Department of Agriculture and Food

GOVERNMENT OF WESTERN AUSTRALIA

Decision Regulatory Impact Statement: Repeal of the *Genetically Modified Crops Free Areas Act 2003*

A Decision Regulatory Impact Statement prepared by the Department of Agriculture and Food Western Australia (DAFWA) regarding the Genetically Modified Crops Free Areas Act 2003 (GMCFAA)

Date: 23 October 2015

Supporting your success

Executive Summary

This document contains a consideration of the inefficiencies created by the *Genetically Modified Crops Free Areas Act 2003* (GMCFAA), and a recommended approach to correct these issues.

Taking into account the current regulatory framework in Western Australia and Australia, the current industry management of GM crop production, and the likely impact of various options on relevant groups, it is recommended that the GMCFAA be repealed, so once a crop has been deemed safe by the Office of the Gene Technology Regulator and a commercial licence granted, there are no additional regulatory burdens for WA growers, and a reduction in red tape for the WA government.

This will have no impact on the assessment process to ensure GM crops do not pose a risk to the safety and health of people and the environment, or the ongoing monitoring and enforcement undertaken by the Office of the Gene Technology Regulator.

Concerns and issues raised by those opposed to the potential repeal have been noted, however it is believed these can be adequately managed by systems and processes other than legislation, and growers should be given the option of choosing a production system that meets their business needs.

It is also recommended that impact of the repeal be reviewed 12 months after repeal and (at a minimum) every 2 years thereafter for a period of 7 years. Additional communication will also be provided to support the changes and provide necessary clarification over existing laws and arrangements to assist relevant stakeholders.

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About this Regulatory Impact Statement (RIS)

This RIS document's analysis of reforms to the *Genetically Modified Crops Free Areas Act 2003* in Western Australia includes information on the reasons for reform, options, consultation, and impact assessment. The document also includes a recommendation on the best suited option to resolve the identified issue and implementation and evaluation details.

Introduction

Gene technology laws

Genetic modification (GM) is part of the suite of biotechnology processes used in modern research. GM refers to changing the genes of an organism, either by introducing a new gene, or activating or deactivating an existing gene. Gene technology is used in a number of fields, including medical, pharmaceutical and agricultural research.

The growing of GM crops in Western Australia (WA) is currently regulated at both the Commonwealth and State level.

Commonwealth

The Commonwealth *Gene Technology Act 2000* (the Commonwealth Act) was enacted to protect the health and safety of people and the environment, by identifying risks posed by or as a result of gene technology, and manage identified risks through regulating certain dealings with genetically modified organisms (GMOs).

The Commonwealth Act:

- Establishes the Gene Technology Regulator (the Regulator);
- Prohibits dealings (such as research, manufacture, production, commercial release or import) with a GM organism unless the dealing is licensed by the Regulator or otherwise authorised under the Act (such as a Notifiable Low Risk Dealing, exempt dealing or is listed on the GMO Register);
- Establishes specialised expert committees to provide advice to the Regulator;
- Establishes a process to assess risks associated with various dealings with GMOs, including opportunities for public input;
- Contains extensive monitoring, compliance and enforcement powers; and
- Establishes a publicly available database of all GMOs and GM products approved in Australia.

Obtaining a licence from the Regulator can take from 90 working days (for a dealing not involving release of the GMO into the environment) to 255 working days (for a commercial release). The strict process for assessing a dealing involving release of a GMO into the environment (such as a field trial or commercial release of a crop) requires the Regulator to consult with experts, agencies and authorities, and prepare

a risk assessment and management plan. The Regulator must then consult the Gene Technology Technical Advisory Committee, prescribed agencies and authorities, and the public on all risk assessment plans prepared for applications involving release of a GMO into the environment.

All decisions are recorded on the publically available GMO record, and for dealings involving release of GMOs into the environment, the licence conditions as well as the risk assessment and management plan are made publically available.

The licence conditions imposed by the Regulator ensure appropriate management of the crop. There is ongoing oversight by the Regulator after release, and tools for the public to report suspected non-compliance with licence conditions.[1]

In 2001 the States and Territories signed the Gene Technology Agreement, recognising the need to ensure a consistent national scheme for the regulation of gene technology. The States and Territories agreed to ensure the Commonwealth Gene Technology laws, comprising the Commonwealth Act and the Gene Technology Regulations 2001, applied consistently across Australia.

This means that the States and Territories can make laws relating to GMOs for purposes other than for health and safety (which is covered by the Commonwealth Act).

Western Australia – legislation

The *Genetically Modified Crops Free Areas Act 2003* (the GMCFAA) is Western Australian legislation that regulates the growing of (Regulator approved) GM crops.

The objective of the GMCFAA was to allow the State Government to designate areas of the State, or the whole of the State, as areas where specified GM food crops may not be grown, in order to protect non-GM markets until industry was equipped to manage GM crops. The explanatory memorandum to the Bill states "The State's markets and its good reputation could be seriously damaged if the introduction of GM crops is allowed before adequate segregation and identity preservation systems are in place."[2]

In May 2004, in accordance with section 4 of the GMCFAA, the whole of WA was designated as an area in which GM crops must not be cultivated (GMCFAA Order). The GMCFAA Order allows the designation of areas of the State where cultivation of GM crops is not permitted. Two exemptions to this general prohibition have been granted:

- In 2009, commercial plantings of GM cotton were permitted in the Ord River Irrigation Area.
- In 2010, commercial plantings of GM canola were permitted throughout WA.

Because of the GMCFAA Order, an exemption order must be in place before growers access new GM crops that have been approved by the Regulator.

[1] http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/Content/compliance-form-1
[2] Genetically Modified Crops Free Areas Bill 2003, Explanatory Memorandum,

An exemption order under the GMCFAA is treated like a regulation under the *Interpretation Act 1984.*[3] This means it has to be tabled in, and is subject to disallowance by, either House of Parliament. There are no forms or application documents required for an exemption order, and no set timeframe for their passage. They are not farmer-specific and operate for a crop in a geographic region. (I.e. individual growers do not apply for exemptions.) Exemptions are considered by government based on current policy, although industry views are taken into account.

It is important to note that the GMCFAA is not a blanket prohibition on the production of GM crops in WA, but the GMCFAA Order imposes a regulatory step which must be undertaken before crops are planted commercially. This is an important distinction, as the analysis of the GMCFAA impact is not the difference between a moratorium on GM production and production, but the inefficiencies of the regulatory system which must be gone through before production.

Statement of the issue

The GMCFAA (and the GMCFAA Order) creates a number of market inefficiencies and limitations.

