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Foodwatch WA, MADGE and GM Cropwatch

Comments on the Review of the Tasmanian GM crop moratorium (2013)

October 11, 2013

Introduction

The Tasmanian State Government's review of the state's moratorium on Genetically Manipulated (GM) crops and other organisms is an opportunity to consolidate and capitalise on the many unrealised opportunities that Tasmania's competitive advantage as a clean, green and GM-free primary producer offers. With only herbicide tolerant GM canola available immediately and nothing suitable to Tasmania's production systems available in the short or medium term, lifting the moratorium would commit Tasmania to GM permanently and permanently squander its competitive marketing advantage as a GM-free producer.

Tasmania has the opportunity to be a leading-edge showcase for new ways to food the world that can turn its farmers from price takers into price makers, for everyone's benefit, if it is well managed.

Over 160 countries and their 60 dependent territories remain GM-free and most shoppers in those countries, and also in the USA and Canada which grow GM extensively) will avoid GM if given the opportunity to do so through comprehensive labelling. Informative GM labelling is strongest in the EU, with all foods made using GM techniques labelled, except for meat, milk and eggs from animals reared on GM feed. Just 28 countries grow some GM herbicide tolerant or Bt soy, corn, canola, cotton and/or sugarbeet but around 90% is grown in just six countries (ISAAA, 2013, www.isaaa.org), predominantly for animal feed or biofuels. US farmers remain by far the biggest adopters of GM varieties with over 40% of the global total as they received substantial subsidies through the US Farm Bill.

Monsanto's GM patents mean it still has around 90% share of GM crop seed and 27% of all commercial seed. A small cartel of corporations now monopolises the seed and agrichemical businesses, creating control of food production that is not in the public interest. As oil and phosphates deplete over the next 50 years, arable land and water become scarcer, and the climate changes, a transition to agro-ecology will be necessary and that should be the present focus of public policy, not technical measures to enhance or prop up present production models which cannot survive the state, nation and world's changing circumstances. The United Nations' models for this transition that should be reviewed and implemented in state government policy during continuation of the GM moratorium (the International Assessment of Agricultural Knowledge, Science and Technology for Development - IAASTD - http://www.unep.org/dewa/Assessments/Ecosystems/IAASTD/tabid/105853/Default.aspx and the UNCTAD TRADE AND ENVIRONMENT REVIEW 2013, MAKE AGRICULTURE TRULY SUSTAINABLE NOW FOR FOOD SECURITY IN A CHANGING CLIMATE **http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=666**)

Our report, No Appetite for GM Wheat, reflects the widespread antipathy among food traders and processors to GM grains and oilseeds. The report provides potent evidence that wheat in particular and other products too are unwelcome in many markets. It is submitted with our comments.

Recommendations

We recommend that:

1. on the basis of the evidence in the Issues Paper and our following responses to questions, the present state GM moratorium should be extended for 10 years, until November 2024.

2. no exemptions to the GM moratorium ought to be entertained prior to its expiration in 2024.

3. a joint state government and supply chain program be initiated to identify alternatives to industrial agriculture based on inputs of GM organisms and synthetic chemicals, noting that the cost of such inputs is accelerating and their depletion makes a transition to agro-ecological systems inevitable.

4. the Tasmanian Government review the liability and insurance issues related to loss, damage and harm from GM organisms or their products throughout food supply chains, and consider the merits of passing a Farmer and Supply Chain Protection Act prior to any proposed lifting of the GM moratorium.

5. while gene research may continue to provide basic data about genomes, expenditure on the research must not be justified with unsubstantiated claims that it may lead to commercial applications.

6. Tasmania monitor and enforce a requirement that certified GM-free feed only be imported into its jurisdiction.

DPIPWE Questions

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

1.1.1 The framework provided by the Cartagena Biosafety Protocol, to which Australia is not a party may, nonetheless, offer some insights into a way forward for the state.

1.1.2 The European Union's labelling and other regulatory requirements

1.1.3 Certification of exports as non-GM, by an independent testing service such as GM ID may provide additional marketing edge to Tasmania's food, fibre and pharmaceutical exports. The GMO

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

2.1.1 GM is a dead-end and no more public research resources should be put into it. Public research resources should be invested in systems for sustainable farming that are less dependent on dwindling resources of water, arable land, oil and phosphates in this era of climate change. GM crops are part of the industrial farming systems that will have to change in the next half century as resource and environmental constraints will dictate.

2.1.2 The OGTR website http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/content/ir-1 shows that although there have been many laboratory experiments and field trials of GM events, many have been withdrawn and most surrendered. The commercial licences for blue carnations and roses have been surrendered already, as have five licences for various events on canola and cotton. Just seven commercial licences are current for herbicide tolerant canola, plus herbicide tolerant and Bt toxin cotton events.

