

TOPIC: RR vs TT CANOLA

Group: Yuna
2011

ABSTRACT

Area committed to canola in the medium to low rainfall areas of the Northern Ag Region has been quite low until the past couple of seasons which has seen many growers return to growing the crop or grow it for the first time.

There has been a lack of work conducted in the lower rainfall, more marginal farming areas to assess the profitability of canola. Temperatures during flowering and pod fill can be significantly higher in these areas than the more traditional, safer canola growing areas of the state where most canola trials are conducted.

Recently there has also been the integration of the Roundup Ready (RR) Canola system into WA cropping systems including the adoption of many Hybrid varieties, both Triazine Tolerant (TT) and RR. Most RR varieties, and all hybrids (regardless of the system TT, IT, RR or conv.) have a higher seed cost associated with the technology fees therefore increasing the risk of the crop as a higher proportion of the input cost is incurred at seeding, compared to traditional farmer method of retaining Open Pollinated (OP) TT seed, a practice which is however somewhat declining across Australia.

The purpose of this trial was to compare the profitability between the RR and TT system as well as between OP and Hybrid varieties within these two systems.

This is a continuation of the exploration of low risk, best bet strategies for the low rainfall cropping zone.

TRIAL DETAILS

OBSERVATIONS

There were no significant visual vigour or establishment differences between retained or pedigree ATR Cobbler. However, in

Property	<i>John Warr, Yuna WA.</i>
Soil type	<i>Red Loam</i>
Crop	<i>Canola</i>
Treatments:	<i>3 OP TT's, 2 Hybrid TT's, 2 OP RR's and 3 Hybrid RR's</i>
Replicates:	<i>4</i>
Sowing date	<i>11th May – break of season 16th May</i>
Seeding rate	<i>3kg/ha OP's, 2.5kg/ha Hybrids</i>
Fertiliser (kg/ha)	<i>100kg MacroPro Extra, 60L Flexi-N 14/6, 150L Liqui-NS 11/7 (67N, 11P, 11K, 18S, 0.1Cu, 0.2Zn)</i>
Paddock rotation	<i>2010 Wheat</i>
Growing Season Rainfall	<i>Dec 10 to Mar 11 220mm, April to October 290 mm</i>
Herbicides	<i>Pre 3L Triflur + 1L Lorsban Post TT 2.2kg Atrazine, RR 1 application of 0.9kg/ha RR Herbicide</i>

previous seasons this has been observed in the paddock with some growers, as well as at other trial sites this year from the same seed that was used in this trial. This may be due to the unknown vigour of the seed under different broad-acre paddock situations.

CB Eclipse RR showed good vigour and growth initially from emergence until late flowering. From this stage, CB Eclipse RR finished flowering quite rapidly in comparison to the Hyola 404RR and 505RR, both which continued to flower strongly taking advantage of the seasonal conditions. This correlates to past experiences with Hyola 404RR being an adaptable variety that will flower earlier or later depending on current seasonal conditions.

There was a distinct increase in plant vigour and biomass with the RR Hybrids compared to the RR open pollinated varieties, which is commonly observed in many trials across Australia. This improvement in vigour (along with adequate plant populations) has a significant impact on the level of crop competition achieved which is critical for adequate weed control in the RR system. The vigour advantage in the Hybrid TT varieties was not apparent until late vegetative through to early flowering.

Photos taken 15th June 2011



Hyola 404 Left, GT 61 Right



Cobbler Retained Left, Pedigree Right



GT 61



Hyola 404



Cobbler Retained



Cobbler Pedigree

RESULTS

Roundup Ready System

Inputs	Hyola 404	Hyola 505	Taipan	GT 61	Eclipse
Variety					
Seed Cost (\$/kg) + Gaucho inc trait fee	30	30	18	13	30
Seed Cost (\$/ha)	75	75	54	39	75
Seeding Rate	2.5	2.5	3	3	2.5
Triflur	10	10	10	10	10
RR Herbicide	16	16	16	16	16
Fert	140	140	140	140	140
Seeding	25	25	25	25	25
Spraying	20	20	20	20	20
Swathing	28	28	28	28	28
Harvest	45	45	45	45	45
Freight	31	27	25	24	24
Total costs /ha	390	386	363	347	383
Yield	2.18	1.9	1.78	1.69	1.7
Oil	50.5	49.5	46.9	45.5	45.9
Canola Price	537	537	537	537	537
Preliminary Gross Margin \$/ha	781	635	593	561	530
Oil Adjusted Gross Margin \$ /ha	846	692	630	587	560

Triazine Tolerant System

Inputs	Tawriffic	Cobbler (Ret)	Cobbler (Ped)	June	Mallee
Variety					
Cost per kilo	9	1.5	9	23	23
Seed Cost	27	4.5	27	57.5	57.5
Seeding Rate	3	3	3	2.5	2.5
Triflur	10	10	10	10	10
Atrazine (2.2kg)	12.6	12.6	12.6	12.6	12.6
Select	10	10	10	10	10
Fert	140	140	140	140	140
Seeding	25	25	25	25	25
Spraying	20	20	20	20	20
Swathing	28	28	28	28	28
Harvest	45	45	45	45	45
Freight	25	25	25	23	22
Total costs /ha	343	320	342	371	370
Yield	1.81	1.75	1.77	1.65	1.58
Oil	47.5	46.8	47.8	45.9	43.4
Canola Price	582	582	582	582	582
Preliminary Gross Margin \$/ha	710	699	688	589	549
Oil Adjusted Gross Margin \$ /ha	752	735	732	619	560

COMMENTS

- Hyola 404RR was statistically the highest yielding and had the highest oil of all varieties.
- Hyola 404RR had the highest oil adjusted gross margin of \$846/ha, Tawriffic was second (\$94 less) and Cobbler (retained) third highest (\$111/ha less)
- With an increased area planted to RR canola in 2012 it is possible that the price difference (\$45 was used in this trial) between GM and non GM grain could be reduced significantly. This would further improve the gross margins of all RR varieties.
- Cobbler retained provided the least cost option.
- Weed control was excellent in all plots.
- In this trial it appears difficult to justify the extra costs associated with hybrid TT varieties such Mallee and Junea.
- **NVT results from the previous two seasons along with this trial have proven that Hyola 404RR is worth consideration for a percentage of a Northern Ag region enterprises canola planting in 2012.**

TECHNICAL SUPPORT

Darren Chitty Landmark R+D s - seeding and harvesting
Grant Thompson Crop Circle Consulting - spraying and harvesting
Justin Kudnig Pacific Seeds - reviewing this paper

FUNDING SOURCE + IN-KIND SUPPORT

YFIG, NEFF and Landmark - co-funding the trial.
John Warr - supplying trial site and various required inputs