

Tasmania's GMO Moratorium: 17 Good Reasons



Dr John Paull

Overview

The Tasmanian GMO Moratorium has served the interests of the state well. The 'clean and green' image of the state continues to grow from strength to strength. This branding is underpinned by consumer, visitor, and investor perceptions. These perceptions continue to be validated by Tasmania's GMO Moratorium.

GMOs are a technology without a social licence and are a cause for social friction. They are not wanted by consumers. They attract a price penalty in the market place, and they contaminate non-GM farms and the food chain.

The GM crops in Australia are GM canola and GM cotton. The former is in decline (5% per year) and the latter is in decline (down 53% from the peak of 2010) and exhibits a highly volatile and erratic pattern of uptake.

The relaxation of the WA Moratorium in Western Australia in 2010 (and subsequent relinquishment) has meant that there is now no GM-free canola available in WA. The so-called non GM canola (which is most of the WA canola) is contaminated by GM canola up to 0.9%, and the non GM canola seed sold to WA farmers is contaminated by GM up to 0.5%. It is claimed by GM advocates in WA that successful segregation is "impossible" (and they may be right).

GM canola is a crop dependent on the herbicide glyphosate. The application of glyphosate is a required part of the production cycle for GM canola. Glyphosate is a carcinogen that also causes multigenerational disease and adverse health outcomes.

Tasmania can produce premium quality food and be rewarded with premium prices. This can achieve the agricultural goals and aspirations of the State. Organic food is the 'gold standard' for premium food and attracts price premiums of 100%, and more. The global organic market is undersupplied and this is an opportunity for Tasmania (and others). Australia is the world leader in organics uptake, and Tasmania is well placed to grow its organic sector. GMOs are a threat to organic farming.

It is recommended that the GMO Moratorium is retained and continued in perpetuity (i.e. renewed without a sunset and review clause). In this way producers and investors have a degree of certainty that can encourage investment in growth and marketing of Tasmanian produce as 'clean and green, and as premium and GM-free.

Seventeen reasons for maintaining Tasmania's GMO Moratorium follow.

Reason 1: The GMO Moratorium underpins Tasmania's claim to being 'clean and green'

Tasmania's tourism and premium food and beverage sectors are flourishing based on the state's claim to be 'clean and green' (Fig.1). This claim is underpinned and validated by the maintenance of the GMO Moratorium.

The maintenance of the GMO Moratorium protects the long term viability of the tourism and food and beverage sectors and encourages further investment in the state. Any relaxation of the GMO Moratorium would damage the brand of Tasmania.



The image is a screenshot of a news article from ABC News. The article is titled "Tassie producers say 'clean and green' is key" and is categorized under "Rural". The author is Alex Blucher, and it was updated on 3 September 2013. The article discusses how Tasmanian producers are leveraging the state's "clean and green" reputation to promote their products, particularly whiskey, at a "Meet the Producers" event in Hobart. A photo shows Bert Cason, Sullivan Cove's Sales and Marketing Manager, offering a drink. The article highlights that the "clean and green" image is becoming more recognized and is helping to boost sales of Tasmanian products, especially whiskey, both locally and overseas.

ABC NEWS

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Tassie producers say 'clean and green' is key

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Tas Country Hour By Alex Blucher

Updated 3 September 2013 at 2:42 pm
First posted 13 August 2013 at 2:56 pm

Tasmania's producers, big and small, pitched their goods to the hospitality industry last night at Brand Tasmania's Meet the Producers event in Hobart.

The wares on show at the Wrest Point Boardwalk Gallery ranged from whiskey and wine to olive oil and grass-fed beef.

All of the producers carry the Brand Tasmania logo, which now has 180 partners throughout Tasmania, with the aim of attaching a Tasmanian grown 'clean and green' image to their brands.

An image that Brand Tasmania's Chief Executive Robert Heazlewood says is receiving increasing recognition around the country and overseas.

"I think it's only going to get stronger and improve more, we've got to the point where people around the world are starting to recognise it in small pockets

Let's not get carried away about this, but people who look for quality produce, a lot of them now know about a place called Tasmania," he said.

Sullivan's Cove, Tasmania's biggest selling whiskey, was giving tastings at the event.

Sales and Marketing Manager, Bert Cason, says being under the Brand Tasmania logo has pulled in sales in the mainland but they rely on the strength of the reputation of the Tasmanian whiskey industry to sell overseas.

"On the mainland... you walk into places that may not have heard about Tasmanian whiskey but they certainly got the idea of the clean, green Tasmania in mind, so it's very easy to push the whiskey in," he said.

'Clean and green' were the big buzz words at the event.



Sullivan's Cove's, Bert Cason, offers a stiff drink at Brand Tasmania's Meet the Producers event in Hobart. (Alex Blucher)

Figure 1. 'Clean and green' underpins Tasmania's image.

Reason 2: World consumers do not want GMOs

In Australia GM ingredients must be declared on the food labelling. Australian food manufacturers are very well aware of the consumer aversion to GM food, and as a consequence they opt not to use GM ingredients and thereby avoid the labelling issue.

Consumers around the world are very wary of GM food and actively seek to avoid it (GfK, 2017) (Fig.2). As we continue to grow Tasmania's reputation for clean and green and premium food, this ought to be protected by maintaining the GMO Moratorium.

