

Canola agronomy – retaining hybrid seed

Key findings

- The early growth of commercial and farmer retained canola seed appeared to be similar
- Jockey fungicide seed treatment improved the yield of farmer retained seed for the triazine and imidazolinone tolerant varieties
- The conventional variety Hyola 50 was consistently higher yielding when grown from commercial seed

Why do the trial?

Many canola varieties are now hybrid, meaning that they rely on a specific gene combination from two selected parents. Hybrid varieties are recommended to be grown from commercially produced seed to ensure maximum production. The seed is expensive (about \$25/kg) compared to open pollinated or farmer retained seed and so can significantly increase the cost of growing canola. Previous trials with open pollinated varieties have shown that they generally do not lose any grain yield or varietal characteristics when grown from farmer retained seed (F1 – first year of harvested seed). However, these were not hybrid varieties.

This trial was conducted to compare the performance of commercial hybrid seed against farmer retained (F1) seed using conventional, triazine and imidazalinone tolerant varieties.

How was it done?

Plot size	1.4m x 10m	Fertiliser	DAP (18:20) 2% Zn @ 100kg/ha
Seeding date	30 th May 2012		UAN @ 80L/ha, 24 th July

Trial was a randomised complete block design consisting of 3 replicates and 16 canola treatments.

Varieties –Hyola 50 conventional, Tumby HT Triazine Tolerant and 45Y82 Clearfield

Seed sources –

- Commercial - certified commercial seed from bags
- Retained – collected from farmer seed sources and graded

All the canola plots were sown with the aim of 50 plants per square metre, with rates adjusted for seed size, germination and an estimate of likely emergence.

Seed treatment – either nil Jockey or Jockey on the seed at 20L/tonne.

The plots were windrowed on 25th October.

All plots were assessed for early blackleg infection, early vigour, plant number, flowering date, grain yield and oil content.

Results

The growth of the canola treatments throughout the growing season appeared to be similar. Early differences in plant number, vigour and blackleg leaf lesion assessments showed no difference between the treatments.

On the 11th September the Hyola 50 and Tumby HT were at 50 to 60% flowering, while the 45Y82 was at 80%. There was no difference between the seed source or seed fungicide treatments. At this stage in the season the Hyola 50 plots from commercial seed looked to have better growth and crop health compared to the farmer retained plots. Little difference could be picked in the 45Y82 or Tumby HT plots.

Considerable variation existed across this trial area due to snails and mice at emergence and wind and galah damage to the windrows later on. So, the resultant grain yield results should be viewed with caution. The average canola yield for the site was 700kg/ha with the commercial Hyola 50 nearly yielding 900kg/ha.

With no Jockey fungicide applied to the seed, Hyola 50 and 45Y82 commercial seed lines were significantly higher yielding by 270 and 180kg/ha respectively, compared to the farmer retained seed. The Tumby HT was not significantly different.

However, when the Jockey fungicide seed treatment was used there was no significant difference between the commercial and farmer retained seed for Tumby HT and 45Y82. The Hyola 50 was still significantly higher yielding with the seed fungicide, by 140kg/ha.

There was no difference between any of the treatments for oil content.

Although this was a low yielding trial and was subject to much site variability, these results have also been produced at other lower and higher rainfall sites throughout the state in 2012.

Table 1. The grain yield of 3 canola varieties, from commercial or retained seed and with or without a Jockey seed treatment, at Hart 2012. (LSD for the 3-way interaction is 0.09. All interactions were significant)

Variety	Commercial seed		Retained seed (F1)	
	No Jockey	Jockey	No Jockey	Jockey
Hyola 50	0.88	0.87	0.61	0.73
Tumby	0.49	0.53	0.55	0.50
45Y82	0.88	0.67	0.70	0.70

Table 2. The oil content of 3 canola varieties, from commercial or retained seed and with or without a Jockey seed treatment, at Hart 2012. (LSD for all interactions was ns)

Variety	Commercial seed		Retained seed (F1)	
	No Jockey	Jockey	No Jockey	Jockey
Hyola 50	42.0	42.1	42.4	42.5
Tumby	41.9	42.0	42.0	42.0
45Y82	42.8	42.5	42.4	42.6



JOCKEY

NO JOCKEY

Tumby commercial 11th Sept



JOCKEY

NO JOCKEY

Tumby retained 11th Sept



JOCKEY

NO JOCKEY

45Y82 Comm 11th Sept



JOCKEY

NO JOCKEY

45Y82 Retained 11th Sept



JOCKEY

NO JOCKEY

Hyola 50 Comm 11th Sept

*(*Mouse damage excluded from yield results)*



JOCKEY

NO JOCKEY

Hyola 50 Retained 11th Sept