

Choosing a canola variety – What should I be considering for 2013?

By Ed Hilsdon - SFS

Take home messages:

- 45Y22RR was the top performer across both sites, yielding at 120% of the site mean at Inverleigh and 109% at Westmere.
- The Mid and Mid to Late season varieties of Thumper, Hyola 555 & Crusher TT have performed consistently well over the past 3 seasons across a number of trials in the Lake Bolac area. Hyola 656 TT will be one to watch after showing promise at both SFS sites in 2012.
- Hyola 50 & Garnet conventional varieties have proved to be reliable performers over the past 4 years, regularly yielding 3t/ha and over.
- 45Y86 CL was the standout Clearfield variety in 2012, with Hyola 575 CL remaining a consistent performer over the past 2 years.

Background

The purpose of this trial was to evaluate a range of commercially available canola varieties. These reflect the most widely grown varieties in the area and include others that may be considered in the future. They include a number of different grades, reflecting market options in Southern Victoria.

Method

The trials were sown using the SFS cone seeder on 20cm row spacing's using 2.5cm knifepoints. Establishment pests were controlled during the early phases of crop development and herbicide programmes were conducted in accordance with commercial practice. Fertiliser at sowing was MAP at 100kg/ha, treated with flutriafol. Urea was top dressed at a rate of 150kg/ha and applied at stem extension. The trial was direct headed following desiccation.

Results & Discussion

Westmere:

The trial was sown on the 8th May following wheat & harvested on the 7th December. Canola performed very well in 2012 with no variety yielding below 3.1t/ha. Similar to 2011 results, the Roundup Ready varieties yielded the highest at a mean of 3.71t/ha, followed by TT's, Conventional then Clearfield varieties. 43Y23 RR and Thumper TT were the two top performing varieties across the trial both yielding over 4t/ha and at 113% of their site means. The Conventional group of varieties had the highest mean oil content followed by the TT group.

Table 1 Yield and quality of canola varieties at Westmere 2012

Variety	Yield (t/ha)		% Site mean	Oil Content (%)		Maturity
Clearfield						
45Y86 CL	3.63	a	107%	42.7	cd	Mid
Hyola 575 CL	3.57	ab	105%	42.9	bc	Mid
Hyola 474 CL	3.51	ab	103%	44.1	a	Mid Early
45Y82 CL	3.30	abc	97%	42.5	cd	Early Mid
44Y84 CL	3.24	bc	95%	43.5	ab	Early
43Y85 CL	3.12	c	92%	42.0	d	Early
Mean	3.40			43.0		
LSD (P=.05)	0.33			0.8		
CV	5.53			1.0		
Triazine Tolerant						
Thumper TT	4.16	a	113%	44.3	ab	Mid Late
Hyola 555 TT	3.88	ab	105%	42.7	c	Mid Early
Crusher TT	3.84	ab	104%	40.8	d	Mid
Jardee TT	3.75	bc	102%	40.6	d	Mid
Hyola 656 (T98022) TT	3.74	bc	102%	43.7	bc	Mid Late
Atomic (CBWA 1368) TT	3.69	bc	100%	42.5	c	Mid

NT0184 TT	3.68	bc	100%	43.6	bc	
Stingray TT	3.62	bcd	98%	42.8	bc	Early
Hyola 559 (T98060) TT	3.60	bcd	98%	43.5	bc	Mid
NT0174 TT	3.54	bcd	96%	43.9	abc	
Jackpot TT	3.42	cd	93%	45.2	a	Mid Early
Gem TT	3.29	d	89%	43.9	abc	Early Mid
Mean	3.58			43.1		
LSD (P=.05)	0.35			1.5		
CV	6.61			2.4		