1) The market has evolved since the introduction of the GMCFAA with evidence showing that segregation and the preservation of markets (the basis for the Act) can be handled by industry;
2) It operates as a barrier to growers accessing gene technology after the technology has been assessed and licenced by the Gene Technology Regulator;
3) It is a disincentive for researchers to invest in crops with WA specific traits due to the lack of guaranteed access to growers;
4) It imposes a competitive disadvantage on WA growers compared to overseas competitors and other Australian jurisdictions with more straightforward access to approved GMOs;
5) It creates legislative burdens and administrative red tape for government in needing to create and monitor exemptions; and
6) It creates grower and industry uncertainty over the ongoing or future ability to access gene technology in WA.

1. Industry management

The GMCFAA was introduced into WA as there were concerns that the State's markets and good reputation could be seriously damaged if the introduction of GM crops was allowed before adequate segregation and identity preservation systems were in place. Since then, segregation and identity preservation systems have been developed and refined to handle GM and non GM crops. Over the years, industry has effectively demonstrated its ability to segregate, for example, from 2013 to 2015 Cooperative Bulk Handling (CBH) has successfully segregated all 758,000 tonnes of GM canola delivered in WA from the 4 million tonnes of canola (in total) received during that period.

[3] Section 6 GMCFAA

Industry is familiar with segregation systems, as they are not a unique requirement for GM crops. Different markets require different attributes and characteristics, and all varieties are segregated and monitored to meet market demand. For example, purchasers can order a specific barley variety that has specific characteristics. The segregation system can ensure that the product is kept separate from other varieties and classifications throughout the supply chain so the purchaser receives the product they requested.

The number of different product segregations managed by CBH is follows[4]:

Commodity	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Barley	14	13	20	18	14	18	21
Canola	2	3	4	4	4	4	4
Field Peas	5	3	3	3	3	4	3
Lupins	1	1	1	1	1	1	1
Oats	3	3	3	3	3	3	3
Triticale	1	1	-	1	-	-	-
Wheat	19	18	16	20	23	25	18
Total	**45**	**42**	**47**	**50**	**48**	**55**	**50**

From the table depicted above, in 2014/15 there were 50 different products that CBH segregated throughout the supply chain. This demonstrates that segregation to meet market requirements is not new, or specific to GM crops. Industry is familiar with the segregation of crops and to date has managed it very successfully.

Since GM canola was introduced in the 2009/10 season, CBH has not out-turned a single shipment for export, across all commodities segregated, that does not meet the phytosanitary requirements (including foreign seeds) of the importing country. That means no WA shipments (of any commodity) have been declined due to the presence of unwanted seeds. This is a 100% success rate over 1756 shipments with a total of over 65 million tonnes of grain exported, including 5 shipments where GM and non-GM grain were separately loaded onto the same ship[5]. This clearly shows that the segregation system in place is practical and highly effective at ensuring markets get the product they want.

If new GM crops are approved for commercial production, new classifications will be added to the existing system. It is anticipated that the long lead time involved in the Commonwealth regulatory system to grant a commercial licence for a new GM crop will allow industry sufficient time to develop appropriate segregation guidelines and protocols.

[4] Advised by CBH 04.09.15
[5] Advised by CBH 9 October 2015; 13 October 2015

Also relevant is the trilateral agreement signed by leading grain industry groups in Australia, the USA and Canada (leading wheat markets) in 2014. This re-affirmed the parties commitment to synchronized commercialization of biotech traits in wheat crops and timely regulatory approval for those traits in importing countries. Ensuring that regulatory approval and commercialisation is synchronised will ensure that markets (and segregation systems) are ready prior to the introduction of GM wheat, further making the operation of the GMCFAA unnecessary.

CBH have advised they are not concerned about managing additional segregations as operationally their business is all about segregating to provide the best pricing options for grower members.

To support the effective segregation of the two canola types CBH currently:

1. asks growers to declare the variety they are delivering (is it non-GM or a GM variety)
2. retains individual loads for trace back testing if required;
3. monitors and tests bulk non-GM canola as it is received and moved to port for the presence of GM material; and
4. uses the latest and best available technology for testing - a DNA based qPcr that is quantifiable to 0.01% GM material.

Additional costs to cover segregation are covered by the grower in the form of a higher receival charge. While segregation costs per se can be considered the same whether wheat, barley or canola, in the specific case of non-GM canola going to a market like Europe, to give shippers confidence about the integrity of their shipments additional testing is performed at 50 cents per tonne (which equates to around 0.08% to 0.1% of the average 2014 canola price)[6]. This is charged across all canola outturns not just non-GM.

This effectiveness of segregation (and market confidence in it) is evidenced by Europe, a non-GM market, remaining WA's largest export market for conventional canola, despite the 2010 exemption order. Since 2010, over 4 million tonnes of canola has been exported to the discerning EU market, with no shipment rejected.

2. Barrier to access

The effect of the GMCFAA Order is that WA growers cannot access new GM crops that have been approved by the Regulator until an exemption order is in place. This is a requirement despite the crop undergoing the extensive assessment and consultation process of the Regulator, and being deemed to be as safe as the conventional counterpart. It is important to note that this is not a complete barrier, as exemption orders can (and have) been issued, but it imposes a level of additional 'red tape' and compliance that has an impact on the industry, market and growers.

[6] Based on delivered Kwinana price of between $500-580/t for the major part of the selling season (Feb-June 2014).

The cost of this red tape is the delay associated with obtaining an exemption order, and thus the delay in accessing the possible benefits of the technology as outlined below. The first exemption order for GM canola (for example) took 5 months from decision to a gazetted order (not including the time taken to make the decision).

3. Disincentive to invest

Currently the GMCFAA is a disincentive to invest in developing GM crops with traits to suit WA conditions. The lack of a guaranteed market for the GM seed, even following approval of the Regulator, makes the investment required very risky. Bringing a new GM trait to market takes approximately 13 years and over $130 million (including regulatory approvals). There is limited incentive to invest in Australian traits, if, following significant time and investment and approval of the Regulator, the crop still cannot be produced in WA, especially if the benefit to the technology owner is relatively small. The commercial incentive would be to focus on the USA and other areas, where the regulatory system is straightforward and the production market (once the crop is approved) is significantly larger. The disincentive created for investors was a recurring message in communications received from growers and industry, including in a petition with over 300 signatories (see Consultation section, page 21 below).

WA accounts for 32% of total Australian broadacre crop production, and 40% of Australian broadacre exports[7], meaning any limitation on WA production (or disincentive to pursue the WA market) has a flow-on limiting effect to the rest of the Australia.

4. Competitive disadvantage

There is no consistent national approach to the issue of GM crops. While equivalent legislation to the GMCFAA is in place in South Australia, Tasmania, New South Wales, and the Australian Capital Territory, there are no equivalent restrictions on Queensland, Northern Territory or Victorian growers. This means growers in the latter jurisdictions have access to GM crops as soon as they are licenced by the Regulator, providing them with quicker and more certain access, as well as creating a competitive advantage.

