

Conventional, triazine tolerant and Clearfield canola variety trials – Inverleigh, Vic.

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- Average canola yields in the trials were 2.7-2.8 t/ha.
- The highest yielding conventional hybrid was Hyola 50.
- The highest yielding Clearfield hybrid was Pioneer®46Y78 at 21% above the comparative variety.
- The triazine tolerant varieties all produced similar yields, although variation for the trial was high.
- The mean yields of canola with the Clearfield, triazine tolerant and conventional herbicide systems were similar at 2.8, 2.8 and 2.7 t/ha, respectively.

Introduction

Some of the key features to consider when selecting a new canola variety are yield, oil content, blackleg resistance, early vigour and suitability of maturity to growing season length. Additionally growers need to consider which herbicide resistance package fits in with the problem weeds on their property.

These trials compared a number of varieties that are either commercially available or close to commercial release that are suitable for growing high rainfall zone of the southern Victoria. Another objective of the trials was to gain the best gross margin through management of inputs based on the yield potential for the season.

Southern Farming Systems members and sponsors are acknowledged for supporting the trial, with input from Wes Arnott, Gary Sheppard, Rohan Wardle, Louisa Ferrier and Colin Hacking.

Method

Three canola variety trials were held at the Inverleigh site of Southern Farming Systems. These were a conventional trials, comparing two varieties, a Clearfield trial, comparing five varieties, and a triazine tolerant trial, with nine varieties.

Weeds were controlled in trial plots pre-sowing with 1.5 L/ha trifluralin on 14 May. On 15 May 2007, 0.25 L/ha S-metolachlor as Dual Gold was applied to the site and simazine 900 was also applied to triazine tolerant varieties at 1.1 kg/ha. 0.2 L/ha bifenthrin (as Talstar) was also applied on 15 May for insect control. The trial was sown the same day with 100 kg/ha MAP in a fully randomised block design with four replicates. Plot size was 12 m x 1.45 m. 90 kg/ha urea was topdressed on 16 July. On 30 July, Select was applied at

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0.25L/ha with Hasten(1Lt/ha). For the Clearfield varieties only, Intervix was sprayed at 0.3 L/ha (with Hasten 0.5 L/ha) on 1 August.

Rainfall at the Inverleigh trial site for 2007 was 528.6 mm, with 393 mm of growing season rainfall (April-November), which was average for the area. However, August to October was very dry with only 67% of long term average, followed by significant rainfall during November and a wet December. The timing of the rain in early November arrived too late for most of the longer season varieties to exploit their full potential.

Disease pressure at the site was low.

Results

Only two conventional canola varieties/hybrids were used in the trial, with Hyola 50 yielding 23% more than ^{AV}Garnet at the site (Table 1). Oil content was good and similar for both varieties.

Table 1:

Yield (t/ha) and oil content (%) of the varieties, type and maturity of conventional varieties/hybrids.

Variety	Maturity	Yield	Yield % ^{AV} Garnet	Oil %
Hyola 50 (hybrid)	Early - mid	2.96	123%	44.1
^{AV} Garnet	Mid	2.41	100%	43.8
Mean		2.69		44.0
LSD (p<0.05)		0.37		1.7
CV%		12.83		2.69

The newer Pioneer hybrids, 46Y78 and 45Y77 performed best at the trial site, despite differences in maturity (Table 2). Oil content was good and similar for all varieties.

Table 2:

Yield (t/ha) and oil content (%) of the varieties/hybrids, and maturity of Clearfield™ varieties/hybrids.

Variety	Maturity	Yield	Yield % 46Y76	Oil %
Pioneer@46Y78 (hybrid)	Mid - late	3.15	121%	44.3
Pioneer@45Y77 (hybrid)	Early-mid	2.84	109%	-
Pioneer@46Y76 (hybrid)	Mid - late	2.61	100%	44.1
Warrior CL	Early-mid	2.60	100%	43.5
Rocket CL	Mid - late	2.60	100%	43.5
Mean		2.76		43.9
LSD (p<0.05)		0.50		
CV%		12.05		2.69

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The triazine tolerant canola trial was more variable with a coefficient of variation (CV) of more than 15%, so results need to be viewed with some caution. All varieties produced similar yields and oil content, ie no significant difference (Table 3).

Table 3:

Yield (t/ha) and oil content (%) of the varieties, type and maturity of triazine tolerant varieties.

Variety	Maturity	Yield	Yield % ^{ATR} Summitt	Oil %
Rottnest TTC	Early - Mid	2.99	108	43.6
^{ATR} Marlin	Mid - Late	2.97	102	43.4
Tawriffic TT	Early - Mid	2.97	101	43.2
^{ATR} Summitt	Mid	2.94	100	42.8
^{ATR} Barra	Mid	2.73	95	42.0
Flinders TTC	Mid - Late	2.72	93	42.6
Bravo TT	Early - Mid	2.61	92	43.6
Tornado TT	Mid	2.54	89	43.2
Thunder TT	Mid - Late	2.42	86	43.3
Mean		2.78		43.1
LSD (p<0.05)		0.63		
CV%		15.46		2.69

The mean yields of canola the Clearfield, triazine tolerant and conventional herbicide systems were similar at 2.76, 2.78 and 2.69 t/ha, respectively (no LSD available).

Oil content of the Clearfield, triazine tolerant and conventional herbicide systems were 43.9, 43.1 and 44.0%, respectively (no LSDs available).

Commercial practice

The hybrids Pioneer®46Y78 and Hyola 50 produced very good yields. The top yielding canola variety from within the three trials for the third consecutive season have been hybrids. These varieties, if grown to maximise their potential, may significantly increase grower returns over and above industry benchmark varieties.

Of the conventionals used in this trial (^{AV}Garnet and Hyola 50), both new varieties have given excellent yields in National Variety Trials in Victoria. In this trial, Hyola 50 outperformed ^{AV}Garnet – possibly due to its earlier maturity, as the November rain was too late for most of the canola varieties at eth site. Of note, at the Hamilton and Streatham NVT sites, also in southwest Victoria, ^{AV}Garnet outyielded Hyola 50 by 13% and 14%, respectively.

The newer mid and mid-late maturing Pioneer hybrids are proving to be good performers for Clearfield canola in southwest Victoria, both in Southern Farming Systems trials and NVTs.

Triazine tolerant (TT) varieties tend to produce 13-15% lower yields than non-TT varieties when treated as a conventional variety. These are inherently lower yielding. However, in southwest Victoria, the opportunity to use the TT "system" allows growers to better manage both for *Brassica* weeds such as wild radish and also use Group C herbicides to control grass weeds. This trial has demonstrated that they can also produce yields similar

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to the Clearfield and conventional varieties when they are treated with the triazine herbicides.

Acknowledgements

Thanks to John Hamilton for providing the land for the trial programme and Langdon's Produce for grain analysis.