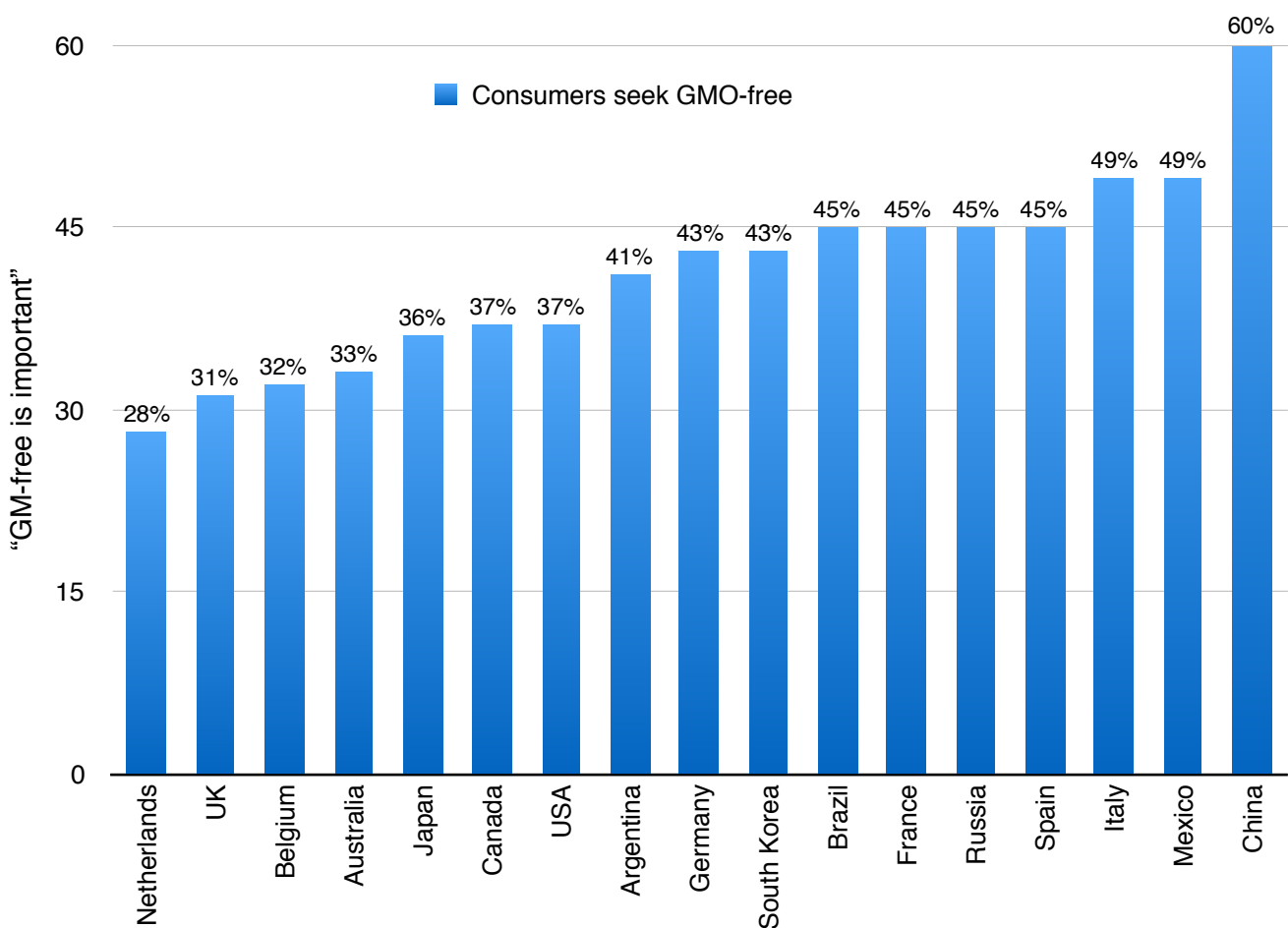


Figure 2: Percentage of consumers in 17 countries who stated that “GM-free is important” in making their food choices (author's graph; data source: GfK, 2017).

Reason 3: Australia is an insignificant player in the world of GMOs

On the world stage, Australia is an insignificant player in the GMO sector. Australia accounts for 0.5% of the world's GMO hectares. The GMOs of the world are mostly grown in North and South America (ISAAA, 2017) (Figure 3).

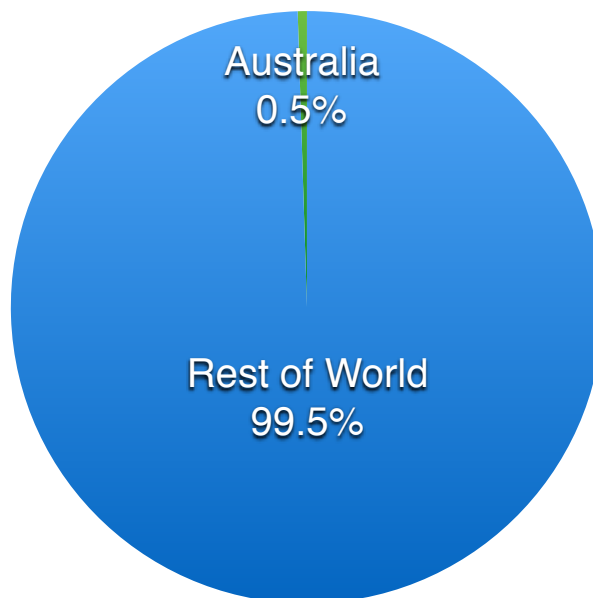


Figure 3: GM agriculture is concentrated in just three countries, USA, Brazil and Argentina, and Australia is a very minor GMO player (author's graph; data source: ISAAA, 2017).

Reason 4: Australia's GM canola crop is declining at 5% pa

There is no success story of GMOs in Australia. There are only two commercial GMO crops in Australia, GM canola and GM cotton (OGTR, 2018). GM canola accounts for about 30% of Australia's canola crop. The uptake of GM canola has been declining at 5% per annum over the past five years (ABCA, 2019) (Fig.4). GM canola sells at a price penalty of 7.2% (compared to non-GM canola (Fig.5)).

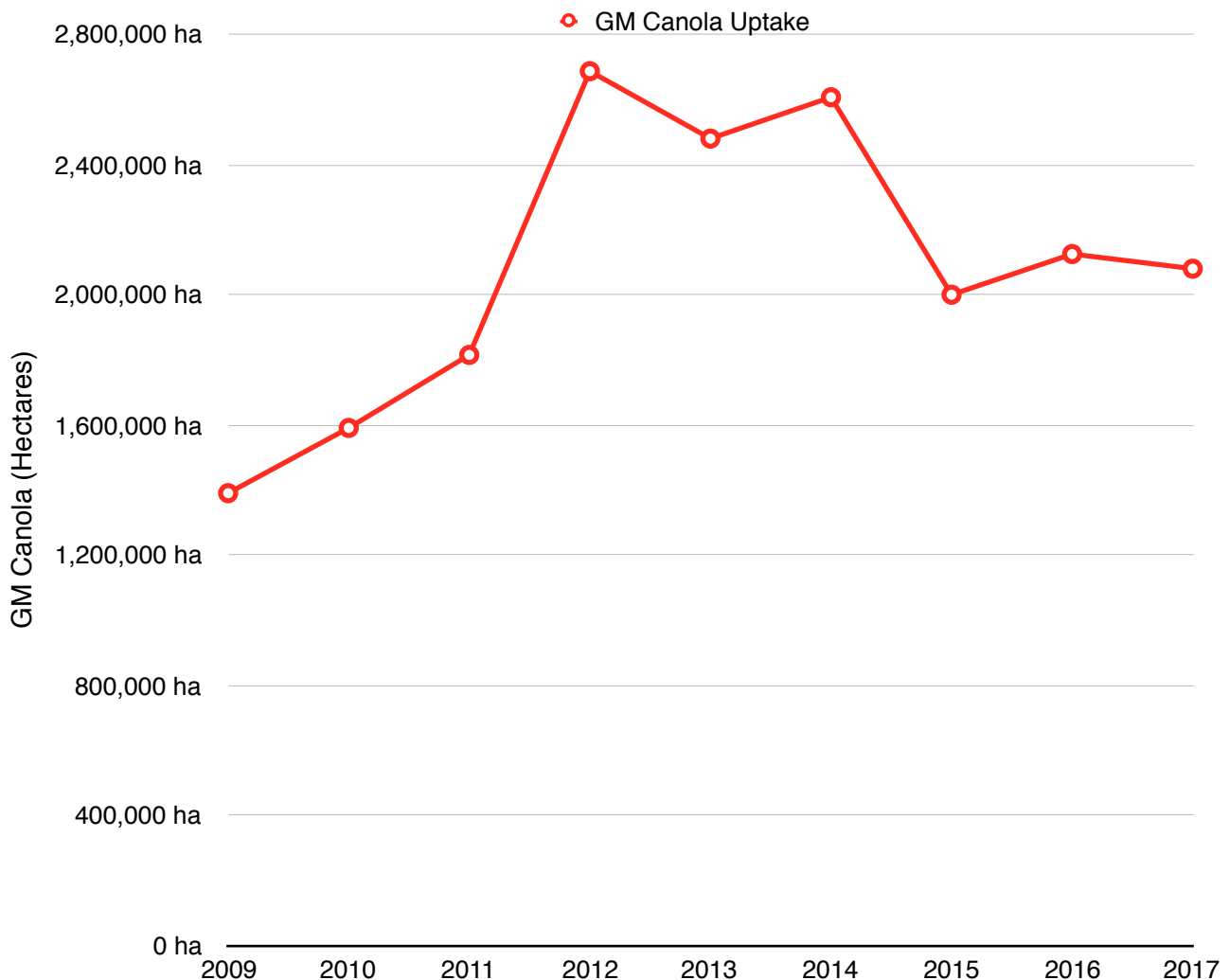


Figure 4: The uptake of GM canola in Australia (author's graph, data source: ABCA, 2019).