The Harper Competition Policy Review Draft Report (released 22 September 2014) noted in "Examples of regulatory restriction of competition" (page 76) that "Genetically modified crops cannot be grown in South Australia and Tasmania (but can be grown in all the other mainland States)." This is referring to the complete legislative ban on GM crops in those States, but the same principles apply if growers in other States / Territories have access to specific GM crops that WA growers do not because of the operation of the GMCFAA. Based on this, it is considered that WA growers are disadvantaged by their inability to grow GM crops in comparison to some other jurisdictions.

[7] Australian Bureau of Statistics *Value of Agricultural Commodities Produced 2013-2014* www.abs.gov.au; www.agric.wa.gov.au

5. Administration and red tape

From the government's perspective, the GMCFAA involves regulatory management and administration of an area that could be more effectively managed by industry. Industry is better suited to establishing appropriate management systems to meet their customers' requirements, as growers make commercial decisions on what planting systems suit their business and personal needs.

The cost to government of maintaining the GMCFAA is the resources required to monitor compliance (i.e. that GM crops remain within the terms of the exemption orders) and the cost associated with the processing of exemption orders. As noted above (page 8), the process of an exemption order to permit commercial trials of GM canola in 2009 took 5 months from when the decision was made. (This included a disallowance motion.) This is a delay to growers and cost to government in time and resources. The cost to government involves the time of public servants in preparing the relevant paperwork and the time of Ministers and Members of Parliament in progressing and granting the exemption order.

The financial cost to growers associated with the delay is difficult to quantify, as it will depend on the nature of the trait, and the length of the delay. That is, the value of a crop with a functional health benefit (e.g. higher protein) is different to the value of a crop with an agronomic benefit (e.g. pest tolerance), and the delay will depend on how quickly the exemption moves through the system. If the order is disallowed twice (for instance), it is a much longer delay and thus a higher cost. Financial benefits to date from access to GM crops is detailed in the Impact Analysis section, commencing on page 12, below. Delayed access to these benefits can be considered an appropriate approximation of the financial cost to growers.

6. Uncertainty

Growers have reported concerns at the uncertainty created by the GMCFAA, as ongoing access to GM crops is not guaranteed and has the prospect of being revoked. This has an impact on farming decisions and the possible sustainability of some areas.

Objectives

The objective is to support an efficient and competitive crop sector by removing any inefficiencies created by the GMCFAA.

Options to address the issue

Options to address this issue:

1. Status quo.

Keep current system in place.

2. Moratorium

Introduce a moratorium on production of new GM crops until an industry accreditation plan is approved, at which point the moratorium expires (identified in NSW 2007 Gene Technology (GM Crop Moratorium) Act 2003 Review).

3. Revoke the 2004 GMCFAA Order

The GMCFAA Order designates the whole of WA as an area in which GM crops cannot be grown without an exemption. Removal of the 2004 Order can be done by tabling an order in Parliament, and is subject to disallowance by, either House of Parliament.

4. Repeal the GMCFAA

Repealing the GMCFAA by passing a Repeal Bill to permanently remove the inefficiencies identified.

Possible complementary measures could be introduced, such as a communication strategy and training for growers. While measures such as these may assist industry to adapt post-repeal, they would not solve the inefficiencies created by the GMCFAA, and are therefore not an alternative option to repeal, but rather an additional management tool. These are considered in the section below titled “Other complementary measures” (page 20).

Analysis

Options	Advantages	Disadvantages	Assessment
Option 1 Status Quo – No change to current system and continue to allow commercial production of crops by issuing exemption orders.	• Allows government to intervene if required. • Alleviate concerns over perceived risk of cross-pollination of GM crops with non GM crops. • GM and non-GM growers are familiar with current legislation and requirements.	• It creates grower and industry uncertainty over the ongoing or future ability to access gene technology. • It is a disincentive for researchers to invest in WA specific traits due to the lack of guaranteed access to growers. • It imposes a competitive disadvantage on WA growers compared to jurisdictions with more straightforward access to approved GMOs. • It creates legislative burdens and administrative red tape for government in needing to create and monitor exemptions. • It does not reflect / recognize the development of the industry in terms of its ability to segregate crops.	While continuing to issue exemption orders will allow commercial production of GM crops, it does not resolve any of the inefficiencies identified.
Option 2 Moratorium – Introduce a moratorium on production of new GM crops until an industry accreditation plan is approved, at which point the moratorium expires.	• Provides more certainty to non GM crop growers that there will be an accredited plan prior to approval to grow GM crops. • Once an accreditation plan is in place, growers could use GM crops without additional red tape.	• It will continue to have many of the inefficiencies above. • Each accreditation plan would have to be approved by the relevant Minister. • Uncertainty around timeframes for development and approval of accreditation plan. • Increased delay cost for GM growers whilst waiting for accreditation plan to be approved by the relevant Minister.	This will not remove current inefficiencies or help achieve the primary aim of supporting an efficient and competitive sector, while an accreditation plan is developed and approved.
Option 3 Remove the 2004 Order – Removal of the 2004 Order can be done by tabling an order in Parliament, and is subject to disallowance by, either House of Parliament.	• No additional regulatory burden to growing Regulator-approved GM crops. • Gives the government the opportunity to reinstate the order if considered necessary.	• It will not address inefficiencies which require certainty to create and implement long term plans for the benefit of the industry and the sector. • Less certainty as it is simple to reinstate.	Same immediate effect as repeal of the Act, but without the certainty and the incentive to invest.
Option 4 Repeal the GMCFAA – Repealing the GMCFAA by passing a Repeal Bill to permanently remove the inefficiencies identified.	• Will resolve all current inefficiencies. • Growers wishing to access the technology will be able to do so, without additional regulatory steps. • Put WA growers on level playing field with some other Australian jurisdictions and international competitors. • Reduction in red tape to government.	• Perceived increased risk to markets, organic certification and ability to trade/operate as organic. • Perceived risk of out-crossing or accidental presence. • Perceived increased risk in herbicide resistant weeds.	This will resolve all current inefficiencies and create the certainty and incentive to invest required. Perceived risks accounted for by regular reviews.

Further Analysis

From the analysis of options in the above table, option 4 (repeal of the GMCFAA) warranted further analysis as it addressed all inefficiencies of the GMCFAA. Both the advantages and disadvantages compared to the status quo are further discussed in this section.

The impact of repealing the GMCFAA is that once a crop has been granted a licence by the Gene Technology Regulator, it will be able to be grown in WA without additional regulatory barriers.

Impact analysis

A number of groups have been identified as being potentially impacted by the repeal.

1. Growers wishing to use gene technology.

   Growers wishing to access GM crops will be able to do so once a crop has passed the safety and health assessment and has been licenced by the Regulator (under the relevant stewardship arrangements).

