

Winter and Spring Canola Herbicide Technology Hybrid vs OP Performance Evaluations

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Take home messages

- Winter Graze n Grain Hybrids provide huge yields and multiple cropping & grazing opportunities
- SuperHyola® late Spring Hi-Biomass Hybrids show very high yield potential in the HRZ
- Triazine Hybrids show similar performances to the best Clearfield Hybrids
- RT® dual herbicide tolerant Hybrids show their value as a new competitive IWM management tool

Background:

Hybrid canola is now being adopted more widely as 45% of the seed sold to growers across Australia due to some growers consistently having gross return increases of \$200 to \$500/ha over open pollinated varieties. As part of our National Hyola® FCT Performance and Agronomy Trialling Network, Pacific Seeds is working closely with the SFS conducting replicated canola trials. The trials are evaluating new herbicide technologies, new Hybrid varieties, herbicide efficacy and higher rainfall integrated weed management.

This trial was one of 14 replicated trial sites around Australia being conducted to evaluate the latest Canola varieties in Conventional, Roundup Ready®, Clearfield, Triazine Tolerant and new dual tolerant RT® technologies in a composite design that allows all herbicide technologies to be compared within and against each other technology for yield, oil % and gross returns in \$/ha, arguably statistically superior to both GRDC NVT trials and in-field grower commercial strip trial or block evaluations.

Aim:

To compare new Hybrids vs OP varieties in the mid to late maturity groups suited to the 2.0 to 4.0 t/ha environments evaluated statistically head to head across all 5 herbicide Technologies. The trial also evaluated the performance of Spring types (e.g. Hyola® Hybrids) vs SuperHyola® (late spring types) vs Winter Graze n Grain types in a composite design that allows all herbicide technologies to be compared within and against each other technology for yield, oil % and gross returns in \$/ha.

Methods and Trial Design:

Table 1. Trial Agronomic Details

Property:	SFS 2013 Westmere Main trial évaluation site
Plot size & replication:	3 replicate RCB design ensuring effective randomization across and within different herbicide technology varietal groups across randomised blocks
Seeding rate:	All varieties adjusted by seed count/kg and germination % to target 40 to 50 plants/m2

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Figure 1. Hyola 575CL (Spring Hybrid Type) vs New S Series - Hyola 635CC (Late Spring Hi-Biomass Hybrid)

Results:

