

# Canola Variety Trial

The aim of this trial is to determine the suitability of various canola varieties to the Southern Mallee environment.

## Summary

The short season regular (non TT) canola varieties yielded the best at the Birchip and Sea Lake sites. Monty was one of the best performing varieties at both sites. Variability within variety plots was very high at Birchip and differences in yield were not significant.

In the Mallee season length appears to be the most important factor contributing to the selection of a variety. Only a few of the varieties (Surpass, Hyola 42 and Charlton reached the 40% oil level).

Karoo is the best-suited TT canola in the Southern Mallee. Oil contents were very low for all the TT varieties tested. When planning to grow canola growers should allow for the lower oil in the TT canola varieties (1.5% reduction in price for every 1% oil below 40%).

## Background

Canola variety breeding is conducted by VIDA (two letter, two digit crossbreds) and AgSeed Pty Ltd (Aga crossbreds) in Horsham, by NSW Ag (BLN crossbreds) in Wagga and by Pacific seeds (PAC crossbreds) in Toowoomba, QLD. Quality, yield and disease resistance are some of the characteristics important if the canola industry wants to maintain a strong position in the export market in the future. There are new lines released each year. New traits include higher yield and/or oil, and/or longer, shorter season. More data is needed to see how they perform in the Mallee and southern Mallee environments.

## Method

*Birchip:* Sown May 19; *Sea Lake:* Sown May 8

## Results

While the emergence was poor at both sites, all varieties performed relatively well considering the season. (Table 1.1)

**Table 1.1 Canola variety yields**

Variety	Sea Lake yld (t/ha)	% Oil	Birchip yld (t/ha)	% Oil
Scoop	1.17	35.2	1.36	38.6
Monty	1.31	36.8	1.42	38.7
Grouse	1.07	36.6	1.30	39.0
Rainbow	1.19	36.7	1.24	37.7
Aga 97.7	1.03	38.2	1.15	38.2
Aga 96.8	0.81	40.0	1.31	38.5
RK 7 (Mystic)	0.94	37.8	1.28	37.5
Charlton	0.88	39.2	1.18	40.5
Hyola 42	1.05	37.5	1.37	40.5
PAC141	0.94	38.1	1.40	39.7
PAC145	0.62	39.0	1.24	38.1
Oscar	-		1.29	39.4
Dunkeld	-		1.44	38.3
PAC142 (Surpass 600)	-		1.63	40.2
PAC143	-		1.36	na
Significant difference	P<0.05 LSD=0.35		NS	

### Interpretation

Monty was the best performing variety at Sea Lake, unfortunately the short season variety Surpass was not sown at Sea Lake (it performed well at Birchip).

At Birchip, there were no significant differences in yield. Even though yields appear very different, the variation between plots masked any variety differences (table 1.2).

### TT Canola

**Table 1.2 TT canola variety yields**

Variety	Sea Lake yld (t/ha)	% Oil	Birchip yld (t/ha)	% Oil
Drum	0.61	33.3	1.00	34.6
Karoo	0.65	33.5	1.19	36.5
Pinnacle	0.55	33.1	1.10	36.9
Clancy	0.60	33.4	1.10	35.1
<b>Significant difference</b>	<b>NS</b>		<b>NS</b>	

### Interpretation

There were no significant differences in yield at Birchip. Even though yields appear very different, the variation between plots masked any variety differences. Oil contents, as expected, were very low for the TT canola varieties.

### Commercial Practice

Shorter season varieties are best suited to the Mallee and southern Mallee. In the northern Wimmera mid season varieties are the best choice.

Karoo TT canola is the best of the TT varieties for the Southern Mallee and Mallee.

Pinnacle is the best choice in TT canola for the northern Wimmera.

**Table 1.3 Canola variety description**

Variety	Other features	Blackleg score#	Season	Oil*	Early vigor	Rainfall district (mm)	Bir % yield	SL % yield
Drum TT	Improved lodging and shattering tolerance.	5	Early	4.5	Poor	L-M	84	94
Karoo TT	Early TT ideal for Mallee	4	Early	5.0	P-avg	L-M	100	100
Pinnacle TT	Better blackleg tolerance	7	Mid-late	6.0	P-avg	M-H	92	85
Clancy TT (BLN 973)	Better lodging and shatter tolerance	7	Mid	5.0	Poor	M-H	92	92
Scoop (BLN 887)	Replacement for Oscar and Rainbow	8	Mid	8.0	Avg	L-M	96	89
Monty (BLN 900)	Better lodging and shatter tolerance	6	Early	6.5	Avg	L-M	100	100
Grouse	Mid season, good oil	8	Mid	7.5	Avg	M-H	92	82
Rainbow	Reliable performance	7	E-mid	6.0	Exc	M-H	87	91
Aga 97.7	Better oil content & blackleg tolerance	7	E-mid	8.0	Avg	L-M	81	79
Aga 96.8	Not suited to Mallee – late	8	Mid	8.5	Exc	H	92	62
Mystic (RK 7)	Improved oil content	7	Early	7.0		L-H	90	72
Charlton	High oil and protein	8	Mid-late	8.5	Exc	M-H	83	67
Oscar	Improved quality characteristics.	7	Mid	6.0	Avg	M-H	90	-
Dunkeld	High oil and protein	8	Mid-late	8.0	Exc	M-H	101	-
Hyola 42	Suited to southern Mallee.	2	Early	6.5	Exc	L-M	96	80
PAC 141	Open pollinated		Early	7.0		L-M	98	72

PAC 145	Apetalous (no petals on flowers)		V early			L	87	47
PAC 142 Surpass	excellent seedling vigour & good blackleg tolerance	7	Mid		Exc	M-H	115	-
PAC 143			Mid	7.0			96	-

#score: 1 highly susceptible, 9 resistant

\*1 to 9 scale for relative oil content, where 1 is very low and 9 is very high