Review of the *Genetically Modified Crops Management Act 2004*

Information Paper

Introduction

This information paper provides some background on the *Genetically Modified Crops Management Act 2004* (the Act) and other matters about which feedback is being sought as part of the review of the Act.

The review is seeking feedback on:

- The policy framework i.e. is the Act required and /or are there alternative ways to deliver the objectives of the Act;
- The operations of the Act;
- The regulation that prohibits the cultivation of GM food crops in South Australia; and
- The enduring GM status of Kangaroo Island and Eyre Peninsula.

There has been a considerable amount of new information relating to marketing issues since the Act commenced and the cultivation of GM food crops was prohibited. Stakeholders are encouraged to utilise this information in the preparation of their submissions.

Background

The Commonwealth's *Gene Technology Act 2000* established a national co-operative regulatory scheme for gene technology that seeks "to protect the health and safety of people and to protect the environment by identifying risks posed by or as a result of gene technology, and by managing those risks through regulating certain dealings with GMOs". The Commonwealth's Office of the Gene Technology Regulator manages the scheme.

In accordance with this Commonwealth / State regulatory framework, States and Territories can regulate GM crops where there are risks to markets and trade, as these are not addressed as part of the national regulatory process.

On 27 April 2006, the Report on the Review of the Commonwealth *Gene Technology Act 2000* was tabled in the Australian Parliament, after approval by the Gene Technology Ministerial Council (GTMC). The GTMC considered the Review Panel's recommendations (items 9.1 and 9.2) on a national framework for co-existence of both non-GM and GM crops to address market considerations and referred this issue to the Primary Industries Ministerial Council (PIMC) for consideration and advice, by the end of 2007.

The Victorian and New South Wales governments are in the process of initiating reviews of their regulatory regimes for GM food crops. It is anticipated that the reports arising from these reviews will assist the Primary Industries Ministerial Council when it discusses a nationally consistent approach to GM food crop market considerations later this year.

The *Genetically Modified Crops Management Act 2004*

The *Genetically Modified Crops Management Act 2004* (the Act) gives effect to the South Australian Government's commitment to ensure that the cultivation of genetically modified crops is regulated in South Australia.

The Act was drafted to reflect the July 2003 recommendations of the House of Assembly Select Committee on Genetically Modified Organisms in which the key principle was – *"coexistence to meet market demands for different classes of crops and products, eg GM free, non-GM and GM, can be guaranteed by industry through the establishment of rigorous and cost effective segregation and IP systems throughout the total production and supply chain"*. The recommendations of the Select Committee are attached **(Appendix A)**.

The Act, which commenced on 29 April 2004, provides for:

- the designation of areas of the State for the purposes of preserving for marketing purposes the identity of certain food crops according to whether they are genetically modified crops or non-genetically modified crops;
- the segregation of genetically modified food crops and their products in appropriate cases;
- associated regulatory powers; to provide certain protections with respect to the spread of genetically modified plant material.

Pursuant to Section 29 of the Act:

(1) The Minister must, within 4 years after the commencement of the Act, cause a review of the Act to be undertaken.
(2) The outcome of the review must be incorporated into a report and the Minister must ensure that a copy of the report is laid before each House of Parliament.

The Office of the Gene Technology Regulator assesses the health and environmental impacts of a genetically modified organism. These issues are not included in this review.

The *Genetically Modified Crops Management (Designation of Areas) Regulations 2004*

The Gene Technology Regulator approved the commercial release of InVigor® GM canola (Bayer CropScience) and Roundup Ready® GM canola (Monsanto Australia) in 2003 after concluding that these canola varieties pose no greater risk to human health or the environment than conventionally bred canola.

A Policy Principle established in accordance with the Commonwealth *Gene Technology Act 2000* provides State and Territory Governments with the powers to rule on GM and non-GM crops for the purpose of protecting markets and trade.

In 2003 / 2004, most State and Territory Governments concluded that the timing was not appropriate for the commercialisation of the two varieties of GM canola and subsequently introduced prohibitions on the cultivation of either GM canola or GM crops, for various lengths of time. Queensland and the Northern Territory were the exceptions,

In South Australia's case, the *Genetically Modified Crops Management (Designation of Areas) Regulations 2004*) came into operation on the day the Act commenced, i.e. on 29 April

2004. Pursuant to these Regulations, GM food crops cannot be cultivated anywhere in South Australia. The regulations expire on the fourth anniversary of the commencement of the Act, ie on 29 April 2008.

