

Canola Seed Sizing

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Key points

- **Selecting for larger canola seed has production and profitability benefits.**
- **The extra value from larger canola seed is independent of sowing date.**

Background

For a number of years growers have shown increasing interest in quantifying the potential benefits of seed sizing on canola production and profitability.

As a response to this interest, a number of seed size treatments were included in replicated trials at Baker Seed Co, Rutherglen, to measure the benefits of grading grower-retained open-pollinated triazine-tolerant (TT) canola seed for size.

Aim

The aim of this trial was to quantify the benefits of selecting larger canola seed from grower-retain stocks and determine the profitability of doing so.

Method

Canola seed was graded to ensure clean and undamaged seed was used for the trial. Three different canola size grades were identified and segregated:

- Small (1.35-1.75mm diameter)
- Medium (1.75-2mm diameter)
- Large (>2mm diameter).

Trials were carried out during 2014 and 2015 as part of a larger seed treatment trial. The 2014 trial used Gem TT canola, sown on a single sowing date, while the 2015 trials used Bonito TT canola sown on two sowing dates. Both the Gen TT and Bonito TT canola had been grown at Rutherglen by Lilliput Ag.

Seed was treated with Jockey® and Gaucho® during 2014 trial, and Jockey® and Poncho Plus® during 2015. Seed was counted and sown to achieve the same target plant numbers (45plants/m₂).

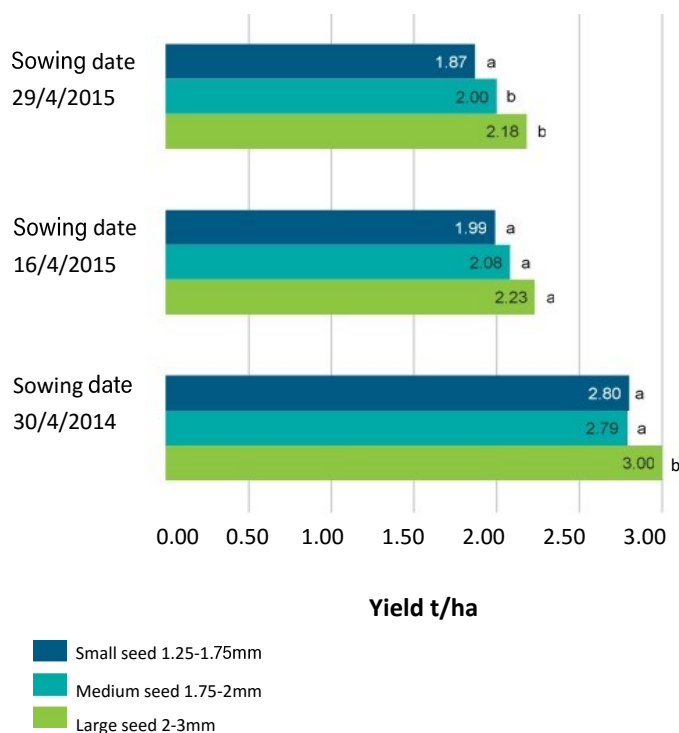
Results

Results from the two years of trials are shown in Figure 1. The 2014 trial, sown on 30 April, showed a significant increase in yield of 200kg/ha at the largest seed size compared with both the small and medium-sized seed.

The 2015 canola sown on 16 April did not show any significant differences, due to high variability within the trial. However, the medium and large seeded canola sown on 29 April yielded significantly more than the small seed. The yield increase with large-size canola over the small-seeded canola was 310kg/ha.

The results on vigour have also been consistent and remarkable in the trials, with visual differences evident (Figure 2).

Figure 1 Effect of seed size on canola yield, when sown on 30 April 2014, 16 April 2015 and 29 April 2015.



Letters denote significant difference in yield within each sowing date.

Economics

Seed sizing and sowing large grower-retained seed from open-pollinated TT varieties resulted in returns between medium and large-sized seed ranging from \$67.50/ha to \$94.50/ha (Table 1).



Figure 2 Visual differences in vigour were evident between treatments sown with small, medium and large canola seed (left to right). These photos were taken on 22 May 2014, 23 days after sowing

Table 1 Economic return from seed sizing and sowing of grower-retained open-pollinated TT varieties sown on 30 April 2014, and 16 and 29 April, 2015.

	Sowing date 30 April 2014		Sowing date 16 April 2015		Sowing date 29 April 2015	
	Yield (t/ha)	Income (\$/ha)	Yield (t/ha)	Income (\$/ha)	Yield (t/ha)	Income (\$/ha)
Small seed	2.80a	1260.00	1.99a	895.50	1.87a	841.50
Medium seed	2.79a	1255.50	2.08a	936.00	2.00b	900.00
Large seed	3.00b	1350.00	2.23a	1003.50	2.18b	981.00
LSD P=0.05	0.172		0.284		0.185	
CV	3.630		8.090		5.730	
Figures followed by different letters are regarded as statistically significant. *Based on a farm gate canola price of \$450/t						

There was also a correlation of yield improvement between each size grade, highlighted that the bigger seed the better the yield outcome. The exception to this was during the 2014 trial where the small seed tended to perform better slightly better than the medium sized seed.

Conclusion

Commercial seed sizing and grading is available and easily achieved. Baker Seed Co continue to offer this professional service to growers. Contact Aaron on 0400 232 703 for further details.

Acknowledgements

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Reference

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