Reason 5: Australia's GM crop sells at a price penalty

GM canola sells at a price penalty of 7.2%, compared to the price achieved by non GM canola (Fig.5). GM produce is 'discount produce' because of the market aversion to GM and the exclusion of GM from many global markets.

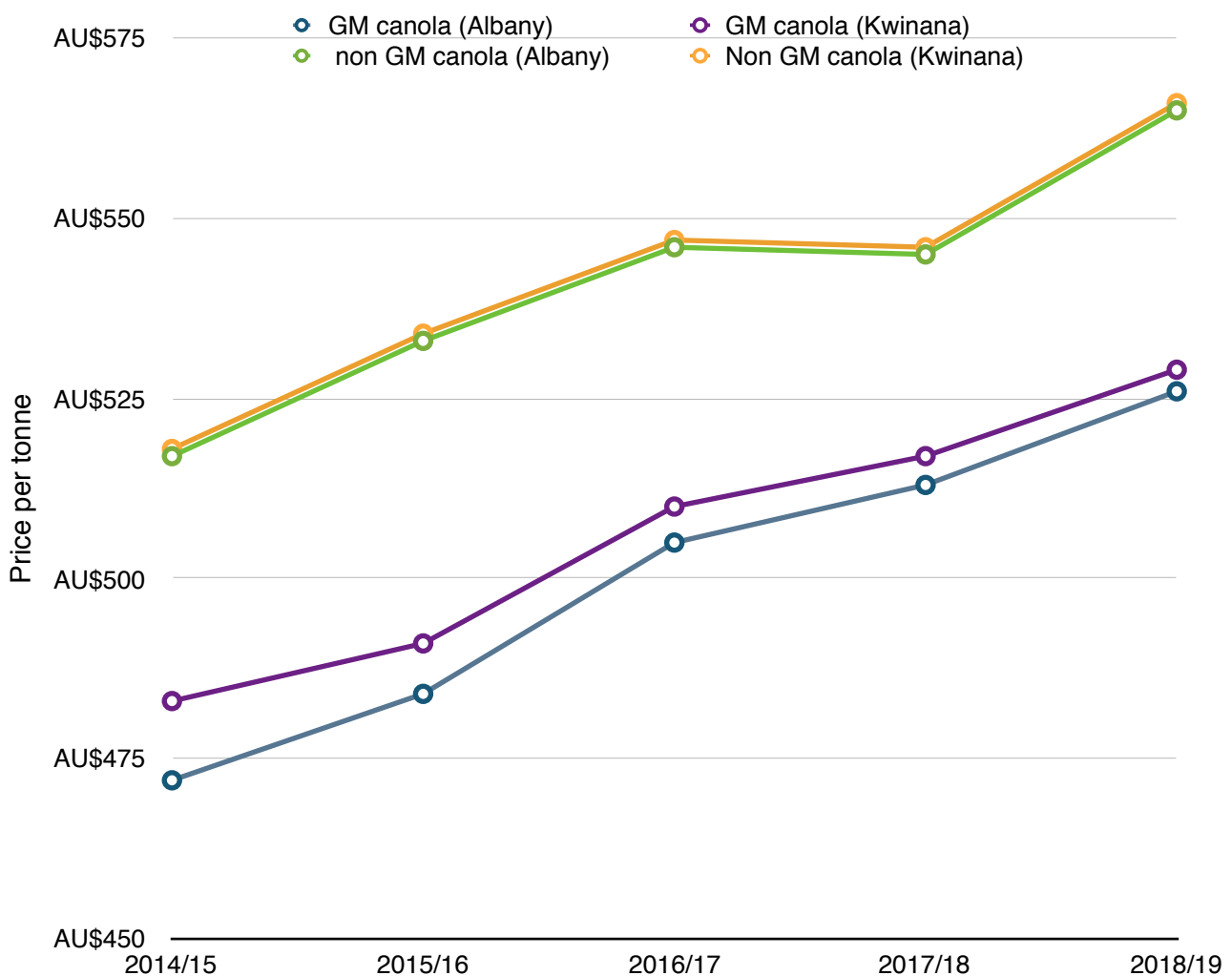


Figure 5: Average annual price per tonne of GM canola versus non GM canola, for grain delivered in WA (Albany and Kwinana) (author's graph; data source: Taylor, 2019) (Paull, forthcoming).

Reason 6: Australia's GM cotton production is highly volatile and unstable

GM cotton has been approved in Australia from 1996 (OGTR, 2014). In that time there have been various releases of GM cotton varieties with the Australian cotton crop currently 99.5% GM. The outcome has been a roller-coaster ride of plantings from year to year. Australia's cotton sector is highly unstable and erratic, and it is far short of a success story.

There is a decline (of 27.6%), from 1996 to today and a decline (of 53.0%) from the peak planting of 2010 (Fig.6).