Roundup Ready						
43Y23 RR	4.18	a	113%	40.7	c	Early
45Y22 RR	4.06	a	109%	40.6	c	Mid Early
Frontier RR	3.98	ab	107%	40.7	c	Mid
46Y20 RR	3.65	bc	98%	46.6	a	Mid
IH50RR RR	3.63	bc	98%	41.1	bc	Early Mid
Cobra RR	3.61	bc	97%	43.1	b	Mid
CHYB1120 RR	3.59	bc	97%	41.1	bc	Early Mid
Hyola 404 RR	3.57	c	96%	46.5	a	Early Mid
Hyola 505 RR	3.53	c	95%	45.5	a	Mid Early
Mustang RR	3.32	c	89%	42.7	bc	Mid Late
Mean	3.71			42.9		
LSD (P=.05)	0.39			2.2		
CV	6.17			3.0		

Conventional						
Hyola 50	3.77	a	102%	43.4	b	Mid
Garnet	3.52	a	100%	43.4	ab	Mid
Zircon	3.40	a	99%	45.0	a	Mid
Mean	3.56			43.9		
LSD (P=.05)	0.39			1.57		
CV	6.84			2.24		
Site mean	3.19			43.9		

Means followed by the same letter do not significantly differ ($P=.05$, LSD).

45Y86 CL was the highest performing Clearfield variety in 2012 at Westmere. There was a tendency for the mid maturing varieties to perform better than the early maturing ones in this trial, which was expected in the longer season environment. Thumper TT was the top performing TT variety, significantly out yielding 9 out of 12 of the varieties in this group. 43Y23 RR was the best yielding RR variety, however there was a tendency for the higher yielding lines to have lower oil content.

There was no significantly highest yielding variety from the conventional group. All three cultivars produced the highest mean oil contents for this trial, and Zircon had a significantly higher oil content than Hyola 50.

Inverleigh:

The trial was sown on the 14th May following barley & harvested between the 30th November and the 7th December. The site mean this year at Inverleigh was 0.1t/ha down from 2011 at 2.89t/ha. The top yielding variety, Pioneer's hybrid Roundup Ready 45Y22 RR, performed at 120% of the site mean. This has taken top spot from the breeders previous generation, 45Y21 RR, which was the top yielding cultivar in 2011. With a longer maturity than its predecessor it is better able to make the most of a longer season, high rainfall environment. Oil content was low in both the Clearfield and TT groups in particular, with many of the Roundup Ready varieties reaching the base level of 42%.

The Clearfield varieties performed strongly with 5 out of the 6 lines yielding over 3t/ha. Pioneer's 43Y85 CL was the lowest ranked variety in the trial, yielding statistically lower than the rest. 45Y86 and 45Y84 CL (Pioneer) were the only two varieties to produce oil's over the base level. Jackpot and Jardee TT were the 2 lowest ranking varieties in the TT group, yielding statistically lower than Hyola 656 from Pac Seeds, the top performing cultivar. Oil content was

below the standard across the group.

Table 2 Yield & Quality of canola varieties at Inverleigh 2012.

Variety	Yield (t/ha)		% Site mean	Oil Content (%)		Maturity
Clearfield						
45Y86 CL	3.53	a	113%	42.7	a	Mid
Hyola 474 CL	3.27	a	105%	41.1	a	Mid Early
Hyola 575 CL	3.25	a	104%	38.8	a	Mid
45Y82 CL	3.11	a	100%	42.2	a	Early
44Y84 CL	3.09	a	99%	41.7	a	Early Mid
43Y85 CL	2.47	b	79%	33.2	a	Early
Mean	3.12			39.9		
LSD (P=.05)	0.51			12.0		
CV	10.8			20.0		

