

Review of the moratorium on GMOs in Tasmania (2013)
Department of Primary Industries, Parks, Water and Environment
GPO Box 44, Hobart TAS 7001



11th October 2013

To whom it concerns,

The Safe Food Foundation would like to thank the Government for the opportunity to make a submission to the *Review of the Moratorium on GMOs in Tasmania 2013*.

To summarise, the Safe Food Foundation supports the retainment of the Genetically Modified Organisms Control Act 2004 (Tas) and the extension of the moratorium on GMOs in Tasmania for at least a further six years, due to the risks posed to our environment, human and animal health, and our economy. In order to protect and properly capitalise on Tasmania's GM-free status the moratorium should be extended to imported animal feed. Exemptions should not be made for pharmaceutical crops.

To resolve the liability issues posed by potential GM contamination, the Act should be amended to ensure that the GM crop companies are held liable for any damage caused by their products and to ensure there is no liability for non-GM farmers.

In response to the Terms of Reference, we provide the following comments.

ToR 1) Domestic and international gene technology policy relevant to primary industries

1.1 Are there any other examples of innovative GMO policy and regulation from other States or countries that Tasmania can learn from?

Scotland

Similar to Tasmania, Scotland has a clean green image and reputation for developing quality products. The Scottish Government is opposed to the cultivation of GM crops, arguing that:

*"The cultivation of GM crops could damage Scotland's rich environment and would threaten our reputation for producing high quality and natural foods. It would damage Scotland's image as a land of food and drink."*¹

South Australia

The South Australian Government has resisted pressure from the Federal Government to lift its GM crop moratorium which currently expires in 2019. State Agriculture Minister Gail Gago said:

"Our non-GM crops attract greater market prices and the exceptional quality of SA's

food bowl is synonymous with the state. We will not be doing anything to jeopardise this."²

ToR 2) Research and development relevant to the use of gene technology in primary industries

2.1 Are there any new or emerging opportunities in gene technology that could benefit Tasmania's primary industries, now or in the future?

The two main industries calling for Tasmania's GM moratorium to be lifted are the poppy industry and dairy industry. Both industries argue that they may want to introduce GM crops to increase productivity. However, there are currently no commercially available GM poppies or pasture crops and little evidence of productivity increases associated with GM. There are currently field trials of GM grasses in Victoria, but the dairy industry admits that these are likely to be at least six years away from commercial release.³

Tasmania's current GM moratorium has an exemption for GM pharmaceutical crops - so GM poppies could currently be grown - except there are no commercially available varieties. There are also currently no field trials of GM poppies in Australia – so even if the poppy industry did decide it wanted to put Tasmania's other primary producers at risk by introducing GM poppies they would be unlikely to reach the market for at least six years.

Against the demonstrated benefits of remaining GM free, calls from the poppy and dairy industry to lift the moratorium for the sake of GM products that may or may not exist in 5-6 years time seems reckless at best.

GM canola is the only commercially available GM crop that Tasmania could currently grow

The only GM crop that could currently be grown in Tasmania if the GM moratorium is lifted is GM canola, the economics of which simply don't stack up. A study released last year by the Birchip Cropping Group found that farmers growing GM canola are losing \$150/hectare compared with those growing non-GM varieties. This is due to the technology user fee; the increased cost of seeds and herbicides; and lower market prices for GM canola. GM canola typically sells for \$30 to \$50 a tonne less than non-GM canola.

Tasmanian Agricultural Producers, which handles the majority of Tasmanian-grown grain, is currently selling non-GM canola to Japan for a premium. The buyers originally bought non-GM canola from Western Australia, but switched their supply chain to Tasmania due to contamination concerns once the GM canola ban in WA was lifted. If Tasmania introduces GM canola it also risks losing this market.

2.2 Are there any new or emerging opportunities in non-GM biotechnology that could benefit Tasmania's primary industries, now or in the future?