2.1.3 But there are around seventy varieties of canola now available to growers, including the seven GM, so farmers in Victoria and NSW are choosing the non-GM options because of superior profitability (BCG, 2012), blackleg resistance, and the risk of law suits for contamination neighbours (redacted, pers comms, 2013). The proportions of GM in those two states increased then declined since being first commercially released in 2008.

2.1.4 The table in the Issues Paper (Pp32-36) shows convincingly that there are no compelling reasons on commercial grounds to lift the GM moratorium now or in the medium term. The only commercial crop on offer now is Roundup tolerant canola. Another table (Pp 36-37) confirms what all other evidence from Australia (NVT trials, for instance) and the USA (Benbrook) shows, that GM canola yields no more than the best conventional varieties and does not reduce the use of synthetic chemicals. Yields are also inferior as a comparison of EU and US production recently showed (Jack A. Heinemann, et al (2013): Sustainability and innovation in staple crop production in the US Midwest, International Journal of Agricultural Sustainability, DOI:10.1080/14735903.2013.806408 http://dx.doi.org/10.1080/14735903.2013.806408

2.1.5 Birchip Cropping Group (BCG) also concluded that RR GM canola grown in Victoria in 2011 was less profitable by $150 /hectare than conventional varieties, principally because of the elevated input costs – seed, segregation, cartage, end point royalties and discounted prices (Australian Farm Journal, April 2012, Pp 21-22). Monsanto guarantees subsidies that mean GM canola now sells for only $10/tonne less than conventional types, but before their scheme the GM discount has reached as high as $60 / tonne from 2007 onward.

2.1.6 Claims of an economic bonanza for Australia from adopting GM canola (e.g. ABARE, an extra $3 billion over the next decade from GM canola) were refuted by a more realistic RIRDC paper which said:

> "Net economic welfare for Australia would be US$28 million per year higher as a result of GM adoption, less any negative value domestic consumers place on not knowing if they may be consuming GM products. With the EU moratorium, the net economic welfare benefit to Australian producers and consumers of GM adoption in this case is estimated to be US$15 million per year. … However, the average Australian farm household income would decrease with GM adoption – even with rice and wheat included – if the EU moratorium remains." (RIRDC 'Global Responses to GM Food Technology: Implications for Australia' Anderson et al, 2005)

Eight years on, there are few signs that EU moratoria will end, despite the USA's WTO action which sought to require access to Europe for GM foods. The RIRDC's modest estimates turned out to be overly optimistic

with non-GM canola fetching up to $60/tonne premium in Europe, where over 90% of WA canola was sold in 2011.

Likewise, we consider the Macquarie Franklin's projections to be based on inadequate evidence and are therefore flawed.

2.1.7 The GM industry and GM researchers make many promises of products to be created using GM techniques which are refuted by the evidence. They propose, for instance, to create: drought and salt tolerant crops, nitrogen fixation in grains, longer shelf-life food, food biofortified with micro-nutrients, etc. This is despite 30 years of R&D and more than $70 billion spent.

Cutting and pasting genes with a set of technologies and techniques developed last century is seriously limited by their capacity to transfer only single gene traits between organisms.

A scientific consensus appears to be emerging that GM cannot deliver on these dreams because, as Dr Richard Richards of Australian CSIRO Plant Industry says:

> "breeding combines many traits together some of which are simple and some of which are complex. Usually, GM technology contributes only one or two of these traits, although combinations of up to eight genes are now in corn. Some of these traits may be simply inherited (single gene) – such as plant height or flowering time. But most are controlled by many genes, including performance in dry environments, grain yield, tolerance to high temperatures, and once the wheat is turned into flour, improved baking quality. GM technologies are generally only suitable for the single gene traits, not complex multigenic ones." http://theconversation.edu.au/top-five-myths-about-genetic-modification-2664

Dr Heather Burrow, former CEO of the Beef Co-operative Research Centre, says:

> "… hundreds, even thousands, of interacting genes control important production traits like growth rate, feed efficiency and meat quality - not the handful that researchers had originally believed." (Weekly Times, Beef CRC chopped, 11/9/11)

Dr Clive James of GM- advocate group ISAAA says:

> "Drought tolerance is an infinitely more complex trait than herbicide tolerance and insect resistance and progress is likely to be on a step by step basis."
> http://www.isaaa.org/kc/cropbiotechupdate/pressrelease/2012/default.asp
>
> This is a clear admission by an organisation that reports on and robustly promotes GM and its products, that complexity may defeat efforts to make GM drought tolerant crops.

