

GM/non-GM canola coexistence in Australian broadacre farming systems and likely future challenges

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Background

Approved GM Crops in Australia:

- ▶ **Cotton** – First production 1996 – Single Bt gene; 2001 – Glyphosate tolerance; 2002 – Two Bt genes; 2006 – Glufosinate tolerance.
- ▶ **Flowers** – First production 1996 – Purple carnations; 2009 Blue roses.
- ▶ **Canola** – First production 2009 – Glyphosate tolerance.

Background

GM Cotton – limited controversy 100% uptake

- ▶ Release in 1996 pre-dated most protest groups, cotton not on radar as ‘not a food crop’.
- ▶ Irrigated cotton a big industry but small numbers of large growers.
- ▶ Industry in crisis with *Helicoverpa armigera* resistance.
- ▶ Industry with a long history of working together through Integrated Resistance Management Strategy (IRMS) since 1983).
- ▶ Bt cotton introduced in controlled schedule under IRMS.
- ▶ Product worked outstandingly.
- ▶ Massive environmental benefits in reduction of aerial insecticide sprays – moved industry to model IPM system.
- ▶ RR cotton environmentally sound – reduction of soil residual herbicides.

Background

GM Canola – controversy, moratoriums, strategic adoption 20–30%, coexistence court case

- ▶ OGTR clearance in 2003, protest groups in place, demanding only GM-free canola oil in supermarket aisles.
- ▶ Canola a minor crop in the grains industry compared with wheat and barley.
- ▶ Industry impacted by herbicide resistance, notably with annual ryegrass *Lolium rigidum* but variable severity and multiple options.
- ▶ Industry representatives working together since 2000 to plan coexistence at landscape and post-farm grain handling levels.
- ▶ Monopoly wheat marketer AWB in 2003 announces opposition to release as GM canola said to threaten wheat marketing.
- ▶ Moratoriums installed in all canola growing States.
- ▶ Lifted in NSW, Victoria in 2008, WA in 2010, still in place in Tasmania and SA.

CURRENT POSITION OF EACH STATE AND TERRITORY ON GM CROPS



Australian broadacre farming

Winter crop area and production

Crop	Area ('000 ha)			Production (kt)		
	2013-14	2014-15 s	2015-16 f	2013-14	2014-15 s	2015-16 f
Wheat	12 613	13 810	13 793	25 303	23 666	23 598
Barley	3 814	3 836	3 986	9 174	8 014	8 249
Canola	2 721	2 712	2 347	3 832	3 414	2 961
Chickpeas	508	425	677	629	555	845
Faba beans	152	164	210	328	284	337
Field peas	245	237	204	342	290	254
Lentils	170	189	229	254	242	258
Lupins	387	443	497	626	549	638
Oats	715	678	798	1 255	1 096	1 384
Triticale	80	125	105	126	228	143

f ABARES forecast. s ABARES estimate.

Australian canola production

Canola production by State

Year	New South Wales		Victoria		South Australia		Western Australia	
	'000ha	Prod kt	'000ha	Prod kt	'000ha	Prod kt	'000ha	Prod kt
2013/14	673	922	439	710	297	419	1,307	1,777
2014/15 ^e	650	904	453	600	285	328	1,322	1,630
2015/16 ^f	555	833	365	485	225	281	1,200	1,548
5 yr ave to 2014/15	711	1,044	456	668	284	387	1,195	1,344

e ABARES estimate, f ABARES forecast

Canola production/exports/domestic

'000 tonne	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Production	1,844	1,907	2,359	3,427	4,142	3,832
Exports	1,067	1,187	1,549	2,557	3,512	2,863
Domestic use	778	721	810	871	631	969

f ABARES forecast

Uptake of Roundup Ready Canola

GM Canola production by State

Area Sown (ha)	2009	2010	2011	2012	2013	2014	2015
NSW	13,930	23,286	28,530	40,324	32,573	52,000	51,870
Victoria	31,186	39,405	22,272	19,012	21,232	37,000	47,137
Western Aust.		86,006	94,800	121,694	167,596	260,000	337,527
National	47,125	150,707	147,613	183,042	222,414	349,000	436,534
Total Canola	1,165,000	1,390,000	1,590,000	1,815,000	2,480,000	2,480,000	2,000,000

% GM	2009	2010	2011	2012	2013	2014	2015
NSW	6%	8%	7%	5%	5%	9%	11%
Victoria	13%	16%	6%	3%	5%	9%	13%
Western Aust.		10%	12%	13%	14%	21%	30%
National	4%	11%	9%	10%	9%	14%	22%

Australian canola exports

Australian canola export volume by destination '000 tonnes.

