



National Farmers' Federation

**Submission to the Review of the National Gene
Technology Scheme 2017 Consultation Paper:
Overarching Issues for the consideration under the
Review**

15 December 2017

NFF Member Organisations



CANEGROWERS



CORPORATE AGRICULTURAL GROUP



The Pastoralists' Association of West Darling



WOOLPRODUCERS AUSTRALIA



The National Farmers' Federation (NFF) is the voice of Australian farmers.

The NFF was established in 1979 as the national peak body representing farmers and more broadly, agriculture across Australia. The NFF's membership comprises all of Australia's major agricultural commodities across the breadth and the length of the supply chain.

Operating under a federated structure, individual farmers join their respective state farm organisation and/or national commodity council. These organisations form the NFF.

The NFF represents Australian agriculture on national and foreign policy issues including workplace relations, trade and natural resource management. Our members complement this work through the delivery of direct 'grass roots' member services as well as state-based policy and commodity-specific interests.

Statistics on Australian Agriculture

Australian agriculture makes an important contribution to Australia's social, economic and environmental fabric.

Social >

There are approximately 85,681 farm businesses in Australia, 99 per cent of which are wholly Australian owned and operated.

Each Australian farmer produces enough food to feed 600 people, 150 at home and 450 overseas. Australian farms produce around 93 per cent of the total volume of food consumed in Australia.

Economic >

The agricultural sector, at farm-gate, contributes 2 per cent to Australia's total Gross Domestic Product (GDP). The gross value of Australian farm production in 2016-17 is forecast at 58.5 billion – a 12 per cent increase from the previous financial year.

Together with vital value-adding processes for food and fibre after it leaves the farm, along with the value of farm input activities, agriculture's contribution to GDP averages out at around 12 per cent (over \$155 billion).

Workplace >

The agriculture, forestry and fishing sector employs approximately 304,200 employees, including full time (217,000) and part time employees (87,200).

Seasonal conditions affect the sector's capacity to employ. Permanent employment is the main form of employment in the sector, but more than 28 per cent of the employed workforce is casual.

Environmental >

Australian farmers are environmental stewards, owning, managing and caring for 48 per cent of Australia's land mass. Farmers are at the frontline of delivering environmental outcomes on behalf of the Australian community, with 6.8 million hectares of agricultural land set aside by Australian farmers purely for conservation/protection purposes.

The NFF was a founding partner of the Landcare movement, which recently celebrated its 20th anniversary.

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Executive Summary

The National Farmers' Federation (NFF) recognises gene technology as a valuable tool within agricultural production systems. The responsible and strategic application of gene technology within Australian production systems has resulted in significant benefits for Australian farmers, the environment, consumers and the Australian economy as a wholeⁱ.

The NFF supports gene technology research and development and believes that the outcomes of this R&D can contribute to meeting Australia's future challenges in areas such as economic growth, human health and environmental sustainability.

The realisation of the benefits of gene technology within Australian farming systems is dependent upon continued commitment to research and development. The NFF considers that the ultimate aim of government should be to create an operating environment that encourages public and privately funded research and supports the development of Australian innovation, including in the field of gene technology.

It is important that in deciding the extent to which Australia harnesses the potential of gene technology and the conditions permitting its safe and effective utilisation, all Australians can access relevant and factual information on potential benefits and associated risks of adopting this technology.

In Australia, all dealings involving genetically modified organisms (GMOs), from laboratory experiments to the commercial release of crops, are overseen by a rigorous regulatory framework. The Australian Regulatory system, built around the Gene Technology Act 2000, is recognised as one of the most stringent in the world and provides an effective and robust national framework for the regulation of GMOs. The Office of the Gene Technology Regulator (OGTR) is responsible for overseeing gene technology research and development in Australia. The NFF supports the role of the OGTR in the assessment of the human health and environmental safety of GM technologies.

The NFF firmly advocates that farmers should retain the opportunity to adopt the method of production best suited to their business needs, be that GM, conventional, organic or any combination of these methods. In protecting the integrity of a farmer's decision, it is important that agricultural supply chains consider the implementation of plans to allow all producers to continue to meet the requirements of their chosen markets.

The NFF upholds the right of consumers, farmers and processors to freely choose what sort of products they use. This recognises the potential diversity in technology and market positions that may arise and the need for the market to reasonably cater for such diversity and associated outcomes.