The Australian Bureau of Resource Sciences also acknowledges the technical limits of GM:

> "Leaf and spike (flowering axis) temperatures in wheat can be lower than ambient air temperature, with the degree of cooling reflecting the rate of evapotranspiration on the surface of the plant canopy (Ayeneh et al. 2002). This trait is referred to as canopy temperature depression (CTD) … As CTD is a complex, multi-genic trait, it is unlikely that transgenic technologies could be easily used to introduce the responsible genetic elements into breeding lines; however, molecular markers could be developed for this trait. … GM crops with insect resistance, herbicide tolerance, high-lysine content and, to a lesser extent, disease resistance have already proven to be technically possible. These are traits which are controlled by manipulating or inserting a single gene. As a general rule, the more complex the trait, the more genes are required to control that trait and hence the longer it would take to develop using GM techniques. Most complex phenological traits such as water-use efficiency and heat tolerance have multi-genic inheritance patterns and, therefore, plants modified for these traits have not progressed far down the product development pipeline." (Australia's crops and pastures in a changing climate - can biotechnology help? Julie Glover, et al, Bureau of Rural Sciences, 2008)

We recommend that while gene research may continue to provide basic data about genomes, expenditure on the research not be justified with unjustified claims that it may lead to commercial applications.

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?

2.2.1 Other areas of biotechnology, such as gene-marker-assisted conventional plant breeding, appear to offer much more promise than genetic manipulation. While genetic manipulation techniques are useful research tools, they have limited utility for the creation of new products. This is clear from the crops now commercially available which contain single gene traits for – herbicide tolerance, Bt insect toxins, virus resistance.

2.2.2 There appears to be great potential for the commercialization of organisms that naturally exhibit desired traits in selected environments. For instance, some sheep farmers in NSW graze their stock on drought tolerant West Australian smokebush and their products attract premium prices. (The Strong family, farmers, pers comm, 2011). The commercialization of bush tucker is another good example of working with species already well adapted to the environments and other conditions in which they are proposed to be grown. Tasmania would be well-advised to more fully explore these possibilities by surveying crops suitable for its situation from around the world, than running the market risks and liabilities of GM crops.

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

2.3.1 We do not believe it has had any impact at all. Public spending on GM for commercialisation should cease. Monsanto alone appears to spend in the region of $1.5 million per day on its GM R&D effort while Bayer, Dow, Dupont, BASF, etc. spend too.

2.3.2 Tasmania should refocus its research priorities. Offering extension services that would aim to deploy to all farmers what is already known and practiced by those who are most innovative and successful in their production methods and enterprises could make everyone more profitable. A co-operative approach to knowledge sharing through the internet, promoted by government, could pay off handsomely for all producers in a small island state.

2.3.3 Agro-ecology and post-organic methods with a focus on soil and environmental health, using the IAA STD and UNCTAD models, along with all the other information available, could capture the imagination and enthusiasm of growers and produce fabulous results.

2.3.4 GM canola is a poor fit and a serious trade hazard for Tasmania, a state that must enhance its natural assets and clean, green reputation to expand its local, national and international markets.

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?

3.1.1 The Tasmanian government did everyone a favour by insisting that Section 21 of the Commonwealth Gene Technology Act 2000 include:

> The Ministerial Council may issue policy principles in relation to the following:
> (a) ethical issues relating to dealings with GMOs;
> (aa) recognising areas, if any, designated under State law for the purpose of preserving the identity of one or both of the following:
> (i) GM crops;
> (ii) non-GM crops;
> for marketing purposes;

All nine Australian governments agreed to this principle, which means the states and territories cannot refuse to host contained field trials but gives them the power to refuse commercial GM organisms rationally and cautiously and with measured regard for economic and marketing impacts. For instance, if commercial GM crops were proposed for the Northern Territory, that government has the power to declare all or part of its jurisdiction GM-free. Likewise under the laws of other states, the option of declaring GM or GM-free zones for marketing purposes is a management asset. Precedents lie in the declaration of such things as fruit fly exclusion zones on mainland Australia.

3.1.2 South Australia had the option of establishing GM and GM-free zones in 2009 but decided to retain its GM-free status and chose to keep the whole state GM-free until at least September 1 2019, in order to reap the benefits of its GM-free status. The government has supported the efforts of GM-free areas and industries to maximize this advantage to promote its clean green food through, for instance http://www.southaustralia.com/things-to-do/food-markets.aspx Another example is KI Pure Grain which has

enabled Kangaroo Island growers to benefit greatly from its clean, green and GM-free status with long term contracts at premium prices http://www.kipuregrain.com/

Many local and regional government councils in all states would also prefer to be GM-free if the state governments would agree. For instance, the Shire of Williams in WA voted for GM-free prior to a major roadside truck spill of GM canola in 2011. In 1998, Waverley Council which covers Bondi in Sydney was the first of over 100 councils to declare their areas and/or food services GM-free since then. Four councils in Gippsland, Victoria, jointly declared their region in 2007.