Destination	2011/12	2012/13	2013/14
China	0	453	884
Belgium	453	829	668
France	45	281	359
Germany	276	178	354
UAE	35	360	200
Pakistan	78	496	154
Japan	47	100	151
Netherlands	871	605	120
Other	87	126	86
Total	1,891	3,015	2,976

Canola coexistence in Australia

From the outset, GM canola has been managed totally within a coexistence framework.

- ▶ **Conditional on lifting of the State moratoriums** – The industry had to convince State Governments that (given successful implementation and compliance), non-GM canola producers would not be impacted.
- ▶ **Market advantages** – Australia has a long history of varietal and grain quality segregation in pursuit of market premiums, including specialty oil canolas. The capacity to access non-GM markets (e.g. Europe) brought the grain handlers and marketers solidly on-side with the principles of coexistence .
- ▶ **Acknowledgement of public opinion/allaying concerns** – The industry was aware that public opinion on GM food was divided and that coexistence preserved choice and reassured the public – and set a positive example for future GM crops.

The coexistence framework

1. At a landscape level.

- ▶ **Thresholds** – The grain handling industry and both State and Federal Government systems accepted the European Union definition of non-GM to have less than 0.9% ‘adventitious presence’. For the bulk of production there are two grades:
 - CSO1-A (non-GM canola) and
 - CSO1 (commodity canola)
- ▶ **Roundup Ready Crop Management Plan (CMP)** – As the only supplier of GM canola in the early years, Monsanto set the standard in training and contractual obligations. Farmers signed up to carry out the segregation requirements in terms of separation distances and materials handling and to auditing of all on-farm procedures.

The coexistence framework

2. Post-farm grain handling.

- ▶ Through a series of workshops, the grains industry agreed on the principles and processes of a quality assurance process along the entire supply chain including verification (e.g. sampling and testing) from planting seed through to grain presented for sale accords with customer specifications.
- ▶ These have been taken up and managed by the Australian Oilseeds Federation which maintains and oversees the delivery of market requirements for domestic and export trade.
- ▶ Outside the two standard grades, the supply chain is free to set up 'closed loop' systems, but as with specialty oil canola, the protocols and practices as they differ from the CSO1 /CSO1 segregation are at their own discretion, cost and responsibility.

Coexistence has worked

- ▶ The central GM crops lobby group, the Agricultural Biotechnology Council (ABCA) has adopted coexistence as its central policy. ABCA members are Ausbiotech (the biotechnology industry association, CropLife Australia (the agrochemical industry association), the Grains Research & Development Corporation and the National Farmers Federation.
- ▶ We have now had six years of growing GM canola within a coexistence framework with more than 4.5 million tonnes of canola seed delivered domestically, and more than 15 million tonnes delivered internationally.
- ▶ There has not been one incident across where an end user has not received exactly what they had ordered in terms of the GM status.

The challenges ahead

1. Herbicide resistant weeds

- ▶ Canola growers are encouraged by all parties to undertake the PRAMOG (Paddock Risk Assessment Management Option Guide) to understand their risk potential paddock by paddock.
- ▶ Newer varieties are now available with resistance to both glyphosate and triazines and spread the risk a little further.
- ▶ Monsanto have also set up the Glyphosate Sustainability Working Group with a website offering data on resistant populations and advice on the best management response
- ▶ The team associated with the Australian Herbicide Resistance Initiative (AHRI), are investigating every aspect of the resistance challenge from field surveys through to management techniques, working closely with producers to ensure that the problems are understood and addressed.