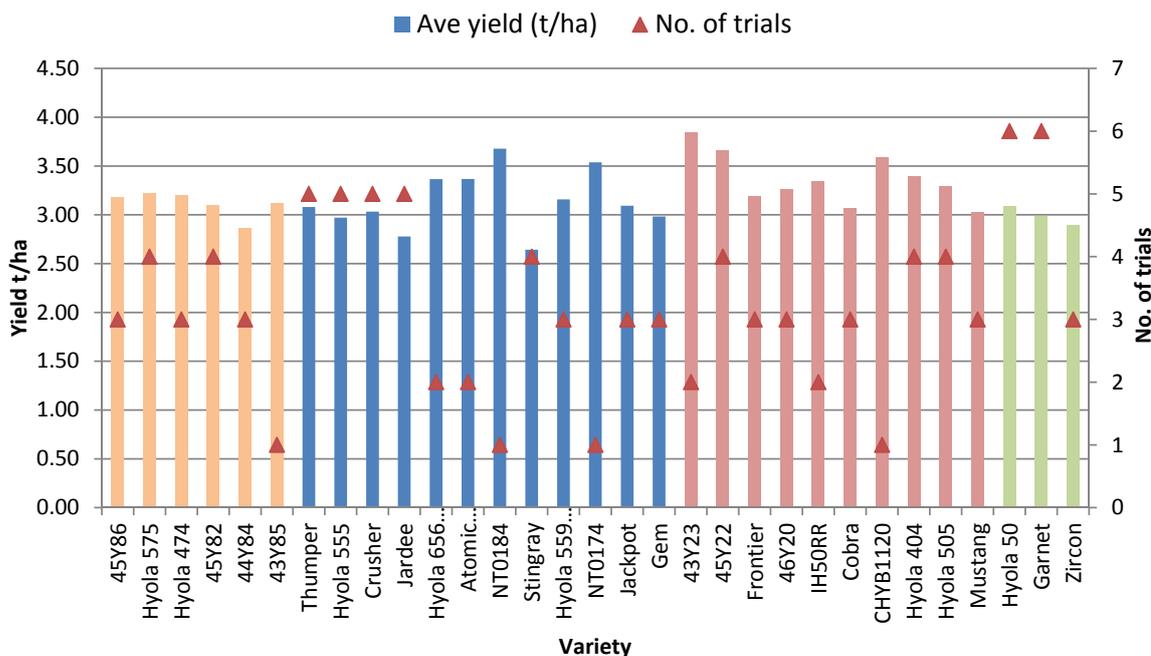
Triazine Tolerant						
Hyola 656 TT	3.11	a	115%	39.9	bc	Mid Late
NT0184 TT	3.03	a	112%	40.6	abc	
Gem TT	2.87	ab	106%	41.4	ab	Early Mid
Crusher TT	2.80	ab	103%	39.1	c	Mid
Hyola 555 TT	2.68	ab	99%	41.2	ab	Mid Early
Atomic TT	2.68	ab	99%	40.9	abc	Mid
Hyola 559 TT	2.67	ab	98%	40.9	abc	Mid
Thumper TT	2.67	ab	98%	42.1	a	Mid Late
CHYB 1120 TT	2.59	ab	95%	41.1	abc	
Stingray TT	2.58	ab	95%	42.1	a	Early
Jackpot TT	2.44	b	90%	41.2	ab	Mid Early
Jardee TT	2.42	b	89%	39.5	bc	Mid
Mean	2.71			40.8		
LSD (P=.05)	0.59			2.0		
CV	15.00			3.4		

Roundup Ready						
45Y22 RR	3.55	a	120%	43.5	cde	Mid Early
GT50 RR	3.10	b	105%	43.9	bcd	Early Mid
43Y23 RR	3.04	b	103%	42.5	ef	Early
GT41 RR	2.97	b	100%	42.7	e	Early
Frontier RR	2.95	bc	100%	41.4	f	Mid
CHYB1120 RR	2.94	bc	99%	43.0	de	Early Mid
Cobra RR	2.93	bc	99%	44.3	bc	Early Mid
Hyola 404 RR	2.91	bc	98%	45.8	a	Early Mid
IH50RR RR	2.86	bc	97%	42.4	ef	Mid
Mustang RR	2.84	bc	96%	42.9	de	Mid Late
Hyola 505 RR	2.79	bc	94%	44.7	ab	Mid Early
46Y20 RR	2.63	c	89%	43.9	bcd	Mid
Mean	2.96			43.4		
LSD (P=.05)	0.33			1.2		
CV	7.60			1.9		
Site mean	2.89			41.7		

Commercial application - what does this mean to the grower?