A summary of the current status of the moratoria and associated GM legislation and timelines is attached (**Appendix B)**.

Exemptions

The Act enables the Minister to issue Exemptions for limited scale cultivation of GM food crops, including experimental crops, in areas where the cultivation of GM crops is otherwise prohibited under section 4 or 5 of the Act. Exemptions have conditions of operation attached and the Act provides for authorised officers from the Department of Primary Industries and Resources SA to monitor compliance with these conditions. A Register of Exemptions and a list of sites where crops are being grown under the terms of an Exemption are published at www.pir.sa.gov.au/gmc.

Industry competitiveness and market acceptability

The State / Territory prohibitions were put in place due to concerns about the readiness of the industry for GM canola and, specifically, concerns about market access. Since the prohibitions were put in place, there have been a number of reports and activities that have examined these questions and industry is increasingly aware that the widespread use of GM technology by competitor nations has led, or is leading to, a loss of competitiveness in Australia and potential loss overseas of significant Australian intellectual property.

For example:

- Modelling by the Australian Bureau of Agricultural and Resource Economics (ABARE) in 2005 estimated that failure to commercialise GM crops could, by 2015, cost Australia $3 billion (assuming market acceptance).

- The report by the Agriculture and Food Policy Reference Group – Creating our Future: Agriculture and Food Policy for the Next Generation recommended that 'Agriculture and food businesses should work with governments to facilitate the rapid uptake of agrifood biotechnologies that will contribute to better health, a cleaner environment and more globally competitive industries'.

- International reports show that competing mainstream agricultural commodity markets continue to prosper with large scale cultivation of GM crops. Further reports show that an ever-increasing number of farmers globally are adopting advanced GM crop varieties. These reports indicate that GM varieties are providing higher crop yields and increased returns, greater diversity in the varieties of crops and in products, in addition to significant environmental benefits and reduced input costs associated with minimum tillage and lower pesticide use 5.

- GM Cotton has achieved widespread farmer adoption in New South Wales and Queensland and community acceptance as the only GM broad acre crop grown in Australia. The Australian cotton industry is valued at approximately $1.5 billion, with GM varieties now making up 90% of all cotton grown. This is the maximum GM limit for cotton given the requirement for refugia and trap crops associated with GM cotton

production to guard against the development of resistance to GM traits. Apart from cotton lint, the uses of GM cottonseed almost mirror that of canola. GM cottonseed is used in the intensive livestock sector and as cattle drought feed, while cottonseed oil is used in commercial food applications in Australia and overseas.

- ABARE's report Market Acceptance of GM canola (March 2007) shows that in terms of mainstream commodity markets, there is little evidence of price premiums or access advantage for Australian (non-GM) canola exports over competitors such as Canada and the US where segregation of GM crops from non-GM crops is not practised. There is little evidence that any short term price premiums for non-GM products will be sustained in the longer term, as many markets appear to be shifting their position regarding GM products over time (including the EU, which has approved imports of GM canola for use in the growing biodiesel industry).

- Grain traders report that the detection of trace levels of GM material in export canola consignments in 2005 and subsequent establishment of threshold levels for adventitious presence (0.9 percent of GM in non-GM canola grain and 0.5 percent of GM in non-GM seed for sowing) have not impacted market access. Grain traders continue to manage requirements to markets such as Japan and Europe.

As part of the Australian Government's implementation of the National Biotechnology Strategy (NBS), the Commonwealth Department of Agriculture, Fisheries and Forestry (DAFF) is investing $3.8 million between 2004 and 2008 on matters related to the use of GM crops and their implications for Australian agribusiness. Part of this initiative involves a number of DAFF-funded studies on issues related to commercialisation and marketing of GM canola. The outcomes of these studies will be taken into consideration during this review.

