEST YIELD RESULTS

Canola Nutrition Trial

2021 VIC Crop Technology Centre

Hyper Yielding Crops Project (FAR2004-002SAX)

A Grains Research & Development Corporation (GRDC) investment

Sown: 25 April 2021

Harvested: 13 December 2021

Rotation position: 2020 Wheat, 2019 Canola, 2018 Wheat

Soil type: Grey clay loam, Canola Variety 45Y28RR

Key Messages:

- A grain yield of close to 6 t/ha was achieved where a high rate of nitrogen fertiliser was combined with the application of animal manure to replicate high fertility soils in mixed legume rotation.
- The manure alone increased yield by 0.75 t/ha and raised the bar on our understanding of achievable yield for canola for this environment.
- Yield responses to bagged N peaked at 150kg N/ha and similar yields were achieved between 150, 225, and 300kg/ha of applied N (urea)
- Grain quality results are pending.

Treatments: Five nitrogen rates applied as urea with an equal split at 6-leaf and bud visible stage. A sixth treatment had 6.7 t/ha of pig manure applied.

Table 1. Yield of the Nutrition trial (t/ha) in Canola (45Y28RR).

Applied Nitrogen in Crop	Yield	
	Yield (t/ha)	
Nil	4.03	d
75 kg N /ha	4.49	c
150 kg N /ha	4.94	b
225 kg N /ha	5.14	b
300 kg N /ha	4.95	b
225 kg N /ha + 6.7 t/ha Pig Manure*	5.89	a
Mean	4.91	
LSD 0.05	0.36	
P Val	<0.001	

*Pig Manure expressed dry matter basis (2.7% Nitrogen, and 1.26% Phosphorus) = additional 169kg N/ha and 85kg P/ha to replicate high fertility soils.

Table 2. Details of the management levels.

Sowing date:		25 April
Plant population:		45 plants/m ²
Canola Variety		Pioneer 45Y28RR
Basal Fertiliser:		150 kg/ha MAP (15 kg/ha N) 125 kg/ha SOA (26.2 kg/ha N)
Fungicide:	Seed trt	Saltro Duo
	6 - Leaf	Prosaro 450mL/ha
	20% Bloom	Aviator Xpro 800mL/ha

All inputs of insecticides and herbicides were standard across the trial

Meteorological Data – Victoria Crop Technology Centre

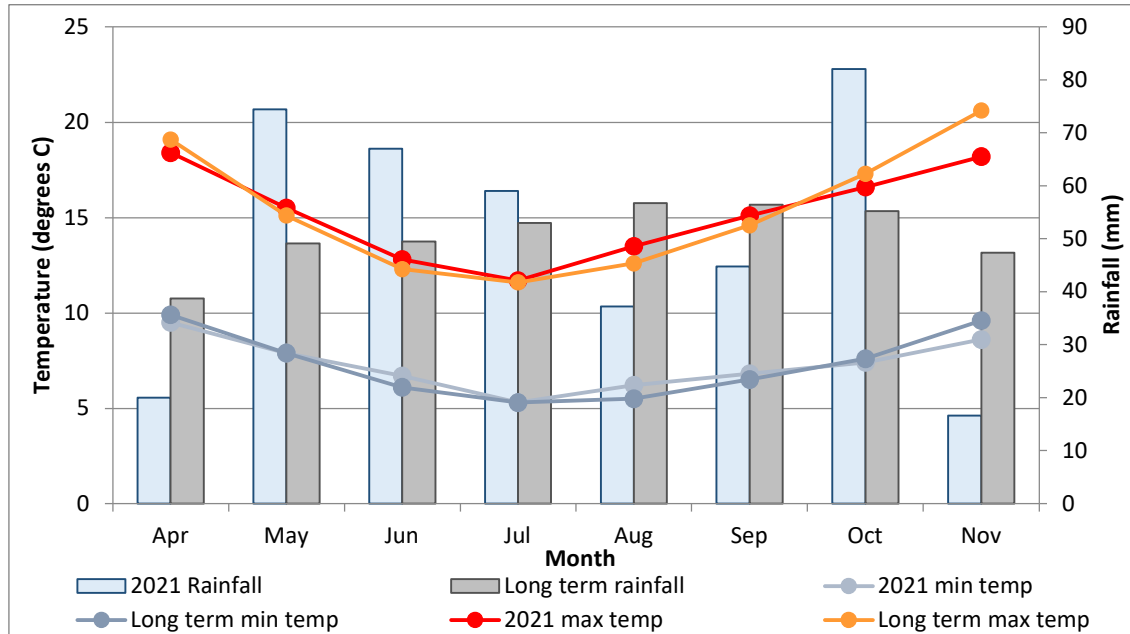


Figure 1. 2021 growing season rainfall and long-term rainfall (1898-2021) (recorded at Winchelsea (Post Office)), 2021 min and max temperatures and long-term min and max temperatures (2000-2021) (recorded at Colac (Mount Gellibrand)) for the growing season. *Rainfall April to November= 401.0mm.*

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