   Economic and environmental

   The adoption of GM crops has resulted in economic and environmental benefits to growers. Growers producing GM canola have reported better yields, oil content, stronger sowing opportunities and superior weed control. Improved weed control affects not only the canola crop itself, but future use of that area as better weed management can result in improved future yields of other crops (including non-GM). The costs of inputs also decrease, as less chemicals are used and less spraying is required (and consequently more time is freed from these activities).

   Between 2008 and 2013 the cumulative farm income gain for GM canola in Australia has been USD $41 million.[8] In 2013 alone, GM canola generated an average farm income gain of USD $60.7/hectare for Australian growers, and a total farm income gain of USD $13.5 million.[9] Correspondents advised that 260,000 hectares of GM canola planted in WA last season will result in direct benefits to those farmers of over AUD $12 million.

   GM canola currently makes up over 30% of total canola plantings in WA, demonstrating grower demand for this technology.

[8] Brookes G & Barfoot P (2015) *GM crops: global socio-economic and environmental impacts 1996-2013* page 52

[9] Brookes G & Barfoot P (2015) *Global income and production impacts of using GM crop technology 1996-2013*, GM Crops and Food, 6:1, 13-46, DOI:10.1080/21645698.2015.1022310 page 32.

In Australia, almost 100% of cotton produced is GM.[10] The main reason for this adoption has been significant cost savings and associated environmental gains from reduced insecticide use.[11] Between 1996 and 2013 the use of GM cotton has resulted in an average net benefit to Australian growers of USD$29/hectare.[12]

In addition to financial benefits, growers and the wider community have also received environmental benefits. Environmental benefits are measured by the Environmental Impact Quotient (EIQ), which integrates the health, environmental and ecological impacts of pesticides into a single value to allow comparisons across production systems, regions and countries. The higher the EIQ, the greater the impact on the environment.

In the period 1996 - 2013, the adoption of herbicide resistant GM cotton has resulted in a saving of 2 million kilograms of herbicide active ingredients, and a reduction in the EIQ of 12.4%.[13] Adoption of insect resistant GM varieties has allowed cotton producers to reduce their insecticide use by about 80% with some crops not sprayed for insects at all.[14] Over the period 1996 to 2013 there was a 17 million kilogram reduction in insecticide active ingredient use, and a reduction in the EIQ of 33.9%.[15] In 2013 alone, insect resistant GM cotton resulted in a reduction in active ingredient use of 474,000 kilograms, and a reduction in the EIQ of 16%.[16]

In total since 1996, GM crops have resulted in a total farm income benefit of USD $885 million to Australian growers[17].

Removal of the GMCFAA would mean quicker access to these types of benefits, as the regulatory delays would be removed, and the possibility of preventing future access (such as by revoking the exemption orders) would be removed.

Competitiveness

Current research into GM traits, such as drought and frost tolerance or resistance to subsoil constraints will provide growers with an option for managing changing climates while remaining globally competitive[18].

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[10] Cotton Australia Fact sheet at http://cottonaustralia.com.au/cotton-library/fact-sheets/cotton-fact-file-biotechnology

[11] Brookes G & Barfoot P (2015) *Global income and production impacts of using GM crop technology 1996-2013,* page 21

[12] Ibid page 20

[13] Brookes G & Barfoot P (2015) *Environmental impacts of genetically modified (GM) crop use 1996-2013: Impacts on pesticide use and carbon emissions*, GM Crops & Food, 6:2, 103-133, DOI: 10.1080/21645698.2015.1025193 page 107

[14] Cotton Australia, op cit

[15] Brookes G & Barfoot P (2015) *Environmental impacts of genetically modified (GM) crop use 1996-2013,* op cit, page 110

[16] Ibid page 123

[17] Brookes G & Barfoot P (2015) *GM crops: global socio-economic and environmental impacts 1996-2013* page 11

Repeal will also correct the current imbalance that allows some WA growers access to the technology, but not others (e.g. GM cotton is only permitted within the Ord River Irrigation Area, even though other regions of the state are suitable cotton growing areas).

Repeal will also improve the ability of some WA growers to compete with other Australian jurisdictions that have the ability to use gene technology without this form of regulation. That is, while equivalent legislation to the GMCFAA is in place in South Australia, Tasmania, New South Wales, and the Australian Capital Territory, there is no equivalent restriction on Queensland or the Northern Territory. While Victoria does have a GMCFAA-equivalent, there are no restrictions in place under it at present.[19] This means that while legislation exists, it does not currently prevent access to approved GM crops in Victoria. This means growers in these jurisdictions have access to the technology as soon as it is licenced by the Regulator, giving them quicker and more certain access. Based on this, it is considered that WA growers are disadvantaged by their inability to grow GM crops in comparison to some other jurisdictions.

Summary of status of other Australian jurisdictions:[20]

Jurisdiction	Summary	Legislation
Northern Territory	No GM crop moratorium	
Queensland	No GM crop moratorium	
New South Wales	Moratorium on commercial cultivation – exemption for cotton and canola	*Gene Technology (GM Crop Moratorium) Act 2003*
Australian Capital Territory	Moratorium om commercial cultivation – exemptions for trials under conditions	*Gene Technology (GM Crop Moratorium) Act 2004*
Victoria	No current order preventing commercial production.	*Control of GM Crops Act 2004*
Tasmania	Moratorium on commercial production.	*Genetically Modified Organisms Control Act 2004*
South Australia	Moratorium on commercial production and transport. Exemptions for trials under conditions	*Genetically Modified Crops Management Act 2004*

[18] E.g. DIR applications 122; 117 available from www.ogtr.gov.au
[19] *Australian Reference Guide to Biotechnology in Australia Second Edition* page 13 accessed from www.abca.com.au
[20] Ibid

The impact on international competitiveness will also be removed, putting WA growers on a level playing field with their competitors in North and South America. To remain competitive in the global market, growers need the same access to technology as their competitors in Canada, US, Brazil and Argentina without additional regulatory delays. This has been a recurring message in correspondence from growers and industry.

2. Growers not wishing to use gene technology

Repeal of the GMCFAA will give growers the option of what they plant without the existing regulatory step of obtaining an exemption order. If growers choose to plant GM crops, there is concern that other growers (who do not wish to use GM crops) will be affected, either through on-farm unintentional presence, or impact on markets.

On-farm

The GMCFAA does not deal with how technology is used on-farm. How GM crops are managed on-farm is governed by licensing and stewardship agreements, designed to minimise the impact on neighbours. Much of what happens on-farm has the potential to impact others. For example, spray drift, smoke drift and poor weed control can all impact on neighbouring properties, and alter the ability of the neighbour to sell their product. However, if the proportion of GM crops increases there is concern that the unintentional presence or cross pollination of GM material may also increase.