Consistent with upholding the rights of consumers, farmers and processors to choose to adopt approved GM crops, the NFF calls upon state governments to end their GM moratoria. In light of Australia's robust regulatory regime, and the Australian agricultural industry's demonstrated capacity to meet customer requirements, these bans are unnecessary and are preventing choice.

Introduction

The National Farmers' Federation (NFF) welcomes the opportunity to make a submission to the *Discussion Paper: Options for regulating new technologies*. The NFF supports the current technical review process based on scientific and technological knowledge and would like to emphasise how crucial it is to be guided by scientific input to create a regulatory environment conducive to innovation.

The NFF believes that it is critical for the future development of food and fibre to make regulation flexible enough to enable innovation. The guiding principle in determining whether a product should be regulated by the OGTR or not should be whether the modification introduces new genetic material. If the change uses technologies such as gene editing, producing a result that could have occurred in nature, it should not be regulated by OGTR.

The NFF acknowledges the need for effective regulation. Often, regulation provides important protections for the business owners, workers, and the community, and sets a minimum level of performance required to meet community standards and expectations. Additionally, regulation can also act to underpin high quality product status upon which farmers can attract price premiums.

However, it is important that regulation is warranted, appropriately targeted, clearly communicated, and that restrictions are minimised as far as possible to avoid perverse outcomes. In short, the benefits of regulation must outweigh the costs of doing so. There are a number of opportunities to reduce the regulatory burden on industry without sacrificing the integrity of the regulatory framework. These could include making greater use of data and assessments accepted by well-regarded overseas regulators, and more effectively tailoring the assessment pathway to the risk profile of a product.

Realisation of the potential benefits of gene technology within Australian farming systems is dependent upon a regulatory environment which promotes R&D investment. The ultimate aim of government should be to create an operating environment that encourages public and privately funded research and supports the development of Australian innovation, including in the field of gene technology.

Response to select questions in the Consultation Paper

Review theme one: technical issues

1. What technological advances can be foreseen that might pose regulatory challenges for the Scheme?

It is difficult to gauge what new technologies may be utilised in the future that will pose a regulatory challenge for the Scheme. Currently, as discussed in the review paper, some of the new technologies that may pose a regulatory challenge for the Scheme are those that involve process that can be indistinguishable from organisms found naturally. Gene editing will fall into this category as it involves minute changes that leave no discernible footprint of the changes made.

While GM foods will likely continue to be controversial, the techniques that allow for their creation will also continue to advance at a rapid pace. Care must be taken to not impose unnecessarily burdensome regulation that excludes future research developments in gene technology techniques. It is important that the scheme be flexible enough to accommodate any new technologies on the horizon. It is critical that the OGTR continues to rely on the expertise of the scientific, research and technical providers when considering the future regulatory challenges to ensure the scheme is future proofed. NFF strongly recommends that the OGTR consult with these bodies.

2. What are the potential impacts of the capability to make small edits in the DNA of an organism using no foreign DNA?

There is immense potential for new editing techniques to provide a range of benefits for both producers, the economy and the environment. Technological and scientific developments have been increasingly pertinent to an industry facing harsher climatic conditions and striving to remain internationally competitive on global markets. Farmers globally are adopting gene technology due to the enormous advantages this technology offers, including improved productivity and profitability, as well as improving conservation efforts and outcomes (such as reducing use of pesticides and herbicides, maximising water efficiency, resilience in adverse growing conditions and boosting production yields).ⁱⁱ

3. Under what circumstances might it be practical, efficient or appropriate to regulate gene editing under the GT Act when, from an enforcement perspective, it may not be possible to distinguish the products of gene editing from the products of conventional methods?

The NFF believes that the expertise of scientific bodies need to be taken into consideration and further consultation with them is recommended. The emerging applications offer considerable opportunities.

4. Do these applications of gene technologies present unique issues for consideration? If so, how might these issues be addressed by the Scheme?

The NFF strongly recommends that the OGTR consult with the scientific, research and technical providers when considering the unique challenges new applications of gene technology may pose. The NFF would urge the OGTR to specifically consult with the Research Development Corporation's (RDCs) regarding unique issues for consideration. There are currently 15 RDCs—five Commonwealth statutory bodies and 10 industry-owned companies (IOCs). All the RDCs manage R&D services, with most IOCs also providing other industry services, mainly marketing.