3.2 *From a marketing perspective we particularly want to hear from actual producers, retailers, wholesalers and exporters:*
a) What products do you sell in domestic or international markets as 'Tasmanian' and/or 'GMO-free'?
b) What market opportunities have you gained or lost over the past 10 years as a result of Tasmania's GM moratorium?
c) If Tasmania's GMO moratorium was to lapse, what would be the impact on your business?
d) If non-food GM crops were grown commercially in Tasmania, would this impact on your food markets?
e) Can you provide evidence of the financial benefits or costs to your business as a result of the current moratorium?
(Please clearly identify any confidential information).

No comment.

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*.

The Department's own issues paper confirms the following points, that there are no GM organisms coming to market that would warrant compromising the moratorium. As the state has already experienced with the cleanup of GM canola trials, GM contaminations are a heavy burden on the public purse so reasons to consider lifting the moratorium would have to be overwhelmingly compelling.

3.3.1 There is no present or foreseeable case in the next decade for varying the moratorium or exempting any commercial crops for cultivation in the state-wide GM-free zone. No commercial GM crops or other organisms are in the commercial development pipeline that could come to market in Tasmania in the next decade.

3.3.2 The Victorian DPI has been trialing GM perennial ryegrass and tall fescue since 2008. http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/content/DIR082-2007 In his media release of October 28 that year, then Victorian Minister for Innovation Gavin Jennings said:

> "The trials are for proof-of-concept research and not for commercial release."

It was a fishing expedition, with up to 500 GM transformation events being tested. As far as we know, the status of the trials has not changed and there are no reports of progress. A lengthy process of animal feeding trials would have to follow any successful search for a GM grass that performed to specifications, yet the Minister also said:

> "The experimental GM grasses to be tested will not be used for animal feed."

Since the OGTR granted separate licences in 2004 and 2009, the department has also conducted white clover trials that seek to confer resistance to the alfalfa mosaic virus but, again, they appear to be proof of concept (the very first step in any development process) and there are still no results in the public domain. Our requests for progress reports were rejected. The Tasmanian government may have more success getting data from the research team headed by German Spangenberg.

3.3.3 Poppy trial licenses DIR 007/2001 and DIR 018/2002 were surrendered long ago and it appears these programs were discontinued. , We therefore recommend to the government that it extend the present moratorium for ten years and mandate a parliamentary review at that time.

3.3.4 This year, narrow leaf lupins are being trialled in WA to determine what level of glyphosate the GM plants can tolerate being over-sprayed with under field conditions. Again, if the results of such a trial were auspicious, nothing would come to market before A Tasmanian GM moratorium review in November 2014.

3.3.5 GM alfalfa commercialized this year on a small scale in the USA has already been detected in a Washington state farmer's non-GMO alfalfa crop. The US Department of Agriculture said it is a "commercial issue" that does not warrant any government action. The farmer had his alfalfa hay rejected by an export market because a GM herbicide tolerance trait was present:
http://www.reuters.com/article/2013/09/17/usa-alfalfa-gmo-idUSL2N0HD1SQ20130917

3.3.6 If Roundup tolerant alfalfa (Lucerne) were grown in Tasmania, similar outcomes could be assumed. Like GM canola it would offer few benefits but the high probability of rejection in some markets.

3.3.7 Contray to the issues paper claim, there does not appear to be any trial of GM omega 3 canola licensed in Australia http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/content/ir-1 Without such a trial presently there could be no prospect of its commercial availability in the foreseeable future.

If so: 3.3.1 a) How could any exemptions be determined and by whom?

3.3.1 aa Participatory, open, public hearing and submission processes, conducted by parliamentary committees representing all parties, have served Tasmania well in previous reviews of the GM moratorium. These democratic, evidence-based processes should be used again.

3.3.1 ab However, we do not believe that any exemptions should be contemplated prior to the expiration of our proposed ten-year extension of the moratorium in November 2024.

3.3.1 ac Sectional interests should not be allowed to dominate any proposed exemption decision as the commercial release of any GM organisms will have negative effects on the marketing of all Tasmanian produce.

3.3.1 b) What other issues could arise and how could they be managed?

3.3.1 ba In 1999 Swiss Reinsurance said there was "insufficient loss experience" and "no quantifiable elements" for insurance on genetically engineered organisms. It appears the Australian insurance industry takes the same view now and everyone in food supply chains is vulnerable and uninsured.