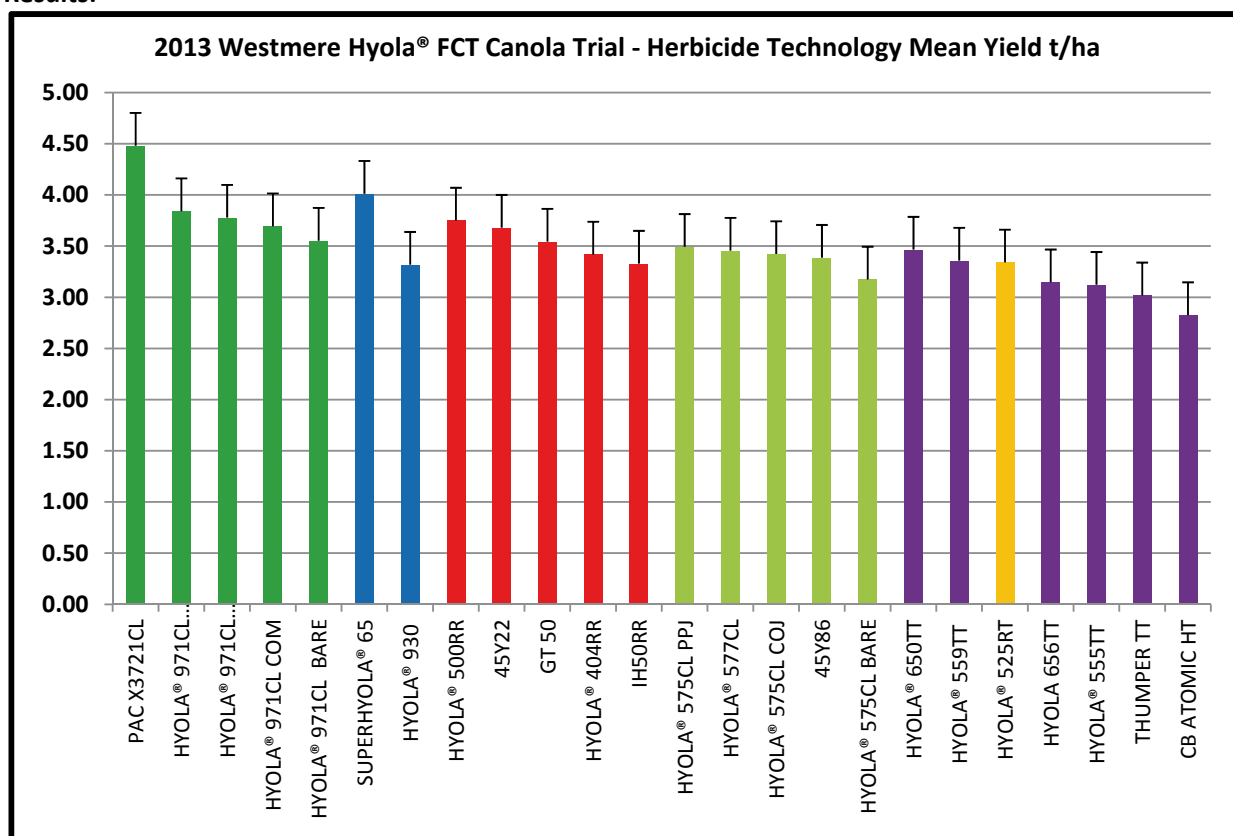


Figure 1. Mean Analysed Yield results sorted by Herbicide tolerance technology

Trial Statistics - LSD (P=.05) = 0.32, CV = 12.47, Site mean yield = 3.47t/ha

The Graph shows a comparison of individual analysed variety yields in Mean Yield Order by herbicide technology, and will be updated with gross returns \$/ha per variety when oil % test results are available.

Key: Dark Green = Clearfield Winter Hybrids, Blue = Conventional Spring Hybrids, Red = Roundup Ready® Spring Hybrids, Light Green = Clearfield Spring Hybrids, Purple = Triazine Tolerant Hybrids or OP, Gold = RT® Dual Herbicide tolerant Technology – Roundup Ready & Triazine Tolerant.

Comments:

The trial did suffer some early water-logging across all technologies which led to the Hi-biomass types providing higher tolerance and yield results. Plant Populations were also variable due to the soil type and wetter conditions which was recorded and included as a variable in the statistical analysis. Overall the final yield results were relatively similar to neighboring canola variety trials conducted by SFS.

Discussion:

Predictably the Winter Graze n Grain Hybrids showed the highest yield potential even with the May sowing date. The later Spring Hi-Biomass Hybrid type – SuperHyola® showed exceptional yield demonstrating significantly higher yield than current leading RR, CL and TT Spring Hybrid types.

The best RR Hybrids provided higher yields than the best CL and TT hybrids, however some of the best TT Hybrids showed equal yields to the best CL hybrids. The implications of these yield results must be kept in context due to the cost considerations associated with effective weed control and herbicide resistance management that each system provides and the ongoing weed control savings in subsequent crops.

The new dual herbicide tolerant Hyola® 525RT demonstrated that RT® technology is very competitive with the both the best Clearfield and Triazine Tolerant Hybrids and even some of the RR hybrids.

Conclusion:

Results indicate that there are a number of Winter based Hybrids with Clearfield tolerance that have the potential to improve grain yields above the Australian cultivars currently available to growers in higher rainfall zones. These High yielding cultivars are designed for Spring or Autumn sowing and multiple grazing events before then being harvested for grain.

The new SuperHyola Technology shows hi-biomass, water-logging tolerance, weed competitiveness and the ability to significantly out-yield current Spring type Hybrids and have huge potential in the higher rainfall districts like the Western Districts.

The new Triazine tolerant Spring Hybrids have the ability to match Clearfield Spring Hybrids for yield due to new breeding technology and the best of the Roundup Ready technology Spring Hybrids can outyield both of the TT and CL technologies. This is important for growers to recognise that all 3 technologies have important rotational value in higher rainfall winter cropping environments.

The new dual herbicide tolerant Hyola® 525RT is very competitive and is expected to become a massive part of Victorian and furthermore Australian canola cropping into 2014 and 2015 due to its extended spraying and efficacy application into IWM systems including the management of Clethodim resistant ryegrass.

Acknowledgements:

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Paper reviewed by:

Justin Kudnig – Canola Technical Manager – Pacific Seeds Pty Ltd

Note: This trial data has been included in the absence of any data being generated from the Pacific Seeds/MFMG trial at the Ozenkadnook site which was abandoned due to waterlogging.

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