5. What are the potential implications of the release of a GMO targeting an invasive species in Australia?

The use of GMOs in targeting invasive species have the potential to make a real impact on the landscape and restore native environments due to reduced pressure from the invasive species. GMO targeting of invasive species will be a critical tool in the fight to stem both the impact invasive species have on the environment and ongoing management issues. The NFF supports the use of GMO targeting of invasive species and have confidence in the current system utilised by the scientific research community. The NFF supports the efforts of organisations that are focused on this issue, such as the Centre for Invasive Species Solutions projects on long term and sustainable rabbit biocontrol management strategies and Tilapia biocontrol, and the CSIRO carp eradication program.

6. What are the technical issues to consider in the scenario of a GMO used to target an introduced plant, vertebrate or invertebrate pest?

The most important function of the Gene Technology Scheme is to ensure the health and wellbeing of people and of the environment. NFF has confidence in the science deployed by those developing these technologies (such as the CSIRO and others) and is confident that the current process addresses public safety concerns. All products of the existing gene technologies that have been approved for use in the environment have gone through extensive assessment for their safety with respect to people and their health and the health of the environment.

Review theme two: regulatory issues

5. What efficiencies could be gained through adjusting the interface between the Scheme and other regulators?

The NFF believes that efficiencies could be gained by streamlining approval of products that have already gone through stringent regulatory focus in other countries, however trade assessments would need to be part of this process.

6. What support exists for a regulatory framework providing for tiered risk?

The NFF would be supportive of a tiered risk regulatory framework. This would provide efficiencies within the OGTR and provide the opportunity to focus resources more intensely on those products that pose the greatest risk.

10. What justification is there to regulate animals, plants or microbes differently?

The NFF believes that functionally animals, plants or microbes are very different and shouldn't be categorised together as the dispersal, gene flow and generation time are very different. Each of these categories have different impacts, different levels of choice and the potential downsides are different also. Regulation of animals, plants and microbes should be based on the risks associated with each category.

16. What are the potential impacts on market access for exporters of animal or plant derived food products?

Producers need to be able to make choices about their production systems that best suits their business needs. Producers are already highly cognisant of the markets to which they supply. Potential impacts on market access for exporters of animal or plant derived food products could include increased productivity, disease resistance and additional nutritional benefits. It will be critical for a trade assessment process to be part of this process.

Review theme three: governance issues

1. What will reassure the Australian public and regulated communities of the integrity of the Scheme?

The integrity of the scheme must be based on scientific decisions and not be swayed by public sentiment. The NFF is satisfied appropriate Australian safeguards exist to ensure food safety and the sustained integrity of organic and conventional food production. Australian farmers are well-placed to responsibly harness the enormous opportunities gene technology offers and are positioned to conduct their enterprises in a harmonious way that will allow these industries to

coexist and restore the basic right to choose to the community. The current State moratoriums undermine the legitimacy of the scheme by calling into question the decisions of the OGRT and the scheme as a whole.

4. Does reviewing the Scheme every five years best address the needs of the Scheme? Is there a preferable option?

The NFF is supportive of reviewing of the scheme every five years, this will ensure that the scheme is operating in its intended manner.

7. What evidence is there to support economic and trade advantages of GM moratoria – or indeed, the absence of GM moratoria?

The issue of gene technology has been a part of the Australian agricultural landscape since the 1990s. Farmers have long recognised its inherent potential benefits and associated risks, and have addressed the latter with a view to the coexistence of the organics, conventional and GM industries. This has been achieved through a network of government and industry-led initiatives and comprises legislation, policy, systems, education and infrastructure.

Private enterprises, as well as State Government, have invested considerably in gene technology. The moratorium that is in place in a number of States, has direct consequences on these investments. A climate of uncertainty, with no clear path to market for approved GM products, and frustrations in exploring the commercial effects of R&D investment, all present convincing disincentives for further investment. This, in turn, will jeopardise Australia's future global competitiveness of agricultural sectors such as the oilseed industry.

Currently the moratorium in place in a number of States in Australia is effecting the opportunities that producers have to optimise the productivity, environmental and financial gains that GMO can facilitate. There is currently not a clear price or market signal that is compensation for the loss of potential productivity for these producers.ⁱⁱⁱ Growers in all other grain producing states are successfully growing GM canola and benefiting from the herbicide resistance, increased drought tolerance and enhanced yields that GM technology delivers.

