



Department of  
Primary Industries

Variety Specific  
AGRONOMY  
Packages

# Canola variety interaction with nitrogen rate and placement in southern New South Wales

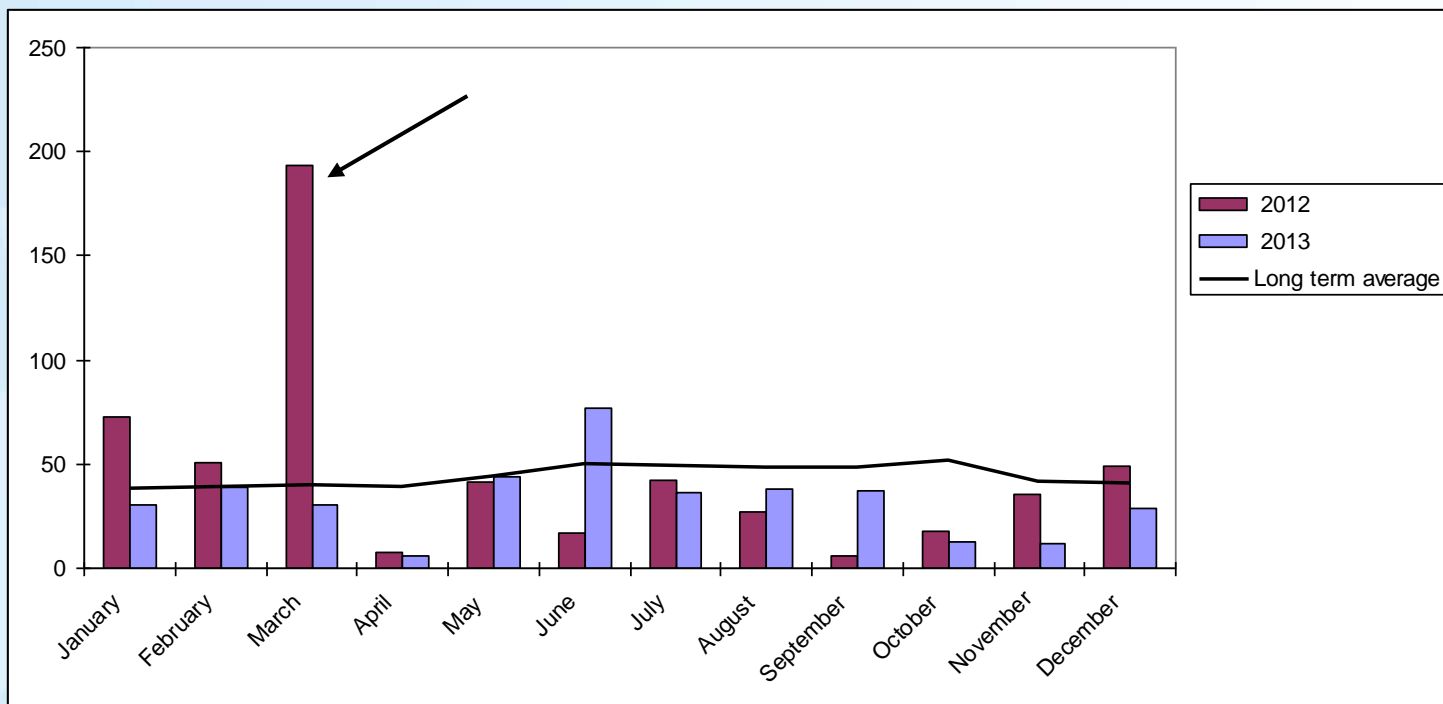
Eric Koetz, Karl Moore, Barry Haskins, Neil Coombes and Peter Martin