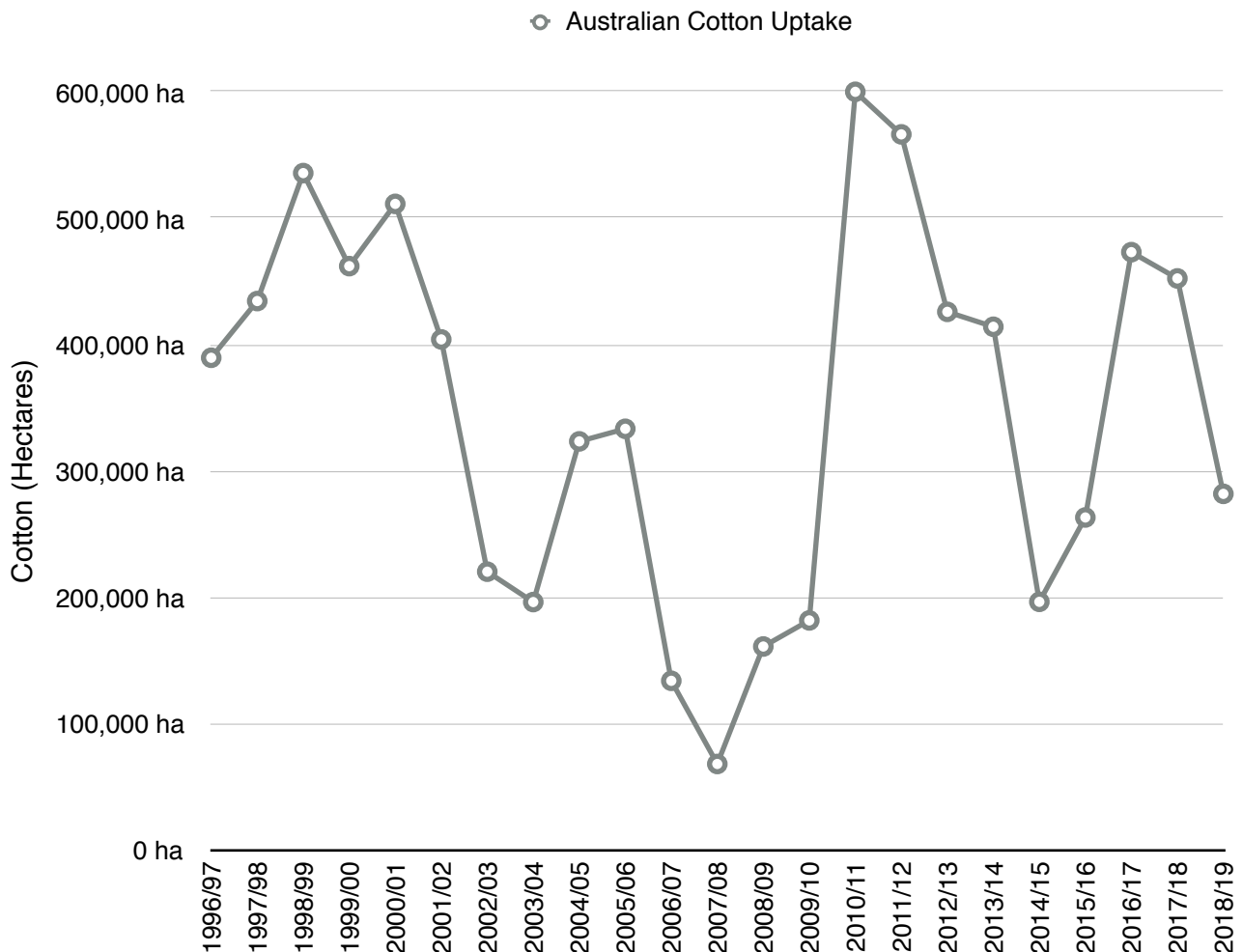


Figure 6: Cotton plantings in Australia (author's graph, data source: Cotton Australia, 2019).

Reason 7: GM segregation is a failure

GM canola was allowed in WA on the promise that GM and non GM produce would, and could, be segregated. The segregation of GM and non GM canola in WA has been a failure. There is no longer any GM-free canola in WA (Fig.7).

The WA Parliamentary Inquiry into compensation for farmers contaminated by GMOs produced a substantial body of submissions and testimony (EPAC, 2018; Swinbourn, 2019).

WA GM canola is marketed by CBH as ‘canola’ (Table XX). The Non GM canola is contaminated by GM up to 0.9%. Non GM seed sold for planting in WA is contaminated up to 0.5% (EPAC, 2018).

There is no GM-free canola available in WA since GM canola was approved. GM advocates state that effective segregation was “impossible” (EPAC, 2018; Jones, 2018)

Canola Type	Characteristics	Fair Description
Non GM Canola	Certified GM free to Maximum adventitious presence of 0.9% GMO. Suitable for Human Consumption and Biodiesel production. ISCC EU Certified.	Canola with GM contamination ≤0.9%
Canola	Suitable for Human Consumption and Biodiesel production. ISCC EU Certified.	GM Canola

Figure 7: The two types of canola on offer by CBH (reproduced from CBH, 2019) (third column of commentary added by author) (Paull, forthcoming)

Reason 8: GMOs contaminate

At the first planting year of GM canola in WA (2010), a GM farmer (Baxter) contaminated the farm of a neighbour (Marsh). Baxter planted GM canola in his paddocks bordering his neighbour (Fig.8). Before harvest, the crop was slashed (swathed) and left in situ for several weeks. In this time, considerable GM canola material (seeds, seed pods, et alia) were blown across the Marsh farm (Fig.8) (Martin, 2014).

The Marsh farm lost its organic certification. The case was fought in the courts with the judge insisting that this was not 'contamination' but rather an 'incursion' and the case was lost (Martin, 2014) as was the subsequent appeal (Paull, 2015a, 2015b).

The Marsh v Baxter case in WA effectively gave a licence to contaminate to the GM sector. The subsequent WA Parliamentary Inquiry into contamination of farms by GMOs failed to come up with a solution to the problem of such contaminations (Swinbourn, 2019).

GMOs threaten the livelihood of non GM farmers. GM produce or produce contaminated with GMOs cannot be sold at the premium price that it would otherwise achieve.

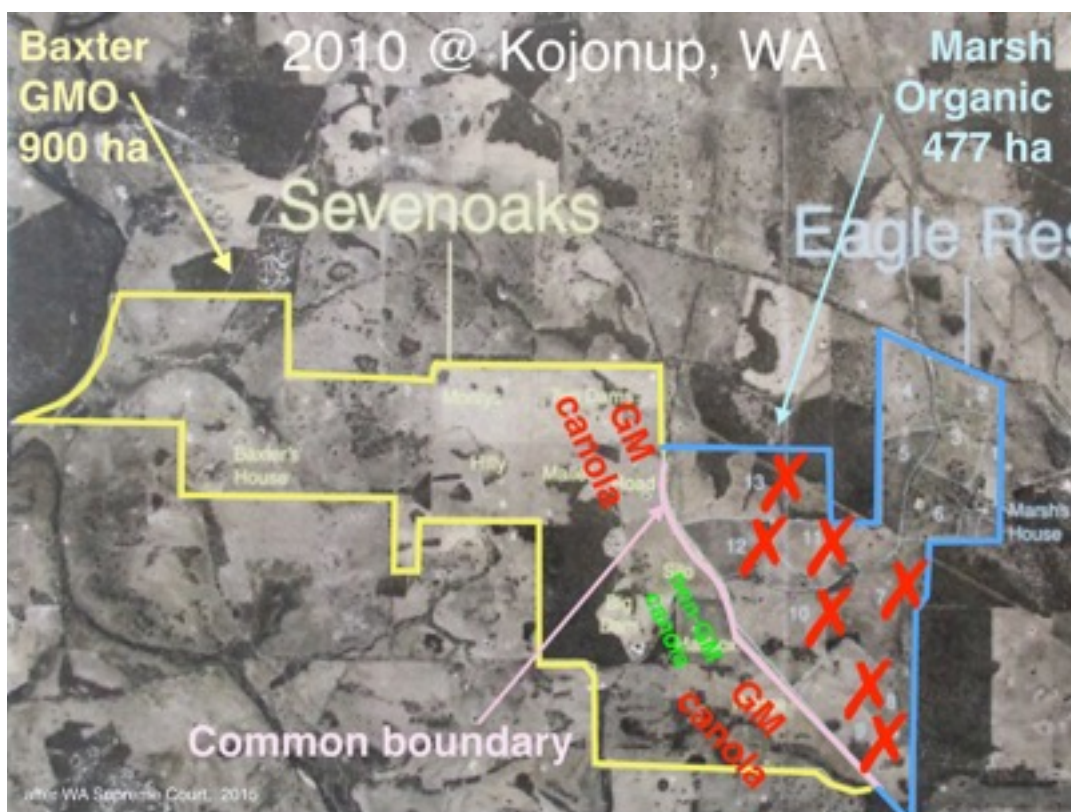


Figure 8: In 2010 loose-cut GM canola from Baxter's farm was dispersed by wind over Marsh's organic farm.

Reason 9: Glyphosate contaminates

GM Roundup Ready (RR) canola is dependent on multiple applications of the herbicide glyphosate. Multiple applications are prescribed for a single crop of GM canola, including a final dose close to harvest time when the crop is swathed (where the head of grain is decapitated from the body of the plant and windrowed in situ).