The challenges ahead

2. Politics

- ▶ There is a clear political difference over the acceptability of GM crops in Australia – the conservatives say ‘yes’ and the socialists say ‘no’.
- ▶ This is clear from the continuing moratorium under the continuous Labor government in South Australia.
- ▶ The clearly stated policy of the Western Australian (WA) Labor Party is to ban all GM cropping if they win power. The WA conservatives are seeking to pass laws to withdraw power of any government to control farmer access to GM crops cleared by the (Federal) regulator.
- ▶ The Greens, who hold significant balance of power situations in both Federal and State governments see GM as unsafe and unsound and want stronger controls and labelling.

STANDING UP ON GMOS

The Greens' plan for improved Genetic Modification assessments, labelling and farmer protection.

WHAT YOU NEED TO KNOW

Genetically modified foods have not been proven safe and the advertised benefits of GM crops are yet to be seen. Crop yields have not increased, but the use of pesticides on our food has.

GMOs contaminate at all levels of the food chain, but non-GM farmers must bear the cost of cleaning up GMO contamination and Australians still don't know if their food has GM ingredients.

Unlike the old parties, the Greens have a plan to protect farmers and consumers from the effects of genetically modified organisms.

We'll start work on a GM Contamination Cleanup Fund, to compensate non-GMO farmers if their crops are contaminated. It would be paid for with a levy on GM companies.

We'll introduce comprehensive, mandatory labelling for GM so that all foods containing any ingredient produced using GM would be clearly labelled.

New evidence suggests that current assessments for GM crops don't test for everything they need to. We'll set up a thorough inquiry to make sure our assessments are as rigorous as possible.

STANDING UP ON GMOs.

Helping farmers and consumers
choose GMO-free.



The challenges ahead

3. The organic food industry

- ▶ The Australian organics food industry is the most vocal and financially-active opponents of GM crops – in part through the Safe Food Foundation lobby group started by Scott Kinnear, the founding Chair of the Organic Federation of Australia and proprietor of two retail outlets ‘Organic Wholefoods’.
- ▶ The Organic Federation maintains a ‘zero tolerance’ stance on GM presence irrespective of where it has come from – in contrast to the ‘inputs-based’ differentiation in the Americas and the general acceptance of the 0.9% threshold in Europe.
- ▶ The organic food lobby have a champion for their cause in organic farmer Steve Marsh who took neighbour Michael Baxter to court in 2014/15 for negligence and nuisance in a coexistence issue in 2010 – and lost.

CERTIFIED ORGANIC FARM

STRICTLY NO ENTRY
BY VEHICLES OR PERSONS
TAKE NOTICE

- THIS FARM IS SUBJECT TO 24 HOUR SURVEILLANCE
- THIS FARM IS CURRENTLY SUBJECT TO A BIO SECURITY DECLARATION
- THIS FARM IS DECLARED GM FREE, CHEMICAL FREE AND ARTIFICIAL FERTILIZER FREE
- THIS FARM IS AN ENVIRONMENTALLY SENSITIVE AREA - ESA NUMBER 0432
- STRICTLY NO ENTRY OR ACCESS WITHOUT THE PRIOR AUTHORITY OF THE OWNERS
- UNAUTHORISED ACCESS (BY VEHICLES OR PERSONS) RESULTING IN ANY CONTAMINATION OR FORFEITURE OF GM FREE ACCREDITATION WILL RESULT IN A COURT ACTION FOR COMPENSATION
- PHONE THE OWNER ON (08) 9833 1225 OR NASAA ON (08) 8370 8455