In relation to the recently announced moratorium in South Australia, the decision is at odds with established science and economic modelling and was made, without any consultation with the farm sector as to the impacts a moratorium would have on their businesses. Anecdotal evidence suggests that the vast majority of farmers operating under moratorium are not seeing a price premium for their products. In 2007, an ABARES report stated there is 'some very limited evidence of price premiums for organic and certified GM-free canola' however markets for these canola types are still very much small niches. ABARES have further explored this issue and at a conference in 2010 stated that there was little evidence of Australian canola earning price premiums in the EU market because of its non-GM status.^{iv}

16. What are the pressure points at the boundaries between regulatory schemes that are caused by regulatory gaps or overlaps?

An example of these pressure points can be found in South Australia, with the South Australian government allowing the import of GM canola oil. Currently the South Australian moratorium decrees that the production of GM canola in that State is banned. This situation places domestic producers at a distinct disadvantage to other domestic and international competitors. The interface of our policy and regulations with those of other countries is an important consideration when assessing the effect of moratoriums on market access.

Review theme four: social and ethical issues

1. How do we help the community to best understand the benefits and risks of a complex, science-based technology?

Consumers need to be able to make informed decisions which can only be done in an open and transparent system. One of the biggest issues is that the term GMO is associated with increased risks. Currently there is uncertainty from the public on the risk to different environments and what risk mitigation strategies are in place. This provides uncertainty as to the repercussions if something goes wrong.

The fact that Food Standards Australia New Zealand (FSANZ) also assesses GM foods to ensure they are as safe as their conventional counterparts, and has approved some GM foods for release into the Australian food supply should also be more widely publicised.

Communicating the benefits and risks of GMO more effectively to the public will eliminate some of the misplaced angst in the community around the use of GMO. Effectively translating complex science based technology for the public is needed. Messages such as “*No effects on human health have been shown as a result of the consumption of such foods by the general population in countries where they have been approved*”^v and “*The main conclusion to be drawn from the efforts of more than 130 research projects, covering a period of more than 25 years of research, and involving more than 500 independent research groups, is that biotechnology, and in particular GMOs, are no more risky than conventional plant breeding technologies*”^{vi} should be front and centre of any communication to the public on GMOs.

6. What does the public need in order to accept the increasing availability and range of use of gene technologies?

Acceptance of GMO is increasing globally. In Australia, the Australian Department of Industry have found that support for GM foods and crops has remained fairly constant over the past few years.^{vii} Accurate labelling of food products and a concerted media campaign would go some way towards increasing public sentiment on the use of GMO.

ⁱ In Australia, the farm income benefits from 1996-2015 from GM cotton and canola are estimated to have been US\$1,025 Million. Brookes G & Barfoot P 2017, *GM crops: global social-economic and environmental impacts 1996-2015*, Dorchester, UK.

ⁱⁱ ISAAA reports that the adoption of biotech crops has reduced CO2 emissions equal to removing approximately 12 million cars from the road annually in recent years; conserved biodiversity by saving 19.4 million hectares of land from agriculture in 2015; and decreased the environmental impact with a 19% reduction in herbicide and insecticide use. Additionally, in developing countries, planting biotech crops has helped alleviate hunger by increasing the

incomes for 18 million small farmers and their families, bringing improved financial stability to more than 65 million people.

ⁱⁱⁱ *Licensed from the Agricultural Biotechnology Council of Australia (ABCA) under a Creative Commons Attribution 3.0 Australia Licence*

^{iv} Evidence of price premiums for non-GM grains in world markets.2010. Conference Paper from the Australian Agriculture and Resource Economic Society Conference 2010:

http://adl.brs.gov.au/data/warehouse/pe_abarebrs99014390/AARES_4.pdf

^v WHO 2014, *Food safety – 20 questions on genetically modified foods*. Retrieved from www.who.int/foodsafety/areas_work/food-technology/faq-genetically-modified-food/en

^{vi} European Commission, 2010a, *A decade of EU-funded GMO research (2001-2010)*, p.16. Retrieved from ec.europa.eu/research/biosociety/pdf/a_decade_of_eu-funded_gmo_research.pdf

^{vii} Ipsos Social Research Institute 2013, *Public attitudes towards biotechnology 2013 – Key findings*. Retrieved from industry.gov.au/industry/IndustrySectors/nanotechnology/Publications/Documents/PublicAttitudesBiotechnology2013.pdf