Glyphosate is a carcinogen (OEHHA, 2019). Glyphosate does not stay 'on the farm'. It contaminates water, air, soil, plants and animals. It is ingested by adults and children via various routes including via food and beverages (Cook, 2019) (Figures 9 & 10).

A gardener was recently awarded US\$289 million in damages for cancer caused from spraying glyphosate (Bellon, 2018). There are a further 9,300 plaintiffs reportedly seeking redress for glyphosate health damage and with more plaintiffs to come (Bender, 2018).

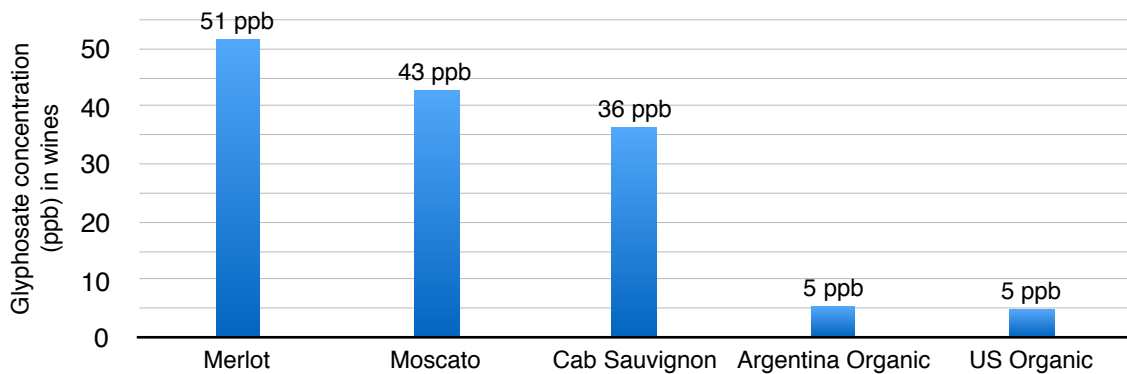


Figure 9: Glyphosate in wine (author's graph; data source: Cook, 2019).

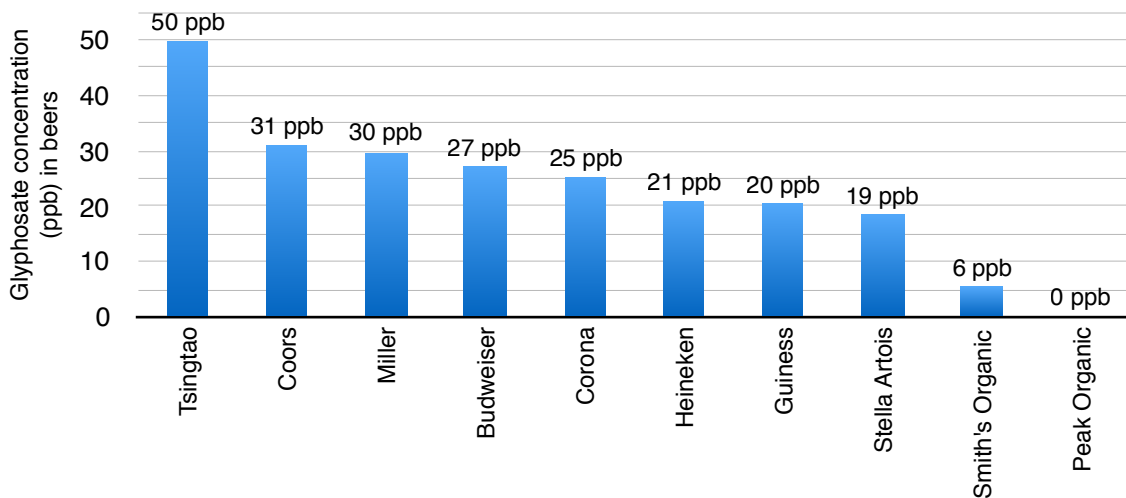


Figure 10: Glyphosate in beer (author's graph; data source: Cook, 2019).

Reason 10: Glyphosate causes generational disease

Glyphosate can cause disease and adverse health outcomes not just in the exposed individuals but in their progeny for multiple generations (Kubsad et al., 2019) (Fig 11).

Glyphosate is a required input for GM canola cultivation, not just an optional choice (as with non GM cropping).

This is a burden for a State as health costs go up, and the knock-on effects can be that such a State with poorer health outcomes becomes less attractive as a place to visit, to invest, and to do business.

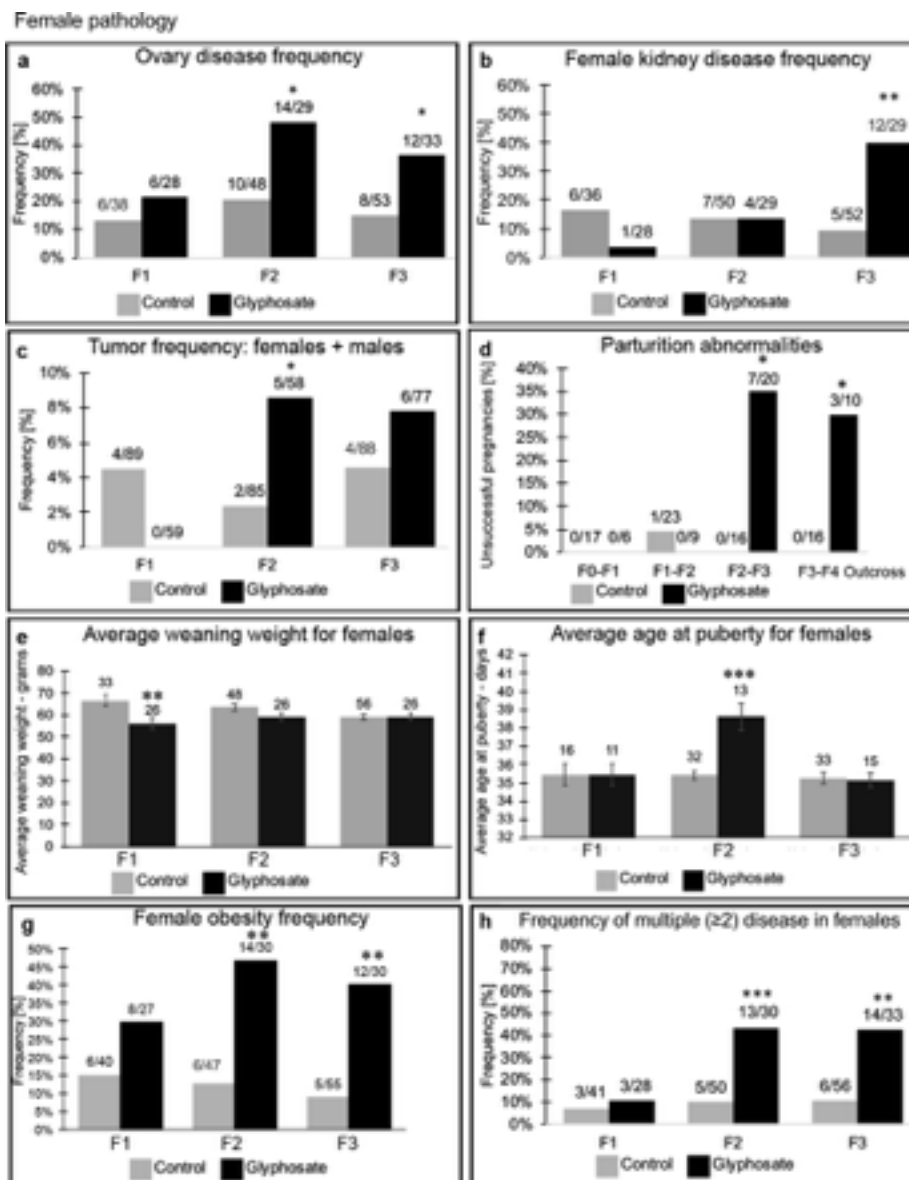


Figure 11: Glyphosate causes long term multigenerational disease and adverse health outcomes (Kubsad et al., 2019, p.4).