A restaurateur and Gene Ethics' constituent questioned her insurance broker over the exemptions for GM in her restaurant insurance policies, issued by Wesfarmers General Insurance Ltd t/a Lumley Insurance. The broker (redacted, pers comm, 21 May 2013) emailed in relation to restaurant insurance generally:

> "All the insurers exclude cover associated with GM foods. They don't know anything the rest of the world doesn't it's just that it's a new exposure they do not wish to pick up. If in the future something has arisen from GM foods, then it will be extremely difficult to pin point the exact time the "incident" occurred and they are not able to charge an acceptable or adequate premium to cover this unknown. Think of the asbestos issue. … As GM is relatively new and the long term effects are to be seen, insurers do not wish to insure this unknown exposure."

The broker also reported that a Property Underwriting Manager had said:

> "… the exclusion has been put in place to pick up any unknown issues which might arise from the rapidly evolving industry. Regarding the 'distribution' of GM products (whether known or unknown) we do not believe this to be a concern for your business activities."

The text of concern in the Lumley policy was:

> "This policy does not cover liability directly or indirectly caused by or arising out of … the manufacture , importing, growing, blending mixing or distributing of Genetically Modified or Engineered Organisms (GMO). … These exclusions apply regardless of any other contributing or aggravating cause or event."

A replacement policy with Hollard Insurance was also found to contain a clause under the heading: 'What we do not cover' which says:

> "16. Genetic engineering
> Claims arising directly or indirectly out of genetic engineering."

Our constituent is in a major bind, wanting her restaurant to serve exclusively GM-free food. But most ingredients are exempt from labelling, especially for restaurants where GM foods – including Australian cotton and canola seed oils - require no labelling as such. And despite her best efforts, there is no insurance protection either.

Contesting this state of affairs is a one page issues brief published by the Insurance Council entitled, GM Crops – Insurance Aspects. It provides a short summary of issues relating to insuring GM crops and claims inconclusively, 'presently, insurance coverage generally exists for damage to GM crops ... cover relating to liability for GM crops is a more complex matter requiring discussion'. See: www.insurancecouncil.com.au/media/54877/current%20issues%20brief%20-%20gm%20crops%20updated%20020210.pdf Whether the discussion has or will be held should be a matter of concern to the Tasmanian Government review of the GM Moratorium.

3.3.1 bb It appears there is no insurance for anyone in food supply chains who either chooses to grow and use GM organisms, or who chooses to avoid them. For many people, resort to the courts and the common law would not be an option so the question of liability ought to be revisited.

The case of WA farmers Steve Marsh and Michael Baxter is instructive. They were neighbours and friends from boyhood. Baxter grew GM canola in 2010, swathed it to dry on the ground, and it was blown over the fence onto Marsh's property. As a result, Marsh has sustained the loss of his organic certification and substantial economic loss too. The community is also very divided over the incident. Marsh's case for compensation will go to the WA Supreme Court next February. Monsanto still owns the wayward seed but transferred its liability to Baxter under its Technology User contract.

3.3.1 bc The passage of a Farmer and Supply Chain Protection Act should predate any proposed lifting of the GM moratorium, to establish a fund resourced from levies on GM seed. Anyone suffering financial loss or other harm as a result of GM contamination could then be automatically compensated from the fund.

Farmer's liability and GM crops is also discussed in a fact sheet produced by the Australian Centre for Intellectual Property in Agriculture that provides a brief overview of the issues which may affect both those wishing to grow GM and those who want to remain GM-free. See: www.daff.gov.au/data/assets/pdffile/0008/197081/factsheetliabilityandgmcropsweb.pdf

3.3.1 bd Unintended GM contamination through GM importations, especially of animal feed, is a threat to Tasmania's GM-free status requiring tough biosecurity and biosafety enforcement.

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

No. Wherever GM crops are grown, government or industry self-regulation has introduced thresholds of contamination. The present thresholds in Australia for GM contamination in canola are 05% in seed for planting and 0.9% for harvested grain. For canola and wheat, GM contamination is regarded as inevitable.

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

On the basis of the evidence in the government issues paper and in our comments, we recommend the moratorium be extended until November 2024.

DPIPWE would also welcome evidence on the following issues:

1. A question of industry competitiveness? (refer to box page 44)

As noted elsewhere, these projects are far from realization. If they were to become a commercial reality, extensive long-term trials of the fodder crops would also be required to determine their possible negative or positive impacts on ruminant animals. This process of evaluation and regulation could not take less than ten years in our informed estimation so these possibilities do not compromise either Tasmania's competitiveness vis-à-vis other interstate or overseas dairy. Our proposal for a ten-year extension of Tasmania's GM moratorium is well-founded.

2. What is the value of niche (premium) versus commodity markets? (refer to box page 47)

Value adding locally and branding clearly has great potential, even on the Department's initial estimate. It also has the potential to increase state employment and that would be a major plus. In our view, the whole of Australia should be seriously examining the multiple knock on effects of mining Australia's soils for bulk, generic commodities, sent offshore without value adding – soil fertility loss and salinity; the loss of local food processing resources, infrastructure and jobs; the depletion and deskilling of rural and regional populations; lost community pride, esteem and confidence.