Studies of pollen movement from herbicide tolerant to non-herbicide tolerant canola have been conducted in Australia. The study concluded that gene flow via pollen movement does occur between canola fields, although at very low levels.[21] Testing of over 48 million plants across one-third of Australia (to include a range of environments) found that the highest frequency of resistance detected was 0.197%, with the study concluding that "even adjacent commercial canola fields in Australia will have much less than 1% gene flow."[22]

The impact of unintentional presence of GM material will vary depending on the farming system. Non-GM crops can contain up to 0.9% GM material without losing their non-GM status.

At the date of this document, organic crops have 0% tolerance for GM material, however Australian Organics Ltd (the largest Australian organic certifier) has made a submission to the Organic Industry Standards and Certification Council (OISCC), the industry organisation that sets the organic standard, to amend the Australian standard to promote co-existence of farming systems, and allow unintentional contact between organic and GM

[21] Rieger, M. A., Lamond, M., Preston, C., Powles, S. B., & Roush, R. T. (2002). Pollen-mediated movement of herbicide resistance between commercial canola fields. *Science*, *296*(5577), 2386-2388.
[22] Ibid page 2387

material to occur without the loss of organic status.[23] While favourable statements about this application have been made publically by OISCC, a final decision has not been published.

The risk of unintended presence or cross pollination of GM material with non-GM material is currently ameliorated by the licensing and stewardship conditions growers are required to comply with in order to plant GM canola. Growers wishing to use Roundup Ready canola must sign a License and Stewardship Agreement (LSA) with Monsanto and gain accreditation. The LSA requires growers to comply with the Roundup Ready Canola Crop Management Plan, and be accredited prior to taking delivery of Roundup Ready canola seed[24].

The conditions in the Crop Management Plan include buffer zones, requirements to clean machinery to avoid unintentional transport of seed, a management plan for volunteer canola and guidance on how to avoid developing resistant weeds. Record keeping is also required.[25] These standards are set on a scientific basis to promote co-existence of different production systems.

Technology User Agreements including stewardship requirements are also a requirement for those wishing to plant GM cotton. These requirements are expected to continue for new GM crops as they are introduced.

Organic growers are also required to comply with buffer distances and other conditions in order to maintain their certification. While organic production systems will continue to be supported (see section 6, below), it is important that consideration of the nature of the organic systems does not overshadow the rights of all growers to use a farming system that suits their requirements.

As noted by Justice Newnes and Justice Murphy in their ruling in Marsh v Baxter:

> "A person who puts their land to abnormally sensitive use cannot thereby unilaterally enlarge their own rights and obtain a higher right to limit the operations of their neighbours than someone who does not put their land to such use"[26]

While the case of Marsh v Baxter has shown that material can move between farms, it is important to note that in that case (and subsequent appeal), it was held that the application and interpretation of the organic standards, rather than the actions of the GM canola grower were responsible for the loss

[23] Copy available from www.oiscc.org
[24] Copy of the LSA available at: http://www.monsanto.com/global/au/products/documents/2015%20roundup%20ready%20canola%20lsa.pdf
[25] A copy of the Crop Management Plan is available at http://www.monsanto.com/global/au/products/documents/roundup-ready-canola-crop-management-plan.pdf
[26] [2015]WASCA169 at 772, quoting Lord Robertson in *Eastern and South African Telegraph Company Ltd v Cape Town Tramways Company Ltd [1902] AC 381,393*

caused. It is important to note that this situation occurred with the GMCFAA in place. The absence of the GMCFAA would not have affected this set of events.

Access to non-GM markets

Regarding the concern about impact on non-GM markets, the above information on segregation demonstrates this has not been an issue in the context of GM canola. As detailed on page 6 (above), the segregation system in WA managed by CBH has resulted in a 100% success rate over 1756 shipments with a total of over 65 million tonnes of grain exported, including 5 shipments where GM and non-GM grain were separately loaded onto the same ship. Europe (a non-GM market) has remained WA's largest export market for conventional canola, despite the 2010 exemption order allowing the production of GM canola.

This is reasonable evidence to suggest that segregation will not become an issue when other GM crops are produced or introduced.

It is also important to note that (as previously outlined), GM crops are already being produced in WA. Repeal of the GMCFAA is not the difference between a moratorium on GM production and commencing GM production, it is the difference between requiring an exemption order before production commences, and not. Therefore, general concerns about the possible presence of GM material in non-GM shipments already exist, and are not a new issue that repeal of the GMCFAA will create.

3. Off-farm seed and grain handlers e.g. seed cleaners, haulage, marketers

As noted above, the need to segregate crops is not unique to GM crops. All groups currently involved in the grain industry that handle grain are accustomed to the need to segregate to maintain the integrity of the product.

These are commercial operations and it is expected that any additional costs associated with segregating additional varieties / categories will be passed on to the grower, to be factored into the decision whether to plant GM material.

The possibility that future companies will enter the market will be determined by economic conditions at that time and whether there is a commercial motivation to do so. Any entrant will need to meet the industry requirements, which include managing not just GM and non-GM, but the multiple other different varieties and characteristics to meet market demand. Other multinationals that work in WA (such as Cargill and Bunge) are familiar with dealing with GM commodities due to operating in North America.

4. Government

   The impact on government will be a reduction in red tape and internal costs (as outlined above) as exemption orders will no longer be required to allow production of GM crops.

5. Trade

   The potential effect on trade has also been considered.

   The repeal of the GMCFAA is considered to assist the position of WA farmers in competing in the world market, where countries such as Canada, US, Brazil and Argentina have the ability to produce GM crops.

   It is not anticipated that the repeal of GMCFAA will have any significant negative impact on trade, as segregation systems allow crops to be separated so GM crops are kept out of non-GM markets.

   Nations such as Canada have been producing and exporting GM crops for a decade with no impact on their wheat market share. Given this example (and the current effective segregation processes in place) it is unlikely that the repeal of the GMCFAA will impact existing markets.

   Asian markets are also becoming more accepting of GM grain. Since 2013, China has imported 1.5 million tonnes of canola from Australia (comprising both GM and non-GM), and imports more than 60 million tonnes of GM grain and soybeans from other markets. Japan imports around 4 million tonnes of GM canola and soybeans each year. Combined, China and Japan imported around $4 billion worth of canola (mostly GM) from Canada last year.

   The existence of a market for GM crops will be determined by farm businesses prior to planting. Farm businesses are rational commercial operations that will not plant a crop which cannot be sold or does not provide a level of economic benefit.

6. Australian market

   The Australian organic industry represents less than 1 per cent of the total value of agricultural sector[27], and only 1.25% of the value of production[28]. While the WA state government supports organic farming, and is funding a new $4.5 million Royalties for Regions project looking at opportunities for premium foods, (including establishing a Premium Food Centre with a focus on organic foods),[29] this remains a niche style of production.