As with other crops it is important to consider a number of key issues when deciding on a variety to grow including;

- How proven is it? Don't just pick a variety based on one year's trial data. Where possible evaluate and compare the performance of a variety over a number of seasons and using a number of trials within the district or areas of similar season length. Use all resources available to you to help you make this decision including National Variety Trials (NVT) which publish results online soon after harvest (www.nvtonline.com.au)
- Consider your intended market: this may have implications for in crop management of inputs but also marketability and storage, eg. GM versus non GM.
- Specific agronomic management: consider your inputs and how these might vary between varieties and can be season dependent, particularly with disease control where, depending on the ratings, you may need to adapt your control programmes.
- Maturity – consider flowering dates relative to the environment.
- Yield environment: some varieties will perform better than others in different growing environments.
- Weed control: consider alternative chemistry to reflect the weed population in you paddock.



Graph 1 Yield performance 2009-2012 from SFS & NVT trials nr Lake Bolac

Clearfield Canola Hyola 575 CL remains a consistent performer over the past 2 seasons as has the new variety 45Y86 CL from Pioneer in 2013. They have performed well in both SFS and NVT trials and would be a strong consideration for those that are after a high yielding and high oil Clearfield variety suited to late April / early May sowing.

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Growers must remember that with the use of imidazolinone herbicides (Intervix) there are long plant backs due to the enhanced residual nature of the technology. This may impose restrictions on planting options post-harvest depending on how late in the season the Clearfield herbicide is used and if the conditions for breakdown are not met. In addition, Intervix is a group B herbicide and therefore if you have existing Group B resistance in your ryegrass from chemicals used in your cereal phase there will more likely of a cross resistance emerging for imi-herbicides. Be aware of this developing and choose technologies that will help you rotate your groups as much as possible over your cropping phases.

Roundup Ready Canola Pioneer's 45Y22 RR and the Hyola 404 and 505 RR from Pacific Seeds have yielded consistently well over the past 2 years of SFS & NVT trials. The Roundup Ready system offers a total weed control situation which will be favoured by growers with herbicide resistant weeds. Such a system allows growers the opportunity to clean up problem weeds such as resistant ryegrass. This coupled with strong early hybrid vigour allows stronger plants to develop with quicker canopy closure than other varieties.

Triazine Tolerant Canola The Mid and Mid to Late season varieties of Thumper, Hyola 555 & Crusher TT have performed consistently well over the past 3 seasons across a number of trials in the Lake Bolac area. Hyola 656 TT will be one to watch in 2013 after showing promise this season. The hybrids now appear to be offering better yields than the open pollinated varieties. Once again, consider how you use group A herbicides particularly Clethodim in this phase to ensure longevity of the chemical.

Conventional Canola Hyola 50 & Garnet have proved to be reliable performers over the past 4 years, regularly yielding 3t/ha and over. Once you have decided on your herbicide technology system, choose a variety for its yield performance over its oil performance in the high rainfall zone. Obtaining any premium for oil is a bonus and shouldn't be a major driver in decision making. If we compare two varieties from the Westmere trial this year;- 45Y22 RR out yielded Hyola 505 RR by 0.53t/ha. This equates to \$266.59/ha more based on the GM canola price of \$503/t (SQP Pricing Indications Geelong Port basis, 3.1.13). Even with a \$10.5 deduction for oil this was still considerably more profitable a variety this year than Hyola 505 RR which returned an oil bonus of \$26.6. We are comparing a penalty of \$37.1 for oil against a benefit of \$266.59 for yield, making 45Y22 RR still \$229.49 ahead. Yield is still king.

Acknowledgments

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