SEPTEMBER 2010

**Baxter
GMO farmer
900 ha**

**Marsh
Organic farmer
477 ha**

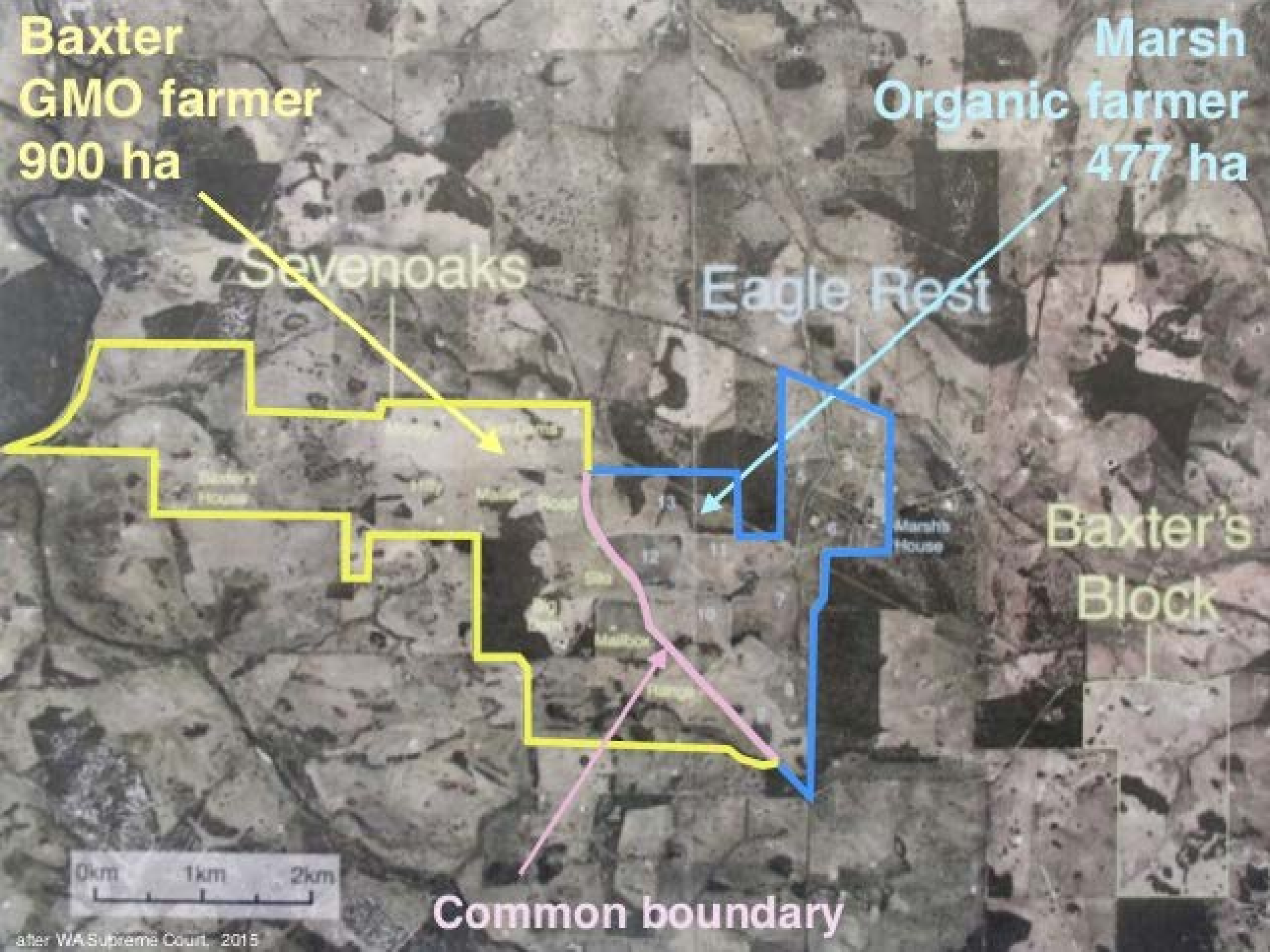
Sevenoaks

Eagle Rest

**Baxter's
Block**



Common boundary



The Marsh vs Baxter case

Organic cereal/sheep farmer suing conventional grains/sheep farmer for Common Law Negligence and Private Nuisance over a 2010 GM incursion, plus injunction against Baxter swathing GM canola.