[27] Australian Organic Market Report 2014 http://austorganic.com/ao-market-report/ page 5
[28] Ibid page 4. Conventional production is valued at $45.5 billion dollars. Organic is $570 million
[29] https://www.agric.wa.gov.au/r4r/food-industry-innovation

When assessing the economic impact of GM crops on the whole industry, the benefits experienced by those growing GM crops need to be weighed against as the potential for economic disadvantage to other production systems, and the impact that could have on the value of Australia's agricultural industry as a whole.

The potential economic disadvantage to the organic sector (and the industry as a whole) is difficult to quantify. As noted in the review of the Tasmanian moratorium legislation, a 2012 report by the Department of Economic Development, Tourism and the Arts (DEDTA) found:

> "The potential market advantage of being able to grow food in a GMO-free environment is an intangible benefit – it is difficult to quantify what additional value being GMO-free creates or what the impact of removing it would be.
>
> The GMO moratorium has retarded the growth of the canola seed industry (the only GM crop currently authorised by the Australian government that is suitable for Tasmanian conditions) and resulted in lost GMO research opportunities. While noting that market advantages were inherently intangible and difficult to quantify, the report estimated a net market disadvantage of $4 million/annum at the farm gate from the inability to grow GM canola."[30]

The impacts can be summarised as follows:

Group	Disadvantage of repeal	Advantage of repeal
Growers – wishing to use GM		• Quicker access to regulatory approved crops. • Demonstrated financial and environmental benefits from use of technology. [E.g. reduced pesticide use by around 80% for cotton producers] • Improved competitiveness.
Growers – not wishing to use GM	• Perceived increased risk of cross-pollination if GM crops are accessed more quickly. • No opportunity to object to granting of exemption order.	• General environmental benefits as a result of reduced pesticide use by those accessing technology.
Off-farm businesses	• May need to create new handling systems or segregating practices for other GM crops.	• Extra business.
Government	• Implementation and planned monitoring of repeal.	• Reduced ongoing administration and management costs. • Demonstrated environmental benefits.
Trade	• Potential reputational risk if there is contamination of grain exports.	• Improved competitiveness. • No barrier to accessing international markets for GM crops.

[30] Review of the moratorium on genetically modified organisms (GMOs) in Tasmania Final Report 16 December 2013 page 43

Australian market	• No ability for government to delay production if markets are not ready.	• Demonstrated financial and environmental benefits from use of technology.

Existing tools

There are exiting tools and strategies in place to assist with co-existence of different farming systems. DAFWA operates the free Sensitive Sites information service which allows growers to identify sensitive production sites. Growers with commercial production systems that need special consideration due to the nature of the products (including certified organic, certified biodynamic, aquaculture, horticulture, viticulture and tree nurseries), can register and the location of their properties is made available online to help growers prepare risk assessment and risk mitigation plans.[31] This is updated annually, and 2015 is the fifth year of operation. DAFWA also provides factsheets on coexistence, including a template letter to assist neighbours open discussions, and a summary of the requirements of different production systems.

In terms of monitoring compliance with the terms of the licence issued by the Regulator, when a commercial licence for a GM crop is granted, the licence conditions require the licence holder to advise the Regulator if they become aware of:

- any additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorised by the licence; or
- any contraventions of the licence by a person covered by the licence or
- any unintended effects of the dealings authorised by the licence

The Regulator also monitors ongoing licence compliance, and has an online form for anyone to report suspected non-compliance.[32]

Other complementary measures

A communication strategy could be useful in informing stakeholders of any legislative changes. This would represent a sensible and appropriate method to roll out the repeal of the GMCFAA. The government will consider developing and publishing a fact sheet and other approaches to communicate changes.

A training program to assist growers use GM technology could be provided. However, as it is common for technology owners to require growers enter a contractual agreement (including compliance with crop management plans) prior to planting GM crops, it is not considered necessary for the government to develop an additional layer of training for farmers. However, the Department will continue to provide general advice about best practice.

[31] www.agric.wa.gov.au/sensitivesites
[32] http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/Content/compliance-form-1

Consultation

Formal consultation with key industry groups

DAFWA has consulted with the following key industry representatives as to their views on the repeal of the GMCFAA from a commercial marketing perspective:

1. The Grains Industry Association of Western Australia (GIWA), as the peak body representing the interests of those in the grains supply chain.
2. Ord River District Co-operative Ltd (ORDCo), as an independent agricultural co-operative based in the Ord River Irrigation Area, Kununurra.
3. Cooperative Bulk Handling (CBH), as WA's grain industry grower-owned and controlled co-operative.

The consultation took the form of emails and conversations with representatives of the above groups between 24 September 2014 and 28 October 2014.

Both GIWA and ORDCo support the repeal of the GMCFAA. The WA Grains Industry Strategy 2025+ which was developed by GIWA and launched by the Minister for Agriculture, the Hon Ken Baston MLC, at the annual Crop Updates event in February 2015 specifically notes that an area that would assist industry is for the "State Government to repeal the Western Australian Genetically Modified Crops Free Areas Act 2003…"

CBH has noted that whilst it does not have a position on the repeal of the GMCFAA, as a grower-owned co-operative, it will endeavour to offer a supply chain that is able to store, handle and market to the best of its ability GM and non-GM grain.

The key themes from the consultation were:

1. Market choice is the determinant of commerciality and marketability
   a. GIWA and ORDCo both note that market choice should determine the commerciality of, and markets for, GM and/or non-GM crops.
   b. CBH notes that price signals specific to each grain type and market will determine in any one year the respective premiums and discounts for GM and non-GM grain. CBH further notes that whilst a number of markets allow GM grains to be imported, other markets have restrictions which need to be considered by CBH when providing pricing and segregations.
   c. ORDCo notes that there needs to be a level of comfort amongst non-GM crop growers that they can maintain their markets for non-GM crops, noting that this appears achievable, and canola is a good test case for this.

2. Necessity of segregation through the supply chain
   a. CBH notes that segregation of other GM and non-GM commodity types will require the development of unique handling systems and conditions which may result in cost differentials for both products, depending on requirements and volumes.
   b. GIWA notes that the growth of GM canola has proven that industry can manage the segregation of GM crops from non-GM crops. Europe (a non-GM importer) has remained WA's largest export market for canola despite the 2010 exemption order permitting commercial cultivation of GM canola within WA.
   c. GIWA also notes that industry can manage the supply chain for GM crops through industry codes of practice/standards/declarations (such as those introduced by the Australian Oilseeds Federation in relation to canola).