Reason 11: Zero tolerance is coming

Consumers and manufacturers are entitled to avoid GMOs for health, environment, ideological, or other reasons. This fair entitlement is being subverted by the marketing to customers of 'non GM canola' which is no such thing.

The current phytosanitary, cleaning and segregation regimes in place in WA (and elsewhere) that tolerate 0.9% GMO contamination are clearly deficient and fail to meet consumer expectations.

Japan is now moving towards “zero tolerance for GE components” and the proposal is that “the term ‘Non-GE’ now only be allowed where GE is non-detectable” (Sato, 2018, p.1).

With the uptake of zero tolerance and non-detectability for non GM products, the pressure will be on WA to implement effective segregation of GMOs and to safeguard the majority of canola growers, who would be price-penalised if their crop is found to be GMO contaminated and if it were thereby downgraded to GM.

As the zero tolerance movement gains momentum, all grain growers in WA (and elsewhere) will have a stake in ensuring the effective segregation of GMOs, or, alternatively, of reverting to a GM Moratorium, if successful segregation is indeed “impossible” as is claimed by the WA State Agricultural Biotechnology Centre (Jones, 2018).

Reason 12: GMOs are invasive species and pose a biosecurity risk

There is a lack of evidence that GMOs can be contained, and many jurisdictions have banned the introduction of GMOs. GMOs have the potential and the propensity to contaminate non-GMO crops and thereby devalue them. The evidence is that GMOs are invasive species, they are unwelcome by consumers, peaceful coexistence with non-GM varieties is a fiction, and GMOs are appropriately managed as a biosecurity issue (Paull, 2018)

Some examples:

Tasmania

In the late 1990s and in 2000, field trials of GM canola were conducted by Monsanto and Aventis at 57 sites in Tasmania. In 2001 the Tasmanian Government decided on a GM-free policy for the state. Ever since, the GM test sites have been monitored multiple times a year and auditing of the sites is an ongoing process. There have been at least 39 audits and every audit has identified canola plants, although the number of plants reported are declining, and there are containment practices to prevent viable canola material from leaving the sites (DPIPWE, 2014).

Western Australia

The Marsh v Baxter case clocked up A\$2 million of legal fees without achieving any remedy for the GM-contaminated farmer (Marsh), nor any penalty for the GM-contaminating farmer (Baxter) whose case was funded by Monsanto (Paull, 2015b).

Canada

Percy Schmeiser battled Monsanto for years with little success after his canola crop was found to be contaminated with Monsanto's GM canola (McLachlin et al., 2001).

Mexico

Ancient maize varieties are contaminated with Monsanto's patented maize GMOs despite GM maize never being approved for growing in Mexico (Agapito-Tenfen et al., 2017).

Reason 13: World consumers want organic

Consumers of the world increasingly are seeking uncontaminated food, and purchasing organic is important to them (GfK, 2017) (Fig.12). This is a growing market which is a trade and marketing opportunity for Tasmania. The GMO Moratorium enables the continuing growth of Tasmania's clean and green and premium food and beverage sector (and any relaxation of the GMO Moratorium would jeopardise it).

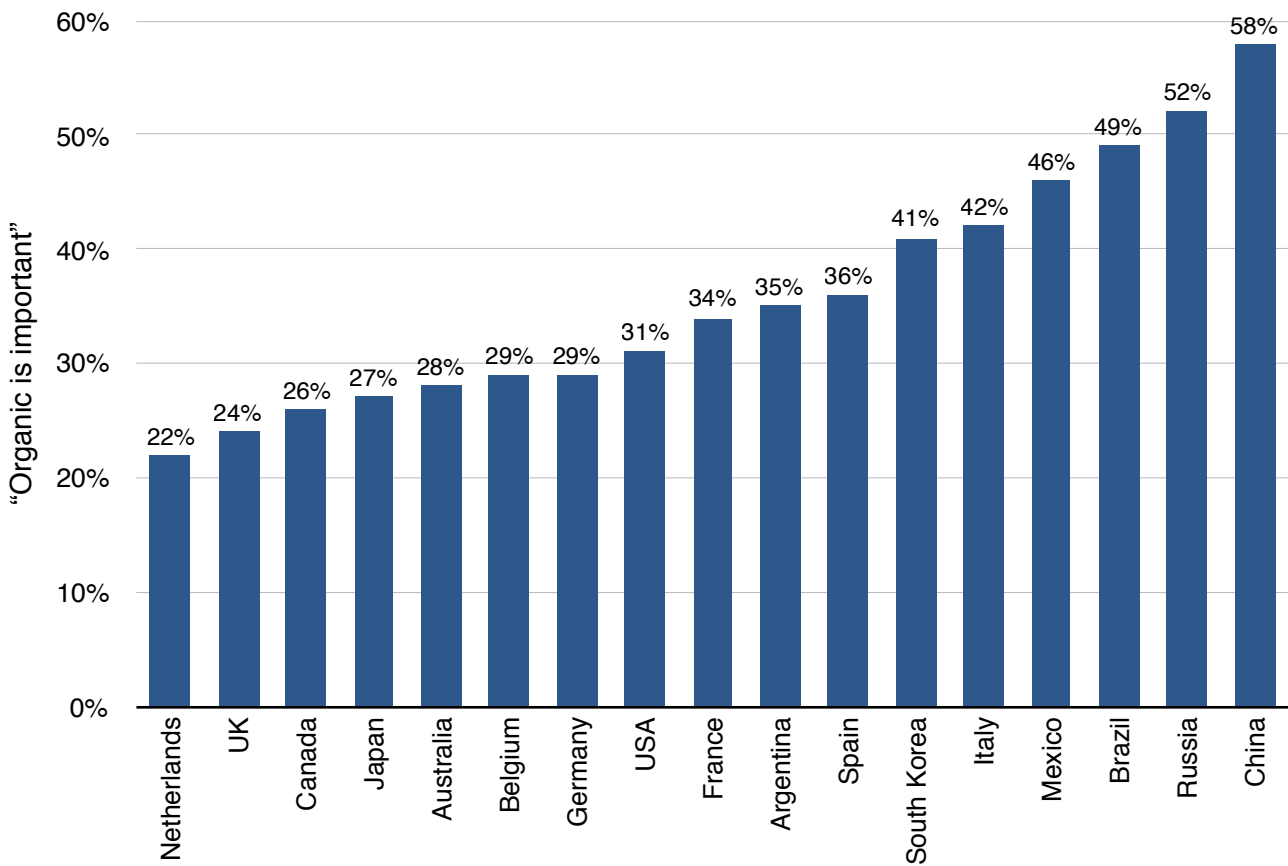


Figure 12: Percentage of consumers in 17 countries who stated that “Organic is important” in making their food choices (author's graph; data source: GfK, 2017).