- ▶ Only two organic farms in the district (organic grain production in Australia on average is 0.25% of conventional).
- ▶ From the time the Marshes commenced certification in 2002 they had threatened the entire neighbourhood with litigation if there was any interference with their chosen way.
- ▶ This intensified in subsequent years and became focused on GM canola in 2008.
- ▶ In 2010 when Baxter indicated that he would take up an option of growing GM canola the threats of litigation reached a crescendo.
- ▶ In 2010 Marsh sowed several paddocks with oats and one with wheat intending to sell the produce as certified organic. Another paddock where certification was already suspended was sown to spelt and rye. The remainder of the farm was unimproved pasture for sheep grazing.

The Marsh vs Baxter case

The problem

- ▶ Baxter's two paddocks of Roundup Ready canola were on the borderline between the two properties separated by a road and road reserve lined on both sides by trees.
- ▶ Baxter followed all the rules on paddock selection and coexistence protocols, including leaving a 5 metre gap between crop and his fenceline.
- ▶ He chose to swath and windrow his GM canola at harvest – whereas in the past he had direct headed after desiccation with Roundup not an option with Roundup Ready canola.
- ▶ In the fortnight between swathing and harvest a mini whirlwind picked up some of the cut canola and carried it over the fence and trees onto the Marshes' land.
- ▶ In all there were 245 bits of canola with seed heads attached spread over several hundred hectares the Marshes' property.
- ▶ In the following year a total of eight GM canola seedlings came up
- ▶ Baxter grew GM canola every year since 2010 and there has never been any more incursions.

2010 @ Kojonup, WA

**Baxter
GMO
900 ha**

**Marsh
Organic
477 ha**

Sevenoaks

Eagle Res





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Safe Food Foundation

We are a not for profit, campaigning and advocacy organization that works to promote awareness surrounding our food production and consumption. Through campaigning activities, including various projects with partnering not-for-profit organisations such as [Friends of the Earth Australia](#) and [Gene Ethics](#), the Safe Food Foundation aims to encourage food production that enhances our health, is sustainable for the environment and beneficial to our social systems.



URGENT

Help this Farmer Stop Monsanto's GM Canola

Support Steve Marsh

“What Steve is doing is fighting that one big battle for everybody.”



Get behind Steve Marsh

Matt Preston



“steve marsh is one person but steve marsh is everyone”

Costa Georgiadis

#IamSteveMarsh

Take action and make a donation today

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DAM SİT VE MARSİT



Steve Marsh Case Fundraising Update

Steve Marsh case fundraising update. Sunday 16 February 2014.

Due to unexpected additional costs we are still significantly short of funds to pay for the cost of Steve's trial. Please support Steve's case by making a [donation here!](#)

The Safe Food Foundation is aware of misleading comments on social media about our fundraising. Slater & Gordon have not received any money for their work on Steve's case and are providing their services under their [Public Interest Policy](#). The Safe Food Foundation has raised \$750,000 to pay for the disbursements, namely: barristers, travel, accommodation, expert witnesses, court costs, couriers, photocopying etc.

The cost of travel and accommodation for the barristers still needs to be raised. Thus we are continuing to actively fund raise until we have met all the obligations arising from Steve's case.

Your support of Steve's case is hugely appreciated!

Yours organically,

Scott Kinnear – Director The Safe Food Foundation.



The Marsh vs Baxter case

The verdict

- ▶ The Judge found that Baxter had done nothing he wasn't entitled to do and dismissed the damages case and the accompanying injunction to stop Baxter using swathing again in the future.
- ▶ The Judge identified that the certification company went against their own standards and their contract with Marsh in that under the circumstances their only power was to decertify the wheat crop IF there was GM presence (there wasn't) and there was no right to decertify the land even for one year let alone three.
- ▶ It is significant to note that the Judge singled out Marsh as an unreliable witness whose evidence could not be believed.
- ▶ The case was clearly flawed, brought on by a zealot and egged on by the anti-GM lobby groups who have funded the entire case, who lined up cheering at every day in court and who still flood the web with pro-Marsh diatribes.
- ▶ But...despite all of the above, the case went to appeal in March 2015. The Appeal Court found against Marsh on a 2:1 basis...Marsh and allies considering another appeal....