A Bibliography of published reports is attached. (**Appendix C)**

Public attitudes to GM food crops

Surveys have continued to show that the Australian public values gene technology more highly if it has a direct consumer benefit, eg. if it can save lives or significantly improve the quality of life. While the first generation of GM crops utilised traits, such as pesticide resistance, that primarily benefit the producer, many of the next generation of GM crops being developed (including in Australia) have more readily identified consumer benefit, such as improvement of human health and wellbeing (eg. plant-produced vaccines and nutriceuticals) and/ or direct environmental adaptations (eg. to frost, drought and/or salinity stress).

The GM canola events approved for general release by the OGTR in 2003 have been modified for herbicide resistance, which is not viewed by the general public as a consumer benefit. However, this general view ignores the environmental benefits conferred by the use on GM varieties of herbicides that are more environmentally 'sensitive' than the harsh atrazine-based herbicides currently used on the conventionally-bred triazine tolerant (TT) canola varieties grown in many regions.

A nationally consistent transparent approach to market considerations

The key finding of the Review of the *Gene Technology Act 2000*, which established the national regulatory scheme, was that the Act is achieving the purpose for which it was intended. A number of refinements to the operation of the Act and its regulations have been recommended and are being implemented by amendments to the Act and corresponding State and Territory legislation. The majority of these refinements are aimed at reducing the regulatory burden on users of the system.

The Review Panel made two recommendations (9.1 and 9.2) in relation to market considerations for non-GM and GM crops and these recommendations were subsequently referred by GTMC to PIMC for consideration and advice by the end of 2007.

Recommendation 9.1 was that 'the Commonwealth and States through the GTMC reconfirm their commitment to ….. a nationally consistent transparent approach to market considerations as soon as practicable.'

The *Gene Technology Act 2000* does not readily provide for a "Nationally consistent transparent approach to market considerations". The Policy Principle allows each State and Territory to make its own determination regarding markets. Most governments have established legislation to provide the powers to deal with GM crops for the purpose of protecting markets and trade, although legislation operates in different ways between jurisdictions.

Recommendation 9.2 was that the Commonwealth and States work together to develop a national framework for co-existence for non-GM and GM crops to address market considerations.

The Queensland Government has developed a non-mandatory coexistence framework. Under this framework, the Queensland Department of Primary Industries and Fisheries is to work with industry on any specific segregation systems that may be required. The Queensland framework does not advocate a pro-GM position but rather intends that co-existence strategies developed will enable participants along the supply chain to competitively meet the requirements of their chosen market. This gives consumers the ability and freedom to select products according to their preference.

The intent of a national framework is to enable market choice for consumers and growers. Coexistence (and segregation) of GM and non-GM crops and products in the supply chain is a complex issue and how supply chains for GM and non-GM grains will develop in the future is unclear at this stage. Given the different requirements across industries and markets and the different objectives of jurisdictions, adoption of an agreed set of principles that support a flexible approach is prudent.

The Australian grains industry is already dynamic, with many segregated commodities allowing farmers to differentiate products and grow crops suited to individual farming business needs. The grains industry currently manages segregation to very low thresholds as demonstrated in polished white rice with a very low level of tolerance for any other material. Other examples of successful segregation include the low thresholds imposed on canola seed in wheat exports, the segregation of feed and malting barley, the segregation of the various

wheat grades, the strict segregation of organic products from conventionally grown products and the complete segregation of high erucic acid rape from canola.

Enquiries

Questions or comments about the consultation process can be directed to the Executive Officer of the GM Crop Advisory Committee by telephone on 08 8207 2361 or by email at gmcropsactreview@saugov.sa.gov.au

APPENDIX A

RECOMMENDATIONS OF THE PARLIAMENTARY SELECT COMMITTEE ON GENETICALLY MODIFIED ORGANISMS

In August 2002 a Parliamentary Select Committee on Genetically Modified Organisms was established in South Australia to inquire into the following:

- advise on how (within the established Commonwealth-State regulatory framework) South Australia can assess the impact of GM plant technology from the point of view of human health, environment and market access;
- identify where the impact of GM plants might be different in South Australia compared with the rest of Australia and other countries, and advise on strategies that South Australia should adopt to address these differences;
- review the relevant State, national and international reports and inquiries on GM plants and the major issues for South Australia in relation to human health, environmental safety and market access; and advise on the means by which the South Australian community can be consulted and informed and their views consolidated in relation to GM plants.