Reason 14: Australia is the world leader in organics

Australia now has more certified organic agricultural hectares than the rest of the world put together (Paull & Hennig, 2018; Willer & Lernoud, 2019) (Fig.13).

181 countries report certified organic statistics for a world total of 69,845,243 hectares, and with Australia accounting for 35,645,038 hectares of that total (Willer & Lernoud, 2019).

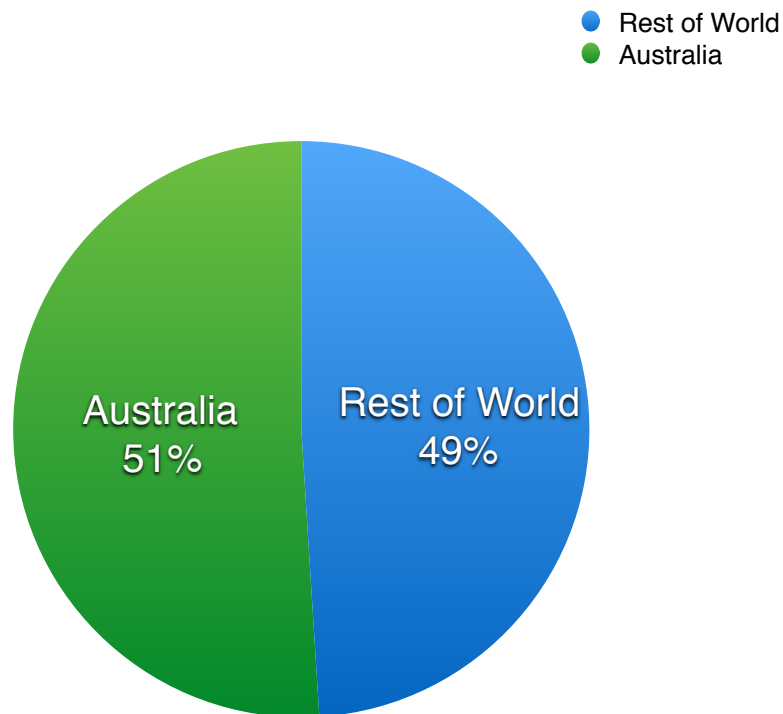


Figure 13: Australia accounts for more than half of the world's certified organic agriculture hectares (author's graph; data source: Willer & Lernoud, 2019)

Reason 15: World organics is growing at 12% per year

Global organic agriculture statistics have been published annually since 2000 (Willer & Yussefi, 2000) through to the present (Willer & Lernoud, 2019).

The longitudinal view reveals that the sector has grown at 12% per year for the past two decades (Fig.14). This is an opportunity for Tasmania.

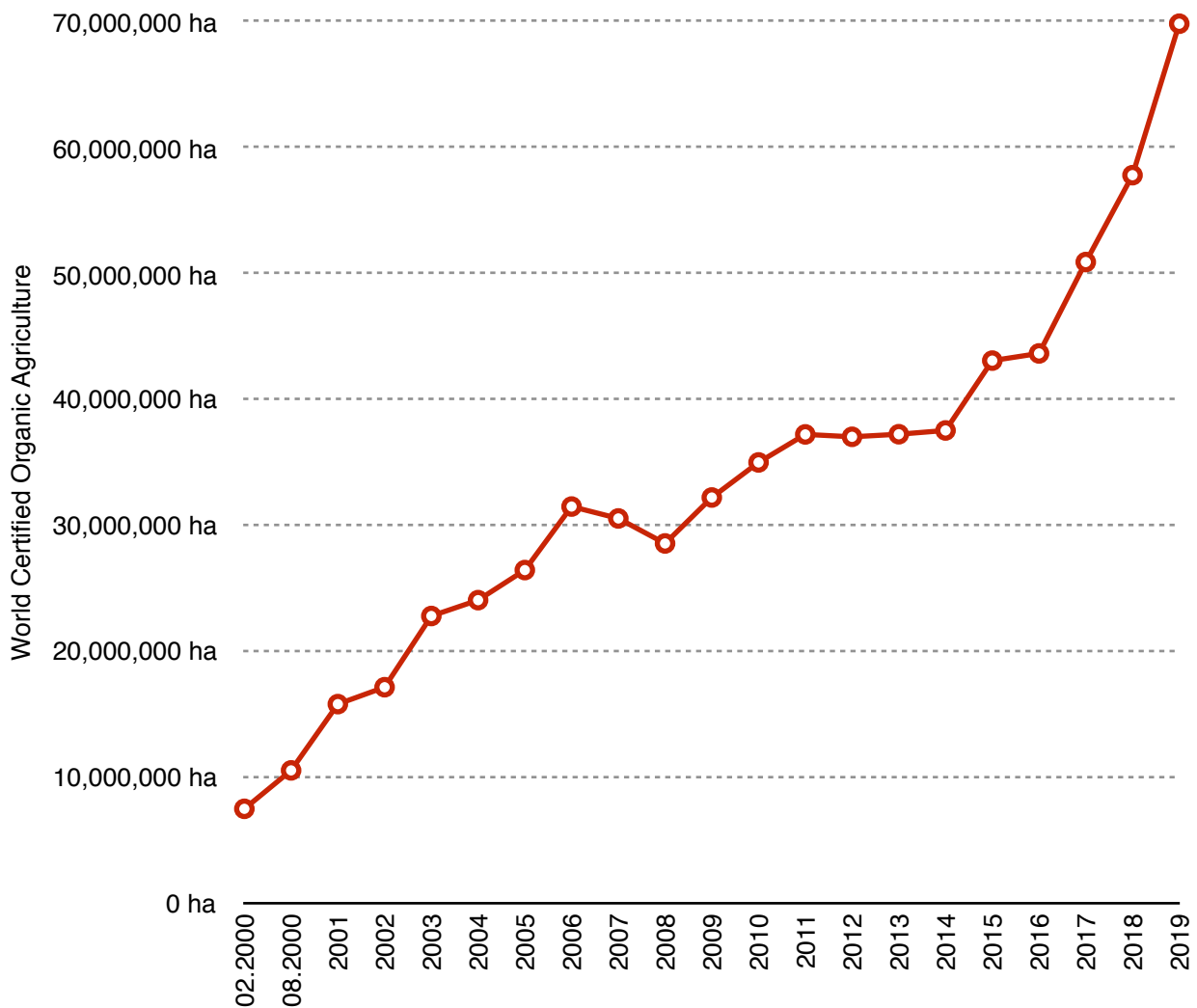


Figure 14: Global organic agriculture has been growing at 12% per annum for the past two decades (year reported) (author's graph; data sources: Willer & Yussefi, 2000 to Willer & Lernoud, 2019).

Reason 16: Australian organics is growing at 22% per year

Organic agriculture hectares in Australia have grown at 22% per year for the past five years (Fig.15).

Australia has 8.8% of its agricultural land now certified organic. With growing global demand for organic food this is an opportunity for Tasmania and the GMO Moratorium can facilitate a conversion to organic and offer surety for investors, producers and buyers. Other countries and States have achieved results that can be aspirational for Tasmania: Liechtenstein is 37.9% organic, Samoa is 37.6% organic, Austria is 24.0% organic (Willer & Lernoud, 2019), and the state of Sikkim in India is 100% organic (Paull, 2017).