3. Technology
   a. GIWA notes that the co-existence of new technology and existing technology should be inclusive in terms of recognising all farming systems, including GM. Repeal of the GMCFAA gives choice to those looking at new technologies.

4. Role of the Office of the Gene Technology Regulator (OGTR)
   a. Both GIWA and ORDCo note the role of the OGTR with respect to regulating the health and safety aspects of GM crops.

CBH also provided information about the segregation systems in place, as outlined under the 'Statement of Issue' section, above.

Review of Petitions received

1. February 2015

The Standing Committee on Environment and Public Affairs (the Committee) is made up of five members of the Legislative Council. Amongst its other functions, the Committee is also "required to review all petitions that are tabled by a member of the Legislative Council on behalf of a person or group residing in Western Australia. The Committee's object in reviewing petitions is to provide a forum for public discussion on matters of community interest and to allow interested persons, or groups, to bring their concerns to the attention of the Legislative Council."[33]

A petition was received from the Committee in February 2015, stated to contain 632 signatures. The petition was tabled by the Hon Lynn MacLaren MLC, and raised four issues for consideration. A detailed response was provided to the Committee.[34] In summary the issues raised and response were as follows:

[33] Extract from the "History and Purpose of the Committee" accessed at http://www.parliament.wa.gov.au/parliament/commit.nsf/all/5A73802849C79D1E48257831003B03B2?opendocument&tab=tab1 on 19 October 2015

[34] Full copy of the petition and response available at: http://www.parliament.wa.gov.au/parliament/commit.nsf/(viewPetitions)?openview&com=Environment and Public Affairs Committee&parl=39

a. Retain the GMCFAA

Summary of views: The GMCFAA is an essential component of the national regulatory system, and its removal would impact the rights of growers to farm the way they choose and would have negative market impacts. Concerns about the safety of GM crops, the possibility of contamination of non-GM crops and impact on consumer choice were also raised.

Response: A detailed response was provided which outlined the role of the GMCFAA within the national regulatory system. It was clarified that safety and health assessments are done by the Office of the Gene Technology Regulator under the Commonwealth Act (not the GMCFAA) and that food labelling is mandatory and is governed by Food Standards Australia and New Zealand.

It was noted that some submissions made claims of fact that are contradicted by various sources, and links were provided to accurate data about the safety of GM crops and the international position on biotechnology. Details were also provided about the benefits that Australian growers have seen from using GM technology (such as cotton producers reducing their pesticide use by around 80%).

b. Have an independent review of the GMCFAA, as recommended in the 2009 review.

Summary of views: An independent review should be conducted about the operation and effectiveness of the GMCFAA, in line with the findings of the 2009 review, to give farmers the opportunity to voice their opinions.

Response: The response explained that the recommendation of the 2009 review is not a statutory requirement, and outlined the consultation with stakeholders that had taken place (as outlined above). As the stakeholders for the GMCFAA are marketers, consultation with those groups, as well as information already provided is considered sufficient to understand the issues raised.

c. Support GM free farming

Summary of views: GM-free markets exist and should not be risked by producing GM crops. GM free farming should be supported by the government.

Response: The response explained the funding that DAFWA provides to non-GM activities, and outlined the work DAFWA does on the management of weeds and diseases and installation and operation of weather stations that are highly relevant to organic and biodynamic growers.

d. Introduce farmer protection legislation

Summary of views: Farmers producing GM-free products should be protected by legislation and compensated for any economic loss caused by GM contamination.

Response: The response explained that a strict liability scheme was considered by the independent statutory review of the Commonwealth *Gene Technology Act 2000.*
In summary, the review found that:

- a strict liability system would not remove the need for court action, as the plaintiff would still need to prove a causal link between the GMO and the damage incurred, as well as the extent of their loss in order to receive damages;
- in other jurisdictions strict liability schemes relate to superhazardous goods, and it is contradictory to treat a product found to be safe by the federal Regulator as superhazardous;
- Applying a strict liability scheme to the licensee of the technology could remove the incentive for growers to take steps to avoid the unintended presence of GM in a neighbour's field. This would not be a reasonable solution.

A link to the full copy of the review was provided to the committee for further information.

2. August 2015

A pro-active petition from the Pastoralists and Graziers Association was sent to the Premier on 4 August 2015. Containing 319 grower signatures, plus additional correspondence, the petition supported the repeal of the GMCFAA, noting:

- More certainty was required over ongoing ability to grow GM canola (noting the stated political intent of the Opposition to revoke the 2010 exemption)
- GM canola has been grown on more than 1.1 million hectares in WA
- GM canola out-performs non-GM, with better yield, oil content, weed control, sowing opportunities and rotational benefits;
- GM technology offers an opportunity to mitigate disastrous consequences of drought and frosts
- Investment in research will only occur when there is certainty of no political interference.

Correspondence and Meetings

Consumers, growers (both GM and non GM), industry groups, corporations and organic producers have written to Members of Parliament, the Minister for Agriculture and Food and the Premier about the potential repeal.

Some correspondents raised concerns about the safety of GM crops, the perceived inadequacy of the Commonwealth system, the possibility of cross contamination, and concerns about market access.

Other correspondence supported the proposed repeal, citing the economic benefits provided, the improved productivity, the need for access to the technology to remain competitive and expressing concern at the lack of science based information being presented by those unsupportive of the technology.

The Ministers Office was pro-actively contacted by the following groups supporting the proposed repeal:

- CropLife - industry organisation representing the agricultural chemical and biotechnology sector in Australia. CropLife represents the innovators, developers, manufacturers, formulators and registrants of crop protection and ag-biotechnology products.
- Pastoralists and Graziers Association (PGA) - a non-profit industry organisation in Western Australia which represents primary producers of wool, grain and meat & livestock.
- WA Farmers Federation – largest agricultural advocacy group in Western Australia with membership of over 3,500 farmers throughout Western Australia

The Ministers Office, and or DAFWA also met with 6 other groups regarding the proposed repeal.

These groups were:

- GM Free Farmers Group – a not for profit farming group based in WA (membership number unknown) dedicated to non-GM farming
- Williams GM Free Group
- NASAA WA – represents Organic growers in WA certified by NASAA, the National Association for Sustainable Agriculture Australia.
- CropLife - As above
- Monsanto – biotechnology company and owner of the Roundup Ready technology. Growers using GM canola were also present to explain the benefits they had experienced
- The Ministerial Agricultural Advisory Committee

Of these groups, the first three opposed repealing the GMCFAA. CropLife and Monsanto supported repeal.

