

I would like to take this opportunity to comment on the Review of Tasmania's genetically modified organisms (GMO) Moratorium issues paper.

I strongly support an indefinite extension to the moratorium on GMOs in Tasmania, due to what I believe are risks posed to our environment, human and animal health, and our economy. In order to continue protect and properly capitalise on Tasmania's GM-free status the moratorium needs to be extended to imported animal feed. I do not believe that exemptions should be considered for pharmaceutical crops or open air field trials due to very real contamination risks.

Tasmania's GM free status currently allows Tasmania to sell into premium markets in the USA and Asia. This market is going to do nothing but grow and to consider ending this market is foolhardy.

I have come to understand that the day before the Federal election was called, the Federal Government announced the deregulation of a range of new genetic modification (GM) techniques referred to as site directed nucleases 1 (SDN-1) in animals, plants and microbes. Since the Tasmanian Genetically Modified Organisms Control Act 2004 uses the definition of genetically modified organism defined in the Federal Gene Technology Act 2000 and Gene Technology Regulations 2001, these Federal level changes will potentially undermine Tasmania's GMO Moratorium. Tasmania's definition of GMO will be at odds with those of key international trading partners, raising the risk of global market rejection.

This Federal Government announcement makes Australia the first country in the world to deregulate the use of these GM techniques in animals. Can we or should we be this short sighted?

SDN-1 methods have already been used to produce super muscled pigs, sheep and cattle and can now be used in other livestock with no regulation. This will have major consequences for global market perceptions of Australian produce. The majority of consumers globally are extremely uncomfortable with the idea of genetically modifying animals for food.

The deregulation of these techniques will have dramatic impacts on food exports. The European Union's top court has ruled that these techniques pose similar risks to older GM techniques and need to be assessed for safety in the same way. Since Europe has declared these techniques GM, traceability will be mandatory - as will testing protocols to detect the GMO. With no regulation, traceability cannot be assured - and without traceability Europe's zero tolerance policy for unapproved GMOs could see a disruption or halt to their food imports from Australia.

A survey of countries conducted by the Food and Agriculture Organisation found that 73% of them have a zero tolerance for unapproved GM varieties. The FAO found that between 2002 and 2012 there had been 200 cases of trade disruptions due to the presence of unapproved GMOs. The majority of the cases happened between 2009-2012, indicating increasing trade problems.

Even China who we export a great deal of food to has a zero tolerance policy for the presence of unapproved GMOs.

Have the numerous costly market rejections been considered?

- When an unlicensed GM flax variety was found in a shipment to Japan in 2009, 35 countries closed their borders to Canadian flax exports, including 28 in the EU which accounts for 60 per cent of Canada's flax export market. A University of Saskatchewan study estimated the cost to the Canadian flax industry in the first year alone to be \$29 million.

- In 2015, the Swiss company Syngenta released a GM corn variety to market before it had been approved in key export markets, resulting in a Chinese import ban. The National Grain and Feed Association calculated the loss to farmers to be nearly US\$3 billion.
- This was a massive supply chain contamination incident in 2000 involving a GM corn used for animal feed and not approved for human food use. It resulted in the largest food product recall in history and is estimated to have cost US companies US\$1 billion.
- In 2006, an unauthorised variety of GM rice was detected in US exports. According to the USA Rice Federation, “a robust long grain rice export market nearly vanished overnight”. The total cost to the US rice industry of the LibertyLink 601 contamination is estimated at around US\$1 billion.

To ensure the integrity of Tasmania’s GM moratorium, I urge the Tasmanian Government to change the definition of genetically modified organism in the Genetically Modified Organisms Control Act 2004 to explicitly include organisms modified using SDN-1 methods.

In response to the Terms of Reference, I provide the following comments:

a. The potential market advantages and disadvantages of allowing or not allowing the use of gene technology in Tasmanian primary industries, including food and non-food sectors

Tasmania’s GMO moratorium is intelligent, market appropriate and should be retained. 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 fifteen 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.

A nationwide survey of Australians conducted by Swinburne University in 2017 found that Australians are not comfortable with genetically modified (GM) foods. They are also significantly less comfortable with genetically modified animals for food than with genetically modified plants for food.

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

Tasmania is currently in the enviable position of being the only Australian state that can claim to be genuinely GM free. Although South Australia also has a GMO moratorium, 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.

Tasmania clearly relies 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.

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 enjoy market access in countries such as Japan and Korea because of Tasmania's GM free status.

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.

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.

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 no evidence of productivity increases associated with GM and how long is the poppy market going to thrive in Tasmania?

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. In 2012, a Birchip Cropping Group analysis found GM canola in Western Victoria was \$150/hectare less profitable than non-GM varieties. This was 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.

b. Domestic and international gene technology policy relevant to primary industries

Examples of innovative GMO policy and regulation from other jurisdictions that Tasmania could adopt or learn from?

The European Union's top court has ruled that new GM techniques such as CRISPR pose similar risks to older GM techniques and need to be assessed for safety in the same way. The New Zealand Government has also announced that it will regulate organisms produced using these new techniques as genetically modified organisms .

Norway applies the precautionary principle when vetting GMOs and in addition requires any user or importer of a GMO to show that the use is ethically and socially justifiable, requiring proof both that the GMO is not harmful and that its use will benefit society. Notably, no GMOs have been approved in Norway under this regulatory regime.

c. Research and development relevant to the use of gene technology in primary industries

The Tasmanian Government's GMO Annual Environmental Scan 2017 states that New Breeding Techniques or gene editing offer "the promise of a clear regulatory path and acceptance of its products among both farmers and consumers in target markets." Based on the European Court of Justice decision and statements by non-GM certifiers such as the Non-GMO Project and IFOAM, this statement is demonstrably false. **There is no clear pathway to market for these products and they need to be included in Tasmania's GMO moratorium.**

Are there new gene technologies that would provide positive benefits to the State as whole? What are they and what would the benefits be?

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, Victorian scientists have developed non-GM drought tolerant canola using marker assisted selection.

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

Large beef exporters enjoy market access in countries such as Japan and Korea because of Tasmania's GM free status. Thanks to Tassie's GM-free status, Cape Grim Beef was also the first Australian brand to receive Non-GMO Project certification in the US.

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.