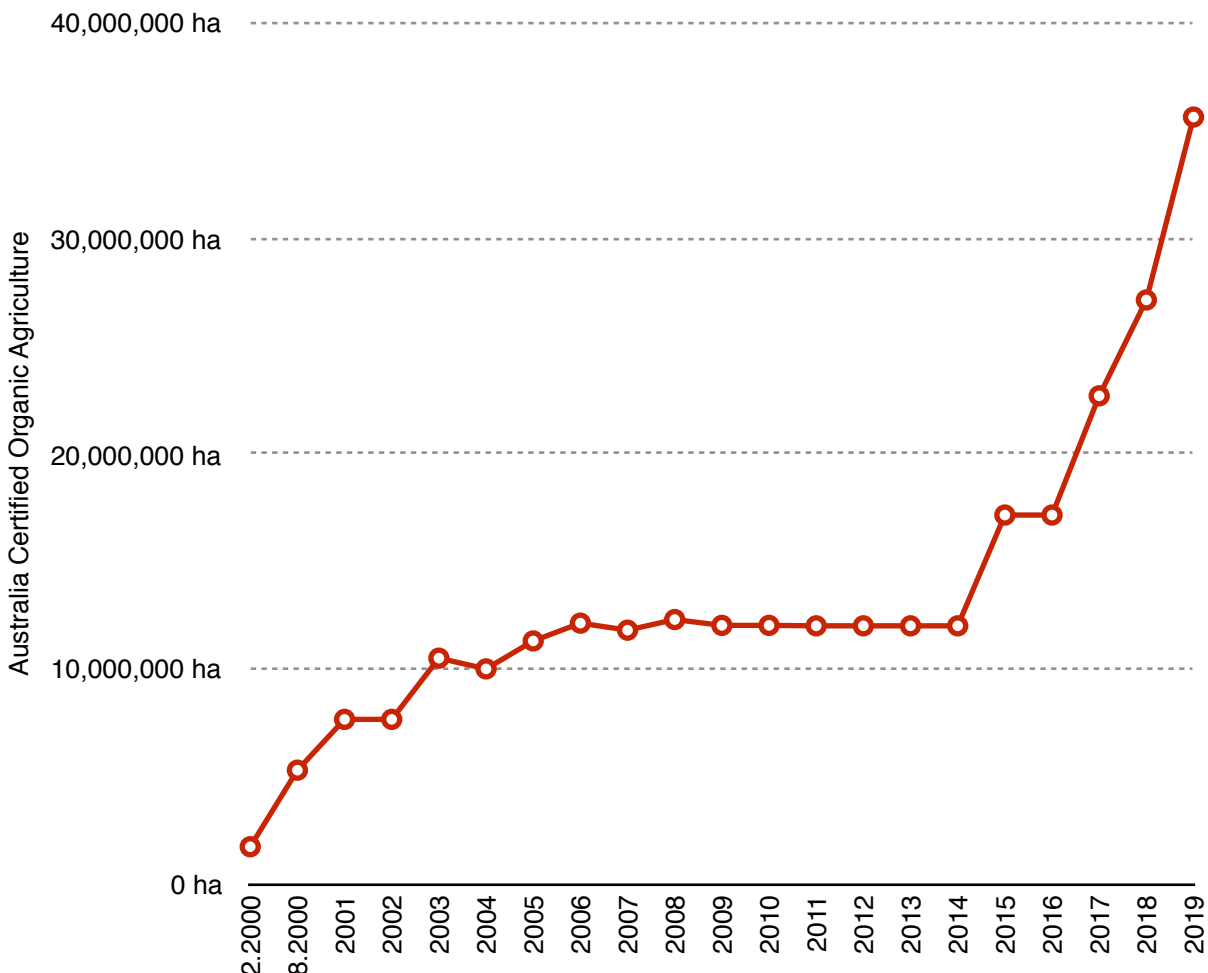


Figure 15: Australia's organic agriculture has been growing at 22% per annum (compounding) for the past five years (year reported) (author's graph; data sources: Willer & Yussefi, 2000 to Willer & Lernoud, 2019).

Reason 17: Tasmania has potential to grow its certified organic sector

Tasmania is lagging when it comes to certified organic hectares (Fig.16), but it is well represented with certified organic producers (Fig.17). With support and vision this means that there is a sound foundation to substantially grow the size and value of the organics sector in Tasmania by taking advantage of the existing skilled set of experienced operations, some of which could expand and some of which could be replicated. Such a vision would be jeopardised with any relaxation of the GMO Moratorium, and could be accelerated with assurance of an enduring GMO Moratorium.

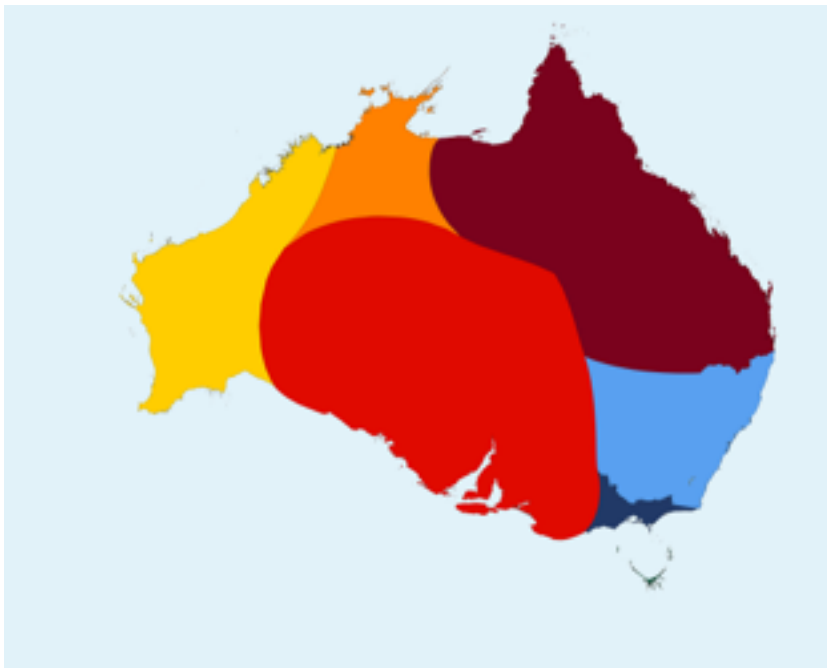


Figure 16: Cartogram of Australia's certified organic hectares (Paull & Hennig, 2018).



Figure 17: Cartogram of Australia's certified organic producers (Paull & Hennig, 2018).

Conclusions

The GMO Moratorium has served Tasmania well. It helps maintain a point of difference for the state of Tasmania and for Tasmanian produce. This helps visitors choose to visit, investors choose to invest, and it helps achieve and maintain premium prices for Tasmanian premium produce.

GMOs are invasive species (think of the cane toad) and invasive technology (think of Chernobyl). They are like the proverbial arrow that once sped from the bow cannot be recalled.

Western Australia has allowed GMOs and this has been socially divisive. All of the canola of the state of WA is now contaminated - there is now no GM-free canola available from WA farmers.

The GM Moratorium maintains a point of difference for Tasmania. The island state is ideally placed to successfully maintain such a moratorium and to benefit in the market place from it. GMOs have no social licence and they are socially divisive and environmentally contaminating. This is a technology that Tasmania can and ought to exclude.

It is recommended that Tasmania's GMO Moratorium be maintained in perpetuity - in this way trade and marketing opportunities persist, producers and investors can have a degree of certainty of the agricultural and food production environment that they operate in, and they can invest in their future and in marketing the state as a GM-free state.

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