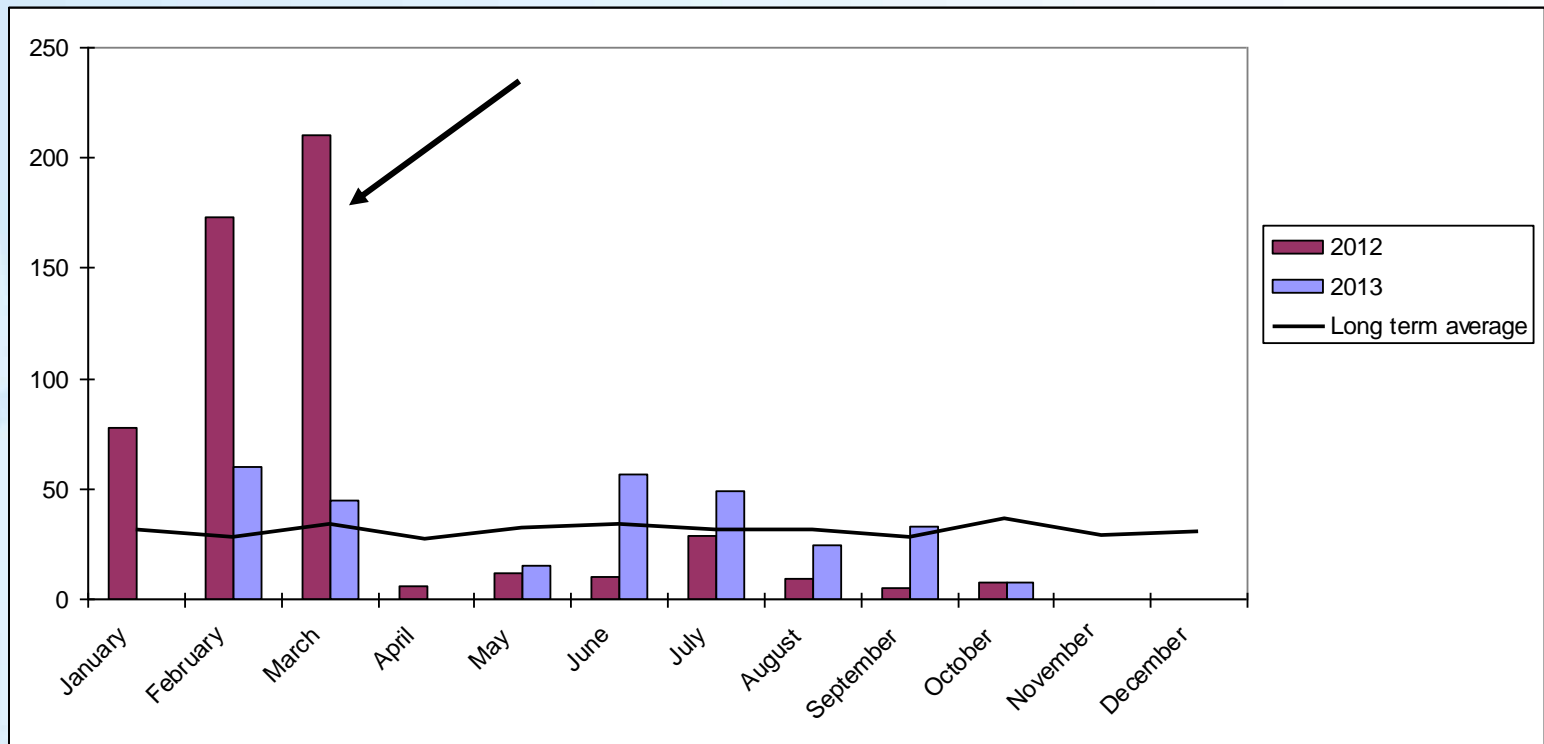
## Trial information

- 4 experiments,
- 2 @ WW,
- 23cm row sp, Red brown earth,
- 2 @ MW, Red sandy loam, 25cm row sp