The Report of the Select Committee was tabled in Parliament in July 2003. The recommendations of the Select Committee were accepted by the Government and form the principles upon which the GM Crop Management Act is founded. The Select Committee recommended that:

Recommendation 1:

The current processes in place within the South Australian Government to provide advice to the Regulator regarding the impacts of GM plants and the management of the impacts, particularly where the impacts might be different in South Australia to other parts of Australia and other countries, should be maintained with adequate resources.

Recommendation 2

The South Australian Government as soon as practicable introduce new legislation to protect the States' markets, under the Minister responsible for Agriculture. The aim of the legislation is to ensure that the commercial release of GM crops into South Australian agriculture is only permitted when:

Coexistence to meet market demands for different classes of crops and products, e.g. GM free, non-GM and GM, can be guaranteed by industry through the establishment of rigorous and cost effective segregation and IP systems throughout the total production and supply chain.

Recommendation 3

Before the commercial release of a GM crop could be permitted, 3 conditions must be met:

1. Industry must be able to guarantee coexistence to meet market demands for different classes of crops and products, e.g. GM free, non-GM and GM.

2. This must be done through the establishment of rigorous and cost effective segregation and IP systems throughout the total production and supply chain, which must:

   - Cover pre-farm, on-farm and post-farm activities;
   - Protect from both direct and indirect contamination;
   - Include a rigorous paper trail; and
   - Cover by-products of GM crops.

3. The segregation and IP systems must be agreed upon by the whole of the production and supply chain.

Recommendation 4:

The legislation should establish:

- Criteria to enable decisions to be made regarding whether the 3 conditions have been met by industry before the commercial release of a GM crop could be permitted; and
- A rigorous and transparent process by which the commercial release of a GM crop can be considered.

Recommendation 5:

A GM Crop Advisory Committee with representatives from the South Australian agency with the responsibility for Agriculture, the agricultural production and supply chains, and exporters and marketers should be established:

- To advise the South Australian Minister with responsibility for Agriculture whether industry has met the 3 conditions and whether a commercial release of a GM crop should or should not be permitted; and
- The advice of the GM Crop Advisory Committee must be developed based on criteria established by the legislation for assessing whether the 3 conditions have been met by industry before the commercial release of a GM crop could be permitted.

Recommendation 6:

The legislation should provide for the South Australian Minister with responsibility for Agriculture to permit a commercial release of a GM crop, on the grounds that industry has met the 3 conditions (set down in Recommendation 3), on the advice of the GM Crop Advisory Committee.

Recommendation 7:

The community of Kangaroo Island must be provided the opportunity to establish the Island as a GM crop free area for marketing purposes.

While the community of Kangaroo Island is undertaking the process of deciding whether the Island should be declared to be a GM crop free area for marketing purposes, with full community consultation, the release of GM crops on the Island should be prohibited under all circumstances.

Also if Kangaroo Island is declared to be a GM crop free area, the release of GM crops on the Island should continue to be prohibited under all circumstances.

Recommendation 8:

The community of the Eyre Peninsula must be provided the opportunity to establish the Peninsula as a GM crop free area for marketing purposes.

While the community of the Eyre Peninsula is undertaking the process of deciding whether the Peninsula should be declared to be a GM crop free area for marketing purposes, with full community consultation, the release of GM crops on the Peninsula should be prohibited under all circumstances.

Also if the Eyre Peninsula is declared to be a GM crop free area, the release of GM crops on the Peninsula should continue to be prohibited under all circumstances.

Recommendation 9:

Through the legislation and/or other mechanisms the South Australian Government should facilitate, assist and/or empower the communities of Kangaroo Island and the Eyre Peninsula to address the above issues and to determine whether their area should be declared to be a GM crop free area for marketing purposes.

Recommendation 10:

The legislation should empower the South Australian Minister with responsibility for Agriculture to:

- Declare Kangaroo Island and/or the Eyre Peninsula to be a GM crop free area for marketing purposes; and
- To at any time, based on the advice of the community of Kangaroo Island or the Eyre Peninsula, amend the restrictions imposed enabling expansion, reduction or revocation of the restrictions applied.