Other non-GM biotechnology techniques such as marker assisted selection allow the development of desirable traits such as drought tolerant, salt tolerant and nutritionally enhanced without the risk of market rejection associated with GM crops. For example, in 2006 John Brumby, the then Victorian Minister for Innovation, announced that Victorian scientists had developed non-GM drought tolerant canola using marker assisted selection.⁴

2.3 What impact has the moratorium had on the research and development of new products or markets?

Tasmanian producers are already benefitting from the state's GM free status, both in terms of access to markets and premium prices for GM free products. In light of these demonstrated benefits, the idea of becoming a GM state and losing existing market advantages for undemonstrated benefits seems downright perverse.

Large beef exporters such as Greenhams and Tasmania Feedlot enjoy market access in countries such as Japan and Korea because of Tasmania's GM free status:

"Overseas markets are praising our Tasmanian beef as a high quality, world class product. Japanese consumers are recognising the Tasmanian difference - the state offers something better than the rest of Australia with its wonderful pristine environment. We also have a true competitive advantage with Tasmania's guarantee of no hormone growth promotants (HGP) and that all feed is GM free."

Andrew Thompson, Managing Director, Tasmania Feedlot (A wholly owned subsidiary of the Japanese AEON group)⁵

Greenhams' managing director Peter Greenham has warned that lifting the GM ban would risk jeopardising the strong position of Tasmanian beef in international markets.⁶

Tasmanian fruit growers also enjoy access to premium markets throughout Asia because of Tasmania's GM free status and use Tasmania's GM free status to market their products.⁷ Andrew Scott, the president of Fruit Growers Tasmania, has similarly warned that any changes to the moratorium will be detrimental.⁸

Tasmanian honey producers are another of the key beneficiaries of Tasmania's GM crop moratorium. Tasmanian honey attracts premiums of at least 40 per cent over mainland honey because of Tasmania's clean green reputation. The Tasmanian Beekeepers Association president Lindsay Bourke has warned that international honey markets will be lost if the moratorium is lifted. Under European labelling laws, any honey containing GM pollen needs to be labelled and polling consistently shows that European consumers don't want to eat GM food.⁹

ToR 3) Market advantages and disadvantages

3.1 The use of GMOs in Australia is controlled by a dual system of national and State regulation, where Tasmania can only regulate gene technology to “... preserve the identity of GM or non-GM crops, or both GM and non-GM crops, for marketing purposes”. Is having a moratorium appropriate for Tasmania?

The Safe Food Foundation believes that Tasmania’s GMO moratorium is appropriate and should be retained. As this submission shows, the introduction of GM crops will have negative economic impacts for the state, damaging export revenues and hurting the livelihoods of farmers.

The Genetically Modified Organisms Control Act 2004 (Tas) and GMO moratorium were introduced because of concerns within industry, the farming sector and regional communities about the market impacts of these crops. These concerns included potential loss of exports and domestic sales, liability and insurance issues, and problems with segregation and cross-contamination.

In the eight years since the moratorium was introduced these concerns have proven to be justified. GM contamination scandals have plagued countries that have adopted GM crops. These scandals have resulted in hundreds of millions of dollars of lost export revenue and costly litigation.

Independent polling by Newspoll in 2008 showed that the majority of Australians are uncomfortable with eating GM food and are unlikely to eat it. Opposition to GM food was found to be particularly high in Tasmania with 71% of Tasmanian’s saying they would be less likely to purchase GM-food than non-GM food given the choice.¹⁰ Contrary to industry assertions that public opposition to GM crops is dwindling, an annual survey conducted by Swinburne University suggests that public attitudes in Australia to GM foods have remained constant since 2003.¹¹

Major Australian food processors have responded to consumer demand and adopted non-GM supply chains – including the major supermarket chains Coles:

In recognition of our customers’ strong preference for non-GM foods, all Coles Housebrand food products (over 2700 products) are formulated using non-GM ingredients.¹²

and Woolworths:

Woolworths own brand products do not use genetically modified (GM) ingredients. Our requirements on GM ingredients are articulated to our own brand suppliers in our Brand Guidelines and Woolworths Quality Assurance (WQA) Standard.¹³

Similar consumer attitudes to GM crops exist in our key export markets, such as Europe and Japan. Even in the US, which grows around 41 per cent of the GM crops in the world, there is

still strong community opposition to GM crops. In the absence of labelling laws, non-GMO labelled products are now among the fastest growing markets in the US food industry.