The key issues raised in correspondence and meetings relevant to the repeal of GMCFAA were:

Issues raised – opposing repeal	Response
Presence of GM in non GM crops	Contamination could theoretically occur at different points. If a grower delivers a contaminated load to CBH, there are existing charges levied to cover those costs. If the GM presence was not found by CBH at delivery, but was discovered at port and could not be traced back to an individual grower, it is expected that the ship would be directed to a market that accepted a GM tolerance level, and CBH's insurance would cover the difference. The risk of cross-pollination of crops is ameliorated by the licensing and stewardship conditions in place, and studies show very low occurrence of cross-pollination of herbicide tolerant and non-herbicide tolerant canola (see page 15, above).
Risk to markets that demand non GM products	Industry segregation is effective and has been demonstrated to manage the requirements of markets, including non-GM markets. It is important to note that delivery and testing systems are evolving. GM wheat (for instance) is likely to be 10 years away from commercial production, and the segregation systems in place in 2025 are going to be different to those in 2015, just as the system now is different to that in 2005. Nations such as Canada have been producing and exporting GM crops for a decade with no impact on their wheat market share. Given this example (and the current effective segregation processes in place) it is considered unlikely that repeal of the GMCFAA will impact existing markets. Also relevant is the trilateral agreement signed by leading grain industry groups in Australia, the USA and Canada (leading wheat markets) in 2014. This re-affirmed the parties commitment to synchronized commercialization of biotech traits in wheat crops and timely regulatory approval for those traits in importing countries. I.e. ensuring that regulatory approval and commercialisation is synchronised will

Issues raised – opposing repeal	Response
	ensure that markets (and segregation systems) are ready prior to the introduction
Risk to markets if there is accidental contamination – Oregon example	• On May 29, 2013 the US Department of Agriculture (USDA) announced that a small number of volunteer wheat plants in an Oregon field had tested positive for GM glyphosate-resistant wheat. On June 13, 2013, the USDA validated an event-specific PCR (DNA-based) method for detecting the GM wheat (MON71800). The USDA determined that the method can reliably detect MON71800 when it is present at a frequency of 1 in 200 kernels. The validated test was provided to US trading partners who requested it. • After the GM wheat was found, Japan, South Korea and Taiwan suspended white wheat imports from the area. Media reports indicate South Korea lifted this suspension on July 9, 2013. Japan announced lifting of its suspension on July 30 2013. • Following an extensive investigation by the USDA it was determined that this was an isolated incident and GM wheat had not entered the supply chain. The effect of perceived contamination can be extrapolated from the Oregon example. In this case a non-approved GM plant resulted in a suspension of trade with three markets for less than two months. Perceived contamination by an approved GM crop (which has gone through extensive testing to be deemed safe by the Regulator) may result in a shipment being declined, but it is considered unlikely trading would be suspended.
Introduction of a strict liability scheme or farmer liability laws to protect non-GM growers	The independent statutory review of the *Gene Technology Act 2000* considered the introduction of a strict liability scheme for contamination. The review found that a strict liability system would not remove the need for court action, as the plaintiff would still need to prove a causal link between the GMO and the damage incurred, as well as the

Issues raised – opposing repeal	Response
	extent of their loss in order to receive damages. The review also considered that in other jurisdictions strict liability schemes relate to superhazardous goods, and it is contradictory to declare a product deemed safe by the federal Regulator as superhazardous. The review also noted that applying a strict liability scheme to the licensee of the technology could remove the incentive for growers to take steps to avoid the unintended presence of GM in a neighbour's field. This would not be a reasonable solution. The review therefore determined that a strict liability regime should not be introduced. A full copy of the review is available online at: http://www.health.gov.au/internet/main/publishing.nsf/Content/gene-gtmc.htm/$FILE/Stat_Review_GeneTechAct_01.pdf
Development of glyphosate resistant weeds	The development of glyphosate resistance is attributed to how glyphosate is used, and can occur where no GM (herbicide tolerant) crops are present. If glyphosate is used as the sole method of weed control there is selection pressure on weeds to become glyphosate resistant. This occurs regardless of whether herbicide-tolerant crops are present, and is the same as the development of any herbicide resistant weed population. Growers are encouraged to use a combination of weed control techniques to minimise the risk of herbicide tolerant weeds.

Issues raised – supporting repeal	Response
Concern about being denied access to technology in the future – and impact on sustainability of businesses without access to GM technology.	Noted
GM cotton and canola growers have generated $885 million in additional income since introduction of GM technology.	Noted. This is the farm income benefit identified in the Brooks & Barfoot study cited on page 13 of this document.
The 260,000 hectares of GM canola planted last season will result in direct benefits to those farmers of over $12 million.	Noted.
Constraint on future investment in research and development if GMCFAA is maintained	Noted.
Constraint on ability to compete internationally, and action of GMCFAA as trade inhibitor.	Noted.
Value experienced from producing GM crops – including possibility to address food security and environmental challenges	Noted. The economic and environmental benefits are supported by the Brooks & Barfoot studies, referenced above.
Farmers should have freedom to choose the technology that suits their farming systems.	Noted.

The Ministerial Agricultural Advisory Committee concluded, following briefings and their own discussions with the Gene Technology Regulator that the GMCFAA should be repealed.

Preferred option

Option 4 – Repeal GMCFAA

The GMCFAA creates a number of inefficiencies and limitation on markets, and was introduced at a time when there was concern about industries ability to effectively manage its supply chain.

Over time, industry has demonstrated its ability to effectively manage the segregation of GM crops and growers have shown demand for the technology and environmental and economic benefits from its adoption.

It is noted that some groups are concerned about the possible impact on non-GM markets from the possible presence of GM seeds in non-GM shipments or out-crossing of GM traits into other compatible plants.

These concerns have been considered, but it is believed they can be effectively managed without the GMCFAA, as they have been to date for crops permitted under exemption orders. Existing segregation systems and management tools have resulted in no shipment being declined for GM presence since the introduction of GM canola in 2010.

The inefficiencies and market impact of the GMCFAA need to be resolved and repeal is the preferred option identified. This will give certainty to growers and investors, offer new opportunities and tools to growers to improve global competition and reduce regulation and red tape.

To give greater confidence to those concerned about the repeal and ensure changes deliver net benefits over time, an evaluation strategy will be implemented. Additional communication will also be provided to support the changes and provide necessary clarification over existing laws and arrangements to assist relevant stakeholders.

Implementation and Evaluation Strategy

The preferred option will be implemented through enacting a repeal bill.

The Department of Agriculture and Food WA will review the impact of repealing the GMCFAA 12 months after repeal and every 2 years thereafter for a period of 7 years. This review will (at a minimum):

- Identify any GM crops commercially produced in WA
- Consult with marketers and growers about the effectiveness of the segregation system in place;
- Seek information from industry and Regulatory authorities (as appropriate) about any issues or problems identified as a result of repeal.

These reports will be provided to the Minister for Agriculture for consideration. At the conclusion of the 7 year period the Minister will determine if ongoing review is required, and if so, the frequency of that review process.

Important disclaimer