

Monday 12 November 2007

GM canola in front

A long-term trial has demonstrated the potential yield and profit advantages that a genetically modified (GM) canola variety offers Australian grain growers, leading to a call to lift the current moratorium on growing GM canola commercially in Australia.

Conducted by Charles Sturt University's (CSU) Professor Jim Pratley at the EH Graham Centre for Agricultural Innovation at Wagga Wagga, NSW, the yield and economic performance of a GM herbicide tolerant canola variety was compared with conventional canola varieties over a typical five-year crop rotation system.

Professor Pratley believes this is the first long-term crop system research undertaken to evaluate GM herbicide tolerant canola in crop rotations under Australian field conditions.

"GM herbicide tolerant canola has been widely grown in Canada since 1996, and made up 82 per cent, or 4.3 million hectares, of the 2005 crop. However, it has not been assessed in long-term Australian conservation farming systems, until now."

"In the research undertaken at CSU, Roundup Ready® canola consistently delivered superior weed control, higher yields and oil quality and better profits when compared to current common canola varieties grown under conventional weed management systems.

"Moreover, there was better weed control throughout the five year crop rotation using Roundup Ready canola in the first year of the rotation, and any subsequent volunteer canola was also easily controlled," he said.

Professor Pratley said the project was conducted under the strict protocols and conditions applied by the national Office of the Gene Technology Regulator to obtain local data on the performance of the GM variety in Australia.

He said there is much to be gained by allowing the commercial production of GM canola.

"Repealing the current moratoria will significantly advantage canola growers and allow them to capture the efficiency and economic benefits of technology that their Canadian competitors have exploited for over ten years."

In submitting the study to the NSW, Victorian and South Australian Government's GM moratoria Review Panels, the CSU researchers recommended, "the Government repeal the current moratorium on the commercial scale growing of GM canola, as a matter of priority."

This view supports the position of the broader grains industry published in the document, *Delivering market choice with GM canola*. Endorsed by 29 organisations representing all sectors of the grain supply chain, the document outlines the processes and protocols by which industry would manage GM canola if the State moratoria are lifted.

ends

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Media note:

- For interviews and further information, contact Professor Jim Pratley on (02) 6933 2862. See notes on trial below.
- The EH Graham Centre for Agricultural Innovation is an alliance between run by CSU and the NSW Department of Primary Industry.
- Roundup Ready® is the registered trademark of Monsanto Ltd.
- See the [Delivering market choice with GM canola report here](#).

2/ more ...

Background notes: The experiment and associated observations

- Trial commenced in 1999 with a comparison of three different canola weed management systems using isogenic lines of canola:
 1. Conventional (non-herbicide tolerant) - cv Surpass 600
 2. Triazine tolerant (non-GM herbicide tolerant) - cv Surpass 600TT
 3. Glyphosate tolerant (GM herbicide tolerant) - cv N758, (Roundup Ready)
- the first year's canola crop was followed by wheat (cv Diamondbird), then lupins (cv Wonga), then wheat again (cv Diamondbird), then canola in the fifth and final year.
- all crops were sown and managed according to best district practice and carryover effects from Year 1 were monitored each year.

The performance of glyphosate as a post emergent herbicide in the Roundup Ready system was reflected positively in delivering the highest gross margins over the 4 year cycle of the rotation:

Average annual gross margins per hectare over a four-year rotation for different selective herbicide treatments imposed during the first year of canola.

Treatment	Canola weed management system - Gross margin \$/ha		
	Conventional	Triazine tolerant	Roundup Ready
No herbicide	\$206	\$194	\$219
Pre-emergent herbicide only	\$248	\$370	\$311
Post-emergent herbicide only	\$289	\$271	\$397
Pre- and post-emergent herbicides	\$321	\$420	\$427
Average (all treatments)	\$267	\$314	\$338

Other observations

Professor Pratley noted that the future production of canola in Australia is dependant on the capability of farmers to provide effective weed control to achieve an economic yield.

“Roundup Ready canola provides another management option for farmers. It will likely replace the Triazine Tolerant canola weed management systems because of its superior weed control, the genetically improved varieties within which the Roundup Ready technology will be provided and the overall improvement in the profit it is likely to deliver to farmers.

“In addition, the Roundup Ready system provides a new significant option for farmers for controlling broadleaf and grass weeds by an alternate mode of action to other selective herbicides.

“Glyphosate, the active ingredient in Roundup, also provides a better environmental alternative to the triazine herbicides, which potentially have longer term residue considerations.

“The total control of volunteer plants was achieved without difficulty using the Roundup system. During the trial, the alternative herbicide Spray Seed, containing a mix of paraquat and diquat, was used as a ‘knockdown’ spray in Years 2 and 3 to achieve this control,” he said.