Tasmania is currently in the enviable position of being the only Australian state that can claim to be genuinely GM free. Although South Australia recently elected to extend its GM moratorium because of the market benefits of being GM free, GM trials are still taking place in the state. South Australia also shares a land border with Victoria, making the risk of GM contamination a very real one.

A wide range of industries in Tasmania rely on the state's clean, green image to market their products. The lifting of the GMO moratorium would jeopardise this image and the economic prospects of these companies.

The moratorium has provided many benefits to industry since its implementation, including:

- price premiums and preferential market access;
- lower production costs due to the absence of costly segregation and identity preservation processes;
- no costly recalls caused by unwanted GM contamination – such as recently happened with wheat products in the US;
- a reputation among domestic and export markets for high quality non-GM products.

3.3 Should Tasmania's policy allow for exemptions to a moratorium? For example, to allow for specific GM crops (such as non-food crops), or to designate some areas of the State where GM crops can be grown, or for other circumstances.

Arguments that Tasmania's GM moratorium should be reviewed on a case by case basis are disingenuous. The introduction of any GM crops to Tasmania will irreparably damage Tasmania's clean green reputation. Furthermore, the introduction of any GM crop - be it ryegrass, poppies or canola - risks contaminating other crops and jeopardising markets.

3.4 Is it possible for GM and non-GM crops to co-exist and not affect the marketing of Tasmania's products?

"GM crop agriculture is incompatible with other forms of farming—non-GM and organic, for instance—because GM crops contaminate and because segregation is impossible." Canadian National Farmers Union (2005)¹⁴

The current moratorium has allowed Tasmanian farmers to supply what the majority of consumers want: non-GM food with a low risk of GM contamination. If GM crops were introduced to Tasmania costly segregation and identity preservation (IP) systems would be required. Segregation and IP costs, along with the costs of recalls when contamination inevitably occurs, will be passed on to food companies and ultimately to consumers.

The introduction of GM crops would require the implementation of segregation and identity preservation (IP) in order to serve market demand. The Safe Food Foundation believes that

the moratorium should be extended, since no satisfactory measures have been suggested that would protect non-GM farmers and consumers from unwanted GM contamination.

A Western Australian parliamentary inquiry into genetic engineering formed the view that “contamination of non-GM crops by GM crops is inevitable, segregation is not practical and that identity preservation (IP) can be achieved, but at a significant cost.”¹⁵ The WA inquiry found that “extra costs will arise with an identity preservation system due to the additional work involved throughout the supply chain, including in growing, handling, storage, transport, processing, cleaning and administration. Certification and/or testing of the GM status of bulk commodities in the marketing chain and labelling will also contribute to the additional costs.”¹⁶

Segregation advocates point to organic growers who successfully segregate their crops from the rest of the food supply. However such comparisons fail to appreciate how segregation systems work. Keeping the general pool of product from contaminating a small subset is a very different task to trying to keep grains separate within the commercial system, with its huge bulk-handling facilities, intermixing, port blending, sketchy paperwork, and numerous delivery points – to say nothing of pollen drift and seed contamination.

The experience in countries that have adopted GM food crops has shown that the contamination of non-GM and organic crops would be inevitable. The introduction of GM crops would result in greatly increased on-farm costs for both GM and non-GM farmers; lost market access; as well as greatly increased costs for user industries; which would ultimately be passed onto consumers.