## Rainfall, Wagga Wagga 2012 and 2013



## Rainfall, Merriwagga 2012 and 2013

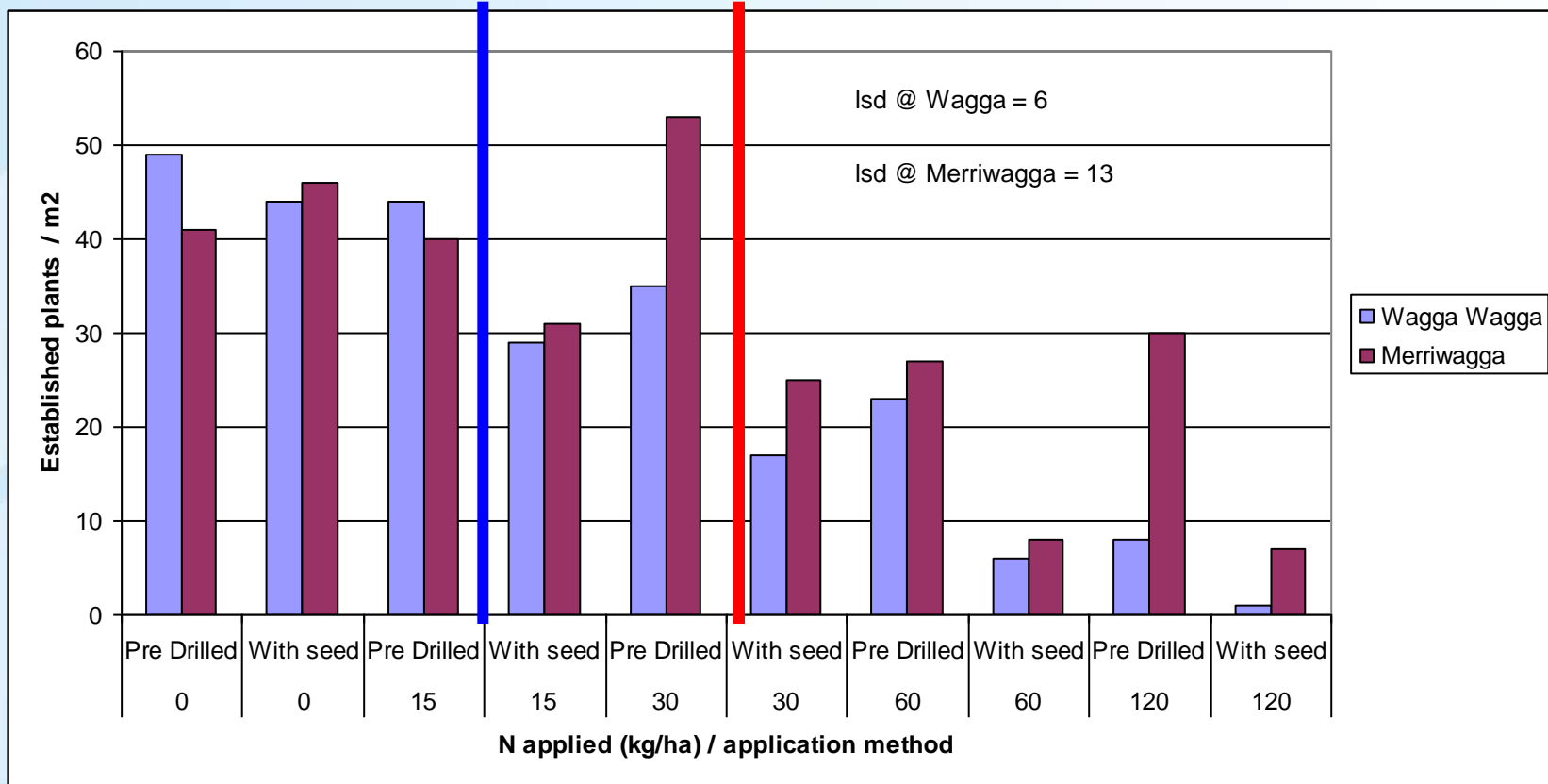


**Table 1. Canola varieties sown in experiments at Wagga Wagga and Merriwagga**

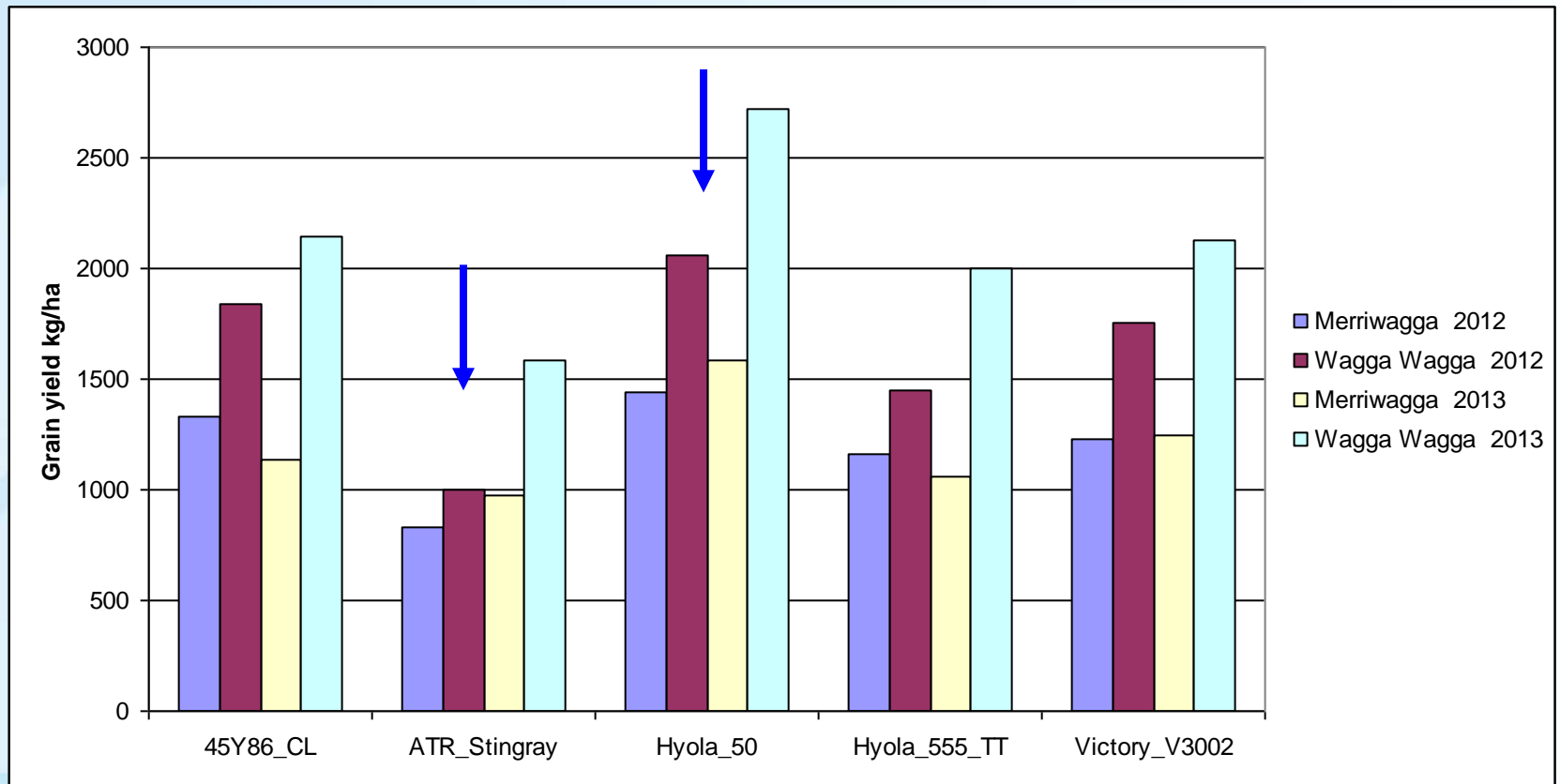
Variety	Pollination type	Planted in 2012	Planted in 2013
ATR Stingray_TT	Open pollinated	Y	Y
43Y85_CL	Hybrid	-	Y
44Y84_CL	Hybrid	Y	-
45Y86_CL	Hybrid	Y	Y
Hyola_50	Hybrid	Y	Y
Hyola_555_TT	Hybrid	Y	Y
Victory_V3002	Hybrid	Y	Y

# Results

## Established plant numbers of 2 canola trials sown at Wagga Wagga and Merriwagga in 2012



## Grain yield of varieties averaged across all nitrogen rates and fertiliser placements at Wagga Wagga and Merriwagga in 2012 and 2013





## Grain yield of fertiliser placement and nitrogen rate interactions averaged across all varieties

Location		Merriwagga	Wagga Wagga	Merriwagga	Wagga Wagga
Year		2012	2012	2013	2013
Nitrogen Applied (kg/ha)	Fertiliser Application Method				
0	Pre Drilled	1503	2276	1218	2502
	With seed	1452	2024	1253	2439
15	Pre Drilled	1518	2260	1467	2527
	With seed	1413	1677	1504	2360
30	Pre Drilled	1561	2068	1500	2593
	With seed	1209	1514	1148	2195
60	Pre Drilled	1403	1761	1760	2649
	With seed	704	717	1041	1223
120	Pre Drilled	1004	1230	1802	2601
	With seed	348	22	479	561
lsd(p<0.05)		243	190	264	343

# Discussion



- The separation of nitrogen from the seed is critical to good crop establishment
- There was a significant reduction in crop establishment when N rates  $>30\text{kg/ha}$
- Even with 5cm separation we experienced large reductions in plant establishment
- Grain yield was significantly reduced when N rates exceeded  $15\text{ kg/ha}$  @ Merriwagga &  $30\text{kg/ha}$  @ Wagga

- Canola generally responds to increased N application, however grain yield only increased @ Merriwagga in 2013
- At the Wagga Wagga sites, the experiments were conducted on old Lucerne paddocks, there was no grain yield response to N application
- At Merriwagga in 2012 there was below average rainfall during the growing season and the previous season had field peas

- At Merriwagga there was a net loss from N application in 2012
- In 2013 there was a positive grain yield response to N application
- Most profitable was 60kg N/ha

- Hybrid varieties were the highest yielding in all 4 experiments, however it should be noted that we only had 1 OP variety
- Hyola\_50 was the highest yielding variety at all sites
- ATR Stingray\_TT was the lowest yielding variety at all sites
- Varietal selection, especially in marginal areas is very important



## Acknowledgements

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