Recommendation 11:

The legislation should provide for a conditional release of a GM crop to be granted (except in areas which may be or have been declared to be GM crop free areas for marketing purposes) if the proponents can meet either conditions of:

- A limited release occurring under a closed loop rigorous and robust segregation and IP system, from seed to end user and covering waste and by-products, and occurring under strict conditions considered necessary and appropriate by the GM Crop Advisory Committee to manger market risks; or
- A field trial occurring under strict conditions considered necessary and appropriate by the GM Crop Advisory Committee to manage market risks.

Recommendation 12:

The legislation should empower the South Australian Minister with responsibility for Agriculture to:

- Grant a conditional release of a GM crop (except in areas which may be or have been declared to be a GM crop free areas for marketing purposes) on the advice of the GM Crop Advisory Committee; and
- Apply conditions to a release as advised by the GM Crop Advisory Committee.

Recommendation 13:

The legislation should empower the GM Crop Advisory Committee to make recommendations regarding conditions the Minister should apply to a conditional release of a GM crop, as it sees appropriate and necessary to manage market risks.

Recommendation 14:

The legislation should:

- Establish a rigorous and transparent process to enable an application for a conditional release of a GM crop to be made,
- Prohibit a conditional release in an area of the State which may be or has been declared to be a GM crop free area;
- Establish criteria to enable decisions to be made regarding whether one or other of the conditions have been met which enable a conditional release of a GM crop to be granted;
- Empower the GM Crop Advisory Committee to consider an application for a conditional release of a GM crop.

Recommendation 15:

The legislation should provide for effective control, monitoring and enforcement of:

- The prohibition on the release of GM crops in areas which may be or have been declared to be GM crop free area;
- Conditional releases of GM crops; and
- The commercial release of GM crops.

Recommendation 16:

As part of the review of the national regulatory scheme for gene technology which must occur before September 2005, as required by the Gene Technology Intergovernmental Agreement, consideration should be given to including marketing issues as part of the assessment process of the Gene Technology Regulator. This should include a cost benefit analysis, which should take account of issues such as:

- Benefits and cost to farmers;
- Costs of segregation and IP systems;
- Market implications; and
- Indirect impacts.

APPENDIX B

SUMMARY OF COMMONWEALTH, STATE / TERRITORY GM LEGISLATION and MORATORIA

Jurisdiction	Legislation	Moratorium on GM canola / crops	Sunset / Expiry or Review Date	Responsibility sits with:
Australian Government	*Gene Technology Act 2000*	N/A – The OGTR approved both GM canola varieties for general (commercial) release.	N/A	N/A
Victoria	*Control of GM Crops Act 2004*	Yes. The commercial cultivation of OGTR-approved GM canola only is prohibited (by Order under the Act). No other GM crops are affected.	Moratorium Order (attached as Schedule to the Act) expires on 29 February 2008	Minister for Agriculture.
New South Wales	*Gene Technology (GM Crop Moratorium) Act 2003*	Yes. The commercial cultivation of specified GM food crops (including GM canola, but excluding GM cotton) is prohibited.*	Act expires on 3 March 2008.	Minister for Primary Industries
South Australia	*GM Crops Management Act 2004*	Yes. The cultivation of all GM food crops is prohibited.	The Act must be reviewed before 29 April 2008. Moratorium regulation to expire on 29 April 2008	Minister for Agriculture, Food and Fisheries
Western Australia	*GM Crops Free Areas Act 2003(the Act)*	Yes. The commercial cultivation of all GM crops is prohibited (by Order under the Act)	To be reviewed after 5 years from 24 Dec. 2003; no sunset clause	Minister for Agriculture and Food.
Tasmania	*Genetically Modified Organisms Control Act 2004.*	Yes. The commercial cultivation of all GM crops is prohibited.	Expires 5 years after commencement - on 16 November 2009.	Minister for Primary Industries & Water
Australian Capital Territory	*Gene Technology (GM Crop Moratorium) Act 2004*	Yes. The commercial cultivation of all GM crops is prohibited.	Expires on a date (not earlier than 17 June 2006) fixed by the Minister by written notice.	Minister for Health
Queensland	No legislation	Nil.*	N/A	N/A
Northern Territory	No legislation	Nil.	N/A	N/A

- *Commercial crops of GM cotton in these States.

APPENDIX C

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