Based on the North American experience, it seems guaranteed that a GM/non-GM segregation system will fail. Canadian researchers tested 33 samples of certified non-GM canola seed and found that 32 samples were contaminated with GM varieties—and three of those samples had contamination levels above 2%.¹⁷ Another study in the US found that virtually all samples of non-GM corn, soybeans, and canola seed were contaminated by GM varieties.¹⁸ Widespread contamination is not surprising given that a UK study found that GM canola cross-pollinated with non-GM canola more than 26 km away.¹⁹

Since the growing of GM canola was allowed in New South Wales, Victoria and Western Australia a number of contamination incidents have occurred. The most high profile case involves Steve Marsh, a farmer from Kojonup Western Australia. Mr Marsh’s organic farm was contaminated in late 2010 by a neighbouring farmer’s GM canola. As a result of this contamination he lost the organic certification on much of his land, and has had to embark on a lengthy, costly legal battle through the Supreme Court to seek compensation for loss and damage from his neighbour.²⁰

According to the *GMO Review Issues Paper 2013*, the Tasmanian Government spends approximately \$250,000 a year in maintaining the internal GMO-free Program, which is predominantly for auditing former canola trial sites. The ubiquitous nature of canola, combined with the persistent nature of GM varieties bred for herbicide resistance and pesticide production, means that over ten years after their planting, only 4 of 57 former GM trial sites have been signed off as non-GM.

3.5 The current moratorium automatically expires in November 2014. If a decision was made to extend the moratorium beyond 2014, what would be an appropriate length of time for the new moratorium?

Given that any new GM products are likely to be at least six years away from commercial release, the Safe Food Foundation believes that the GM moratorium should be extended for six years.²¹ This would bring Tasmania into line with South Australia.

1. A question of industry competitiveness?

GM crops do not increase yield, international competitiveness, market access, or profit in comparison to non-GM crops. In fact, experience has shown that these crops increase the cost of production, decrease market access and reputation, lower profit, and impact R & D, farming sustainability, and other industries. This is evident with the Canadian experience with GM crops:

“Over the past decade, corporate and government managers have spent millions trying to convince farmers and other citizens of the benefits of genetically-modified (GM) crops. But this huge public relations effort has failed to obscure the truth: GM crops do not deliver the promised benefits; they create numerous problems, costs, and risks; and Canadian consumers and foreign customers alike do not want these crops.

It would be too generous even to call GM crops a solution in search of a problem: These crops have failed to provide significant solutions, and their use is creating problems — agronomic, environmental, economic, social, and (potentially) human health problems.” Canadian National Farmers Union (2005)²²

GM crops do not have higher yields

Despite the industry rhetoric, there is no evidence that GM crops increase yields. A 2009 report by the Union of Concerned Scientists, *Failure to Yield*, is the first report to closely evaluate the overall effect genetic engineering has had on crop yields in relation to other agricultural technologies. It reviewed two dozen academic studies of corn and soybeans, the two primary GM food and feed crops grown in the United States. Based on those studies, the UCS report concluded that genetically engineering herbicide-tolerant soybeans and herbicide-tolerant corn has *not* increased yields. Insect-resistant corn, meanwhile, has improved yields only marginally. The increase in yields for both crops over the last 13 years, the report found, was largely due to traditional breeding or improvements in agricultural practices.²³

GM crops do not increase net farm income

“Those who assert that GM seeds increase farmers’ net income need to produce some data. And, as we stand ten years after the introduction of these seeds, and as we stand mired in the worst farm income crisis in Canadian history, it is probable that such data will be hard to produce. The claim that GM seeds make our farms more profitable is false.” Canadian National Farmers Union (2005)²⁴

Even if GM crops did have the potential to increase yields any initial economic benefits will be quickly outweighed as farmers are drawn further under corporate control. Companies such as Monsanto have gone to great lengths to ensure that they capture the full benefits of the introduction of GM crops. Monsanto spends over US\$10 million annually investigating, intimidating, pressuring, and suing farmers.²⁵ The company has a staff of 75 employees devoted to these pursuits and Monsanto also contracts dozens of lawyers from outside firms. It has sued for, and won, judgements as high as US\$3 million and several more over \$1 million.²⁶

