

GM 2.0 and its market impacts



The day before the Federal election was called, the Australian Government announced¹ and enacted² the deregulation of a range of new genetic modification (GM) techniques referred to as Site Directed Nucleases 1 (SDN-1). These include certain uses of CRISPR. Our food regulator Food Standards Australia New Zealand (FSANZ) has also proposed leaving these risky new GM techniques unregulated.³ However, if these techniques are deregulated in Australia before being approved in key export markets, the market impacts could be catastrophic.

Key export markets are regulating these techniques as GM

In July 2018, the European Court of Justice ruled that organisms produced using new GM techniques such as ODM, ZFN1, TALENs, and CRISPR-Cas pose similar risks to older GM techniques and need to be assessed for safety and labelled in the same way.⁴

Australia's key trading partners have zero tolerance policies for unapproved GMOs

"There is no flexibility for unauthorised GMOs - these cannot enter the EU food and feed chain under any circumstances."

Markos Kyprianou, EU Commissioner for Health and Consumer Protection⁵

A survey of countries conducted by the Food and Agriculture Organisation (FAO) found that 73% of them have zero tolerance for unapproved GM varieties.⁶ The FAO found that between 2002 and 2012 there had been 200 cases of trade disruption due to the presence of unapproved GMOs. The majority of cases were between 2009-2012, indicating increasing trade problems.

These techniques fall under Cartagena Protocol and Codex definition of modern biotechnology

All the new GM techniques involve *in vitro* nucleic acid techniques and so fall under the Codex Alimentarius and Cartagena Protocol definitions of 'modern biotechnology'. Other countries could therefore reject shipments containing products derived from these new techniques if they haven't been assessed for safety, without fear of World Trade Organisation reprisals.

Market access implications

The changes to the Gene Technology Regulations would make Australia the first country in the world to deregulate the new GM techniques in animals. This means that anyone will be able to use these techniques, for example, to develop super muscly pigs, cows and sheep - and a raft of other potential applications. Yet GM animals are not produced commercially anywhere in the world, due to overwhelming public opposition. The market access implications of deregulating these GM processes are therefore potentially very serious.

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 could see a halt to food imports from Australia.

Yet the Department of Agriculture and Water Resources refuses to release the advice it gave on the likely trade impacts of deregulating the new GM techniques. When quizzed in Senate Estimates about the market risks of GM deregulation, Daryl Quinlivan, Secretary of the Department merely said it is an issue "[producers and exporters will have to work out](#)".

There are numerous examples of costly market rejection and disruption due to the presence of unapproved GMOs. These include:

Triffid flax

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.⁷

Viptera corn

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.

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The National Grain and Feed Association calculated the loss to farmers to be nearly US\$3 billion.⁸

LibertyLink rice

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”.⁹ The total cost to the US rice industry of the LibertyLink 601 contamination was estimated at around US\$1 billion.

Regulatory standards don't necessarily reflect market realities

Regulatory standards have proven to be the minimum standards that food exporters must meet. Market requirements are often far more stringent than regulatory requirements. For example, in Europe more than 40 GM foods have been approved for human consumption but barely any are actually present in foods because of the policy positions of food companies. Ultimately, food companies in overseas markets will determine whether new GM techniques are viewed as GM, not just governments.

Global non-GM certifiers such as the Non-GMO Project, IFOAM and the German industry association Verband Lebensmittel ohne Gentechnik (VLOG) all categorise the new techniques as GM.¹⁰

The New Zealand Government will regulate the techniques as GM

It was in recognition of these potential market impacts, that our key agricultural competitor New Zealand announced that it would be regulating organisms produced using these new techniques as genetically modified organisms (GMOs). On making the announcement New Zealand's then Environment Minister Dr Nick Smith stated:

“The rationale for our cautious approach is that New Zealand is an exporter of billions of dollars of food products and we need to be mindful of market perceptions as well as the science. We will continue to monitor global rules around the regulation of GMOs and adapt our system over time in line with international developments.”¹¹

Australia should adopt the same policy, regulating all new GM techniques and their living GM products.

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¹ Senator The Hon Bridget McKenzie (2019) Media Release: Updated Gene Technology Regulations Benefit Cancer Patients and Medical Research, 10/4/19,

<https://www.health.gov.au/internet/ministers/publishing.nsf/Content/health-mediarel-yr2019-mckenzie026.htm>

² Gene Technology Amendment (2019 Measures No. 1) Regulations 2019. <https://www.legislation.gov.au/Details/F2019L00573>

³ For more information see FoE (2018) Mutant Meat: will Australia deregulate genetically modified animals?, <http://emergingtech.foe.org.au/wp-content/uploads/2018/10/Mutant-Meat-Friends-of-the-Earth-Australia-2018.pdf>

⁴ Court of Justice of the European Union (2018) Organisms obtained by mutagenesis are GMOs and are, in principle, subject to the obligations laid down by the GMO Directive https://curia.europa.eu/jcms/jcms/p1_1217550/en/

⁵ European Commission (2006) GM FOODS - Commission requires certification of US rice exports to stop unauthorised GMO entering the EU: Press Release (IP/06/1120), 23 August 2006, <http://www.reading.ac.uk/foodlaw/news/eu-06080.htm>

⁶ FAO (2014) The results of the FAO survey on low levels of genetically modified (GM) crops in international food and feed trade

http://www.fao.org/fileadmin/user_upload/agms/topics/LLP/AGD803_4_Final_En.pdf

⁷ Pilger, G. (2015) The great threat of 2015 facing farmers, *Country Guide*, <http://www.country-guide.ca/2015/11/17/the-great-threat-of-2015-facing-farmers/47629/>; Young, L. et al. (2015) Genetics, structure, and prevalence of FP967 (CDC Triffid) T-DNA in flax, *SpringerPlus* 4:146, <http://link.springer.com/content/pdf/10.1186%2Fs40064-015-0923-9.pdf>

⁸ RT (2015) *Food fight: Indiana farmers sue seed company over millions in losses*, <https://www.rt.com/usa/323493-Corn-farmers-sue-seed-corp/>

⁹ USA Rice Federation (2013) Submission to the USTR on the Transatlantic Trade and Investment Partnership.

¹⁰ VLOG (2016) VLOG fordert strikte Regeln für neue Gentechnikverfahren, <http://www.ohnegentechnik.org/aktuelles/nachrichten/2016/november/vlog-fordert-strikte-regeln-fuer-neue-gentechnikverfahren/>

¹¹ Smith, N. (2016). GMO regulations clarified, 5/4/16, <https://www.beehive.govt.nz/release/gmo-regulations-clarified-0>