Premium marketing of quality food and beverages should not be seen as niche. We are a small supplier to the most populous and increasingly affluent region on the planet so the opportunities are boundless if we choose our markets intelligently and serve them well. Our food industries can and should be determined to move from the disempowerment of being price takers to the exalted position of price makers. We can do it!

3.6 What would be the impact on the Tasmanian brand if the current GMO moratorium expired?

It would be sullied, probably forever. 160 countries remain GM-free and their citizens overwhelmingly prefer GM-free food if it is available.

3.7 What would be the impact on Tasmania's brand if non-food GM crops were grown commercially in the State?

It depends on the sensibilities of those who buy and use the products. Poppies may suffer little impact, although that is unclear. Likewise with GM trees although the reaction would likely be greater. But if it were GM salmon or other animal used as human food, for instance, Australian public reaction would be very negative. The Swinburne National Technology and Society Monitor 2012 found GM animals lowest on the scale of respondent comfort with new technology products http://www.swinburne.edu.au/lss/spru/spru-monitor.html We would expect a similar response overseas, especially in North America where hundreds of thousands of objections were lodged with the USFDA against approval for AquAdvantage salmon http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/GeneticEngineering/GeneticallyEngineeredAnimals/ucm280853.htm

4.1 What other relevant issues should be considered in this review? How would these matters relate to Tasmania's markets, marketing or branding for our products?

4.1.1 Seed monopolies and control of markets would increase if the moratorium were lifted. Phillip Howard's graphic representation of the ownership and control of global seed supplies is here: https://www.msu.edu/~howardp/seedindustry.html

4.1.2 In the proposed national and international harmonisation of GM crop and food regulation, as proposed by the federal government (Issues Paper P 23), also contained in the six country Joint Statement on Innovative Agricultural Production Technologies, particularly Plant Biotechnologies **http://www.daff.gov.au/agriculture-food/biotechnology/joint-statement-innovative-agricultural-production-technologies** Tasmania should jealously guard its Section 21 powers. These powers provide the states and territories with GM and GM-free management options for marketing reasons. The powers will only be protected by using them! Recall that NSW and Victoria in 2008 unilaterally broke the consensus on the national GM canola moratorium. WA followed their lead in 2010. This precedent do not now give the GM states and Commonwealth the power to compel GM compliance from the states and territories that are still GM-free zones.

4.1.3 Before making any commitment to GM crops by ending the moratorium, government should investigate and evaluate industry claims on yield, synthetic chemical use and sustainability which need to be tested against the evidence. Professor Jack Heinemann of Christchurch NZ, et al, compared crop production in parts of the USA (mostly GM) and the EU (mostly GM-free) and conclude:

> "… the US (and Canadian) yields are falling behind economically and technologically equivalent agroecosystems matched for latitude, season and crop type; pesticide (both herbicide and insecticide) use is higher in the United States than in comparator W. European countries; … The choice of GM-biotechnology packages in the US agroecosystem has been the stark contrast with W.

> European patterns of biotechnology use. Notwithstanding claims to the contrary (e.g. Derbyshire 2011), there is no evidence that GM biotechnology is superior to other bio-technologies … Producing food is an essential activity, and the ability to produce food is a global strategic asset. … GM crops are not a solution, in part because they are controlled by strict IP instruments. Despite the claims that GM might be needed to feed the world, we found no yield benefit when the United States was compared to W. Europe, other economically developed countries of the same latitude which do not grow GM crops. We found no benefit from the traits either. GM crops have maintained or increased US pesticide use relative to equally advanced competitors. The pattern and quantities unique to the use of GM-glyphosate-tolerant crops has been responsible for the selection of glyphosate-tolerant weeds, with estimates of resistant weeds on between 6 and 40 million hectares in the United States (Waltz 2010, Owen 2011, Benbrook 2012, Heap et al. 2013). The use of Bt crops is associated with the emergence of Bt resistance and by novel mechanisms in insect pests (Lu et al. 2010, Waltz 2010, Benbrook 2012, Zhang et al. 2012) … A viable roadmap for the future of agriculture was presented by the International Assessment of Agricultural Knowledge, Research and Development (IAASTD 2009). This roadmap and the warning from the Committee on Genetic Vulnerability of Major Crops leave us no excuses." (International Journal of Agricultural Sustainability, http://www.tandfonline.com/doi/pdf/10.1080/14735903.2013.806408)

4.1.4 Further to our earlier account of GM contamination and liability we refer the review to the paper "Liability Issues Associated with GM Crops in Australia" by the Science and Economic Policy Branch Australian Government Department of Agriculture, Fisheries and Forestry September 2003, which says:

> "There are a number of potential legal liability issues associated with GMOs, with much debate regarding the adequacy of Australia's existing regime."
> http://www.daff.gov.au/data/assets/pdffile/0004/182821/liabilityissuespaperfinal.pdf

This was never adequately resolved through public processes. Governments instead decided that the common law and the courts would settle disputes over GM contamination. Yet all sides of the GM canola debate now agree that ordinary ecological processes make the transfer of GM canola pollen and seed inevitable. Thus, the Steve Marsh / Michael Baxter case in WA pits neighbours against each other, while the licensee which retains ownership of the seed in dispute, under its supply contracts, but gets off scot-free. Monsanto's Roundup Ready canola grower license and stewardship agreement, says:

> "Monsanto retains ownership of the Monsanto Technologies including the genes (for example the Roundup Ready gene) and the gene technologies incorporated into the Roundup Ready canola."

The WA Pastoralists and Graziers Association accuses Steve Marsh, his lawyer and the certifier National Association for Sustainable Agriculture Australia of 'mischievous and misleading claims', over GM canola contamination on Steve's land, and his decertification. Steve Marsh tried to protect his farm and livelihood but his legal letters to neighbours and GM-free signs on his fences did not stop them growing the GM canola nearby that led to the contamination and Steve's decertification.

When PGA says organic should accept GM contamination as inevitable and justified, it ignores:

- the Australian Organic Standard 6000 sets zero tolerance for any GM processes or products in certified organic systems, agreed by all governments and the organic industry after years of talks;
- the Australian Consumer and Competition Commission (ACCC) enforces zero tolerance for any GM when labels make or imply GM-free claims, as organic foods do. The ACCC will sue for false and deceptive claims, anyone selling a product as organic if it has contact with GM crops, products or processes; and
- organic customers in Australia, Asia and Europe reject products that have mingled with GM canola and will only pay a premium for genuine organic foods. Steve's supply contracts were cancelled.

GM contamination became inevitable when governments allowed industry self-regulation. In January 2010, then WA Agriculture Minister Terry Redman said of pre-market commercial trials:

> "The report on the GM trials indicated there were 11 minor events (on 18 trial sites) and all were managed appropriately and segregation from paddock to port was achieved."

But after Steve Marsh was decertified, Redman said:

> "... zero per cent thresholds (of GM in organics) are unrealistic in biological systems."

These are lessons that Tasmania should heed
http://www.farmweekly.com.au/news/agriculture/agribusiness/general-news/pga-calls-for-give-and-take-in-gm-contamination-case/2068738.aspx

4.1.5 GM-free market opportunities abound.

Coles supermarket is interested in sourcing all their animal products from animals fed GM-free feed. That is what their customers want. Coles has insufficient supplies to launch this new product line (pers comm, Robert Hadler, General Manager Corporate Affairs, Coles, August 1, 2013) As an island, Tasmania is well placed to monitor and enforce a requirement that certified GM-free feed only be imported into its jurisdiction to meet this demand.

Major Australian retailers have own brand GM-free policies, creating consistent demand for GM-free produce. This offers Tasmania great marketing potential and a competitive advantage. These brands are a substantial and growing 23% slice of the Australian retail offering with market, expected to trend towards 30% http://www.stuartalexander.com.au/austgrocerymarketwoolworthscoleswholesale.php

Total market share of Australian grocery retail by company is graphed here and appears to offer strategic marketing opportunities for high quality products differentiated by their origin and modes of production http://theconversation.com/factcheck-is-our-grocery-market-one-of-the-most-concentrated-in-the-world-16520

The retailers pass responsibility for GM-free compliance on to their suppliers who must confirm that they comply with the GM-free guidelines that Coles and Metcash set.

And Woolworths passes responsibility back down its supply chain for own brands.
http://www.woolworthslimited.com.au/page/ATrustedCompany/ResponsibileSourcing/GeneticallyModifiedGMFoods/

Aldi has a strong GM-free food acquisition and labelling policy in Europe which could be strengthened here.