2. What is the value of niche (premium) versus commodity markets?

The Tasmanian Government has acknowledged the competitive advantages for Tasmania's Food industry, which our GM-free status brings:

"The ongoing government commitment to biosecurity and prohibition of hormone growth promotants and genetically modified organisms means that Tasmania is among the world's most favoured producers of high-quality, safe food and agricultural products."²⁷

With larger freight costs and without economies of scale, Tasmanian producers are unable to compete with the mainland when it comes to bulk commodity production. The real opportunities for Tasmania lie in market differentiation and value adding - and in selling premium products to discerning markets. Tasmania's GM moratorium has already proven invaluable in accessing these markets, although clearly much more can be done to promote Tasmania's clean green image, both domestically and internationally.

ToR 4) Any other relevant matters

The relevance of human health and environmental concerns

Whilst the health and environmental concerns associated with GM crops fall outside the scope of the review these directly impact on the marketability of GM crops.

Consumer confidence in GM crops is likely to remain varied and unstable given the uncertainty of GM science. In June 2007, research published in the leading scientific journal *Nature* revealed serious flaws in the science behind genetic engineering. The research calls into question the assumption that each DNA sequence can be isolated and has its own function. Instead, genes operate in a complex network where they react, interact and overlap with each other in ways that are still far from being understood. This new research shows that genes cannot be considered isolated units - nor can they be controlled. The research raises serious questions about the safety of GM crops.²⁸

This incomplete understanding of genetics explains why so many unexpected effects have occurred in GM feeding studies. For example, a peer reviewed study, published in 2007, found evidence of liver and kidney toxicity when rats were fed an approved GE maize variety (MON863).²⁹ Similar effects were observed when Monsanto fed its Roundup Ready canola variety to rats. The rats showed a 12-16% increase in liver weight, yet Food Standards Australia New Zealand (FSANZ) still rubber stamped the canola as safe for human consumption.³⁰

In 2005 CSIRO abandoned a decade-long project to develop GM peas after tests showed they caused allergic lung damage in mice.³¹ The allergic reaction is believed to have been caused by unexpected changes to the protein when it was expressed in the pea. FSANZ typically uses proteins expressed by bacteria in its toxicity studies, rather than proteins isolated from the plants in which they are expressed.³² This allergenic pea would therefore have been approved for human consumption had it gone through FSANZ's normal testing regime.

The Safe Food Foundation does not believe that any potential benefits promised by GMOs could ever outweigh the potential risks posed by the technology to human health, the environment and the economy. Furthermore, most of the purported benefits of GM crops such as drought and salt tolerance can be achieved by other techniques and other biotechnologies which do not pose the same risks to human health and the environment.

Additional Measures

In addition to the extension of the moratorium, the Safe Food Foundation believes that farmer protection legislation is needed to protect markets from unwanted GM contamination. It is inequitable to allow biotech companies to privately reap profits and not require that they also assume all costs. The State Government must hold biotech companies accountable for the costs their products create for farmers, industry and the consumers. Amending the Act so that companies are held responsible for the damage caused by their products would be an equitable way to achieve this.

Non-GM growers should not be held liable for contamination events if their crops, harvest or land are contaminated and subsequently contaminate the crops or harvest of others. The Act should be amended to ensure that GM technology providers are held strictly liable for any contamination that occurs as a result of the sowing, growing, harvesting, transport and storage of GM crops. The Act should also be amended to ensure there is no liability for non-GM farmers.

Conclusion

The Safe Food Foundation believes that the reasons for the introduction of the Act are stronger than ever and that The Act and the current moratorium should remain in place. The Act should be amended to ensure that the GM crop companies are held liable for any damage caused by their products and that there is no liability for non-GM farmers. Should you need any further information please do not hesitate to contact me.

Yours sincerely,

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