Metcash has a 15% share of the Australian market as it wholesales to IGA, FoodWorks, and other small independent retailers Their GM-free policy is robust and again offers Tasmanian producers marketing opportunities that should be vigorously pursued to reap the rewards. Metcash's policy is at: http://iga.com.au/support/about-iga/sustainability/ and says:

> **GM Free – for you and me**
>
> Metcash/IGA are pleased to advise that it is a requirement in our supplier agreement that no GM ingredients be used in our corporate branded products, such as IGA Signature and Black & Gold brands, including food additives, processing aids and enzymes. In recognition of this, Greenpeace Australia have awarded IGA brands a "green" rating in their True Food Guide. You can review the guide at www.truefood.org.au
>
> However because of changes in the agricultural sector, it is becoming more difficult to unequivocally guarantee that no genetically modified stockfeed is fed to meat, poultry, dairy and egg producing animals. GM crops grown cannot be prevented from cross contaminating non-GM crops, and since GE canola was first planted in Australia in 2008 we cannot guarantee that GM stockfeed is eliminated from our supply chain. A limited meat/poultry supply base in Australia means that this is a shared issue in the food and grocery industry.
>
> All of our products comply with FSANZ (Food Standards Australia New Zealand), TGS & Consumer Affairs (now ACCC) requirements. We have communicated Greenpeace's concerns with our suppliers and continue to maintain an open dialogue with our suppliers on this and other sustainability issues.
>
> **Metcash remain pro labelling and pro choice.**

Other sectors of the supply chain are also keenly interested in GM-free. For instance, in 2011, Australian grain traders snubbed GM canola. European and Australian demand for GM-free grain was so strong that leading grain traders Elders-Toepfer and Glencore Grain refused to buy any genetically manipulated (GM) canola. And traders that bought GM would only pay up to $45/tonne less than for non-GM grain. http://au.news.yahoo.com/thewest/regional/countryman/a/-/news/9524848/major-grain-traders-snub-gm-canola/

1.5.6 GM-free seed production may offer Tasmania new opportunities. For instance, demand for non-GM canola in the USA is becoming strong as several processors and retailers decide to label under the non-GM Project certification system. A Canadian oil processor wants to source non-GM canola but has problems accessing seed because most Canadian canola is now GM. http://www.producer.com/2013/05/non-gm-canola-oil-demand-has-crusher-scrambling/

Conclusions

- Tasmania and South Australia both enjoy a GM-free competitive marketing advantage that requires positive endeavour to be fully realised.
- Allowing herbicide tolerant GM canola into Tasmania (the only crop available in the foreseeable future) would reverse the excellent work that the department has done in restoring GM-free status following the disastrous GM canola trials in the 1990s.
- If commercially approved and introduced, the impacts of GM canola on markets and the environment would be irreversible and permanent. This is not a decision that government can make for all future generations of Tasmanians.
- An end to the moratorium could jeopardise valuable markets for opiates, especially as Europeans may not accept GM products in pharmaceuticals. There are no commercial GM poppy crops anywhere in the world.
- Promises of drought and salt tolerance etc. have been made for 30 years but a scientific consensus is emerging that GM's cut-and-paste techniques are only suitable for single gene traits such as the herbicide tolerance, Bt insect toxins and virus resistance already in commercial use.
- The possibility of other commercial products becoming available for Tasmania in the five to ten year timeframe of a new GM-moratorium is extremely remote.
- People everywhere are concerned at the safety and ownership of GM foods and seed, as evidenced by the GM labelling initiatives in 26 US states and 61 countries.
- The 3 million people participating in the March Against Monsanto in over 500 cities, in 57 countries on October 12 2013 is further evidence of market threat to those countries growing GM crops.
- GM canola into Tasmania would pose a serious threat to the organic certification of farmers yet the organic sector is the fastest growing here, in the USA and Europe.
- Beekeepers adamantly oppose GM canola and withdrawal of their pollination services would affect many areas of agricultural activity.
- The Macquarie Franklin Report on GM for the government was selective in its use of the evidence and should not be uncritically adopted. It argued that a: "non-GM canola oilseed industry is unlikely to grow because of the relatively poor returns," but this defies the evidence of the Birchip Cropping Groups economic analysis of GM and non-GM canola performance in Victoria which found GM-free growers $150 per tonne better off in 2011.
- Capitalise on your GM-free status and do not waste the resources already into keeping Tasmania GM-free since the GM canola contamination that is successfully eliminated. http://www.dpiw.tas.gov.au/inter.nsf/WebPages/CART-6795X9?open
- Australian farms are beset by a burgeoning problem of herbicide tolerant weeds according to the Herbicide Resistance Action Committee which comprises leading weed scientists. The widespread overuse of herbicide in GM cropping systems is the major cause but herbicide tolerant crop plants now contribute as use of the same chemical is encouraged.
- GM crops do not increase yields yet the input costs are much higher, leading to substantial losses as BCG's economic analysis shows. Monsanto's royalty on GM cotton, developed by Australian scientists at public expense, is also up to $370/hectare for the use of its patented genes http://www.cottonchoices.com.au/cotton_choices_calculator_web.html This confirms the vulnerability of industries that make a large commitment to GM as the cotton industry has done, with over 90% of Australian cotton reportedly GM.
- An extension of the GM moratorium until November 2024 is fully justified and in the interests of all Tasmanian farmers and operators within food supply chains.

Bob Phelps 11/10/13