

Senate Standing Committees on Economics

Inquiry into the Australian Manufacturing Industry



1 INTRODUCTION

CropLife Australia is the national peak industry organisation representing the agricultural chemical and plant biotechnology (plant science) sector in Australia. CropLife represents the manufacturers, innovators, developers and formulators of crop protection and agricultural biotechnology products. CropLife's membership is made up of both large and small, patent holding and generic, Australian and international companies and accordingly CropLife advocates for policy positions that deliver whole of industry benefit. Our focus is, however, specifically on an Australian agricultural sector that is internationally competitive through globally leading productivity and sustainability achieved through access to the world-class technological innovation and products of the plant science sector. As such, CropLife welcomes the opportunity to provide these comments to the Senate Standing Economics References Committee's Inquiry into the Australian Manufacturing Industry. This submission will focus on the role that government can play in assisting our domestic manufacturing industry, with specific regard to the research and development of crops, crop protection products and biotechnological tools by attracting investment, supporting supply chains and science-based trade and regulatory policy.

The plant science industry provides products to protect crops against damaging insects, invasive weeds and diseases that are key to the nation's agricultural productivity, sustainability and food security. The plant science industry is worth more than \$20 billion annually to the Australian economy and directly employs thousands of people across the country¹. Meeting the challenges presented by sustainably increasing food production for growing global demand will require science-based policies that support all farming production systems and the research, development, manufacture and application of these products and technologies. This includes chemistry and biotechnology, the opportunities of which extend far beyond the agriculture sector, with applications in medicine, environmental management and industrial processing.

Recent crises, including the COVID-19 pandemic, have not only highlighted the value of technological advances, such as those that facilitated the rapid development of, and public access to several vaccines, but also the importance of the regulatory and political environments to preparedness, response strategy and resilience under these circumstances. The recent pandemic is a prime example of the urgent and continuous need for exploration and development of agricultural innovations via both conventional systems and modern approaches.

¹ Deloitte Access Economics (2018). Economic activity attributable to crop protection products

Currently, the substantial regulatory costs impede investment in domestic research and development and subsequently, the ability to commercialise critical processes and products. This limits accessibility and application of these advances at a loss to the Australian agriculture sector, environmental land managers and broader society. Appropriate regulations will promote the growth of new industries, contributions to leading global regulatory standard and the facilitation of production and export of critical technologies and their products, as well as build investor, industry and community confidence.

To harness the opportunities presented by technological innovation in agriculture, it is imperative the regulatory environment is conducive to innovation and growth. To achieve this, CropLife recommends removing barriers by:

1. Strengthening the regulatory environment by removing identified barriers to innovation and growth of the agricultural sector
 - a. Make amendments to Australia's IP arrangements to compensate patent owners for the real loss of the value of their patents as a result of the inability to get a commercial return during the assessment period imposed by the mandatory registration process
 - b. Improve access to crop protection for minor uses and specialty crops
 - c. Impose acceptable timelines for review of applications by the Therapeutic Goods Administration for scheduling of chemicals
 - d. Implement the recommendations from the Department of Health's Third Review of the National Gene Technology Scheme
 - e. Introduce voluntary labelling requirements for approved GM crops.
 2. Improve the efficiency of the globally respected, world-class Australian Pesticides and Veterinary Medicines Authority (APVMA)
 - a. Implement solutions to the inefficiencies identified during the recent independent review of the Agvet chemical regulatory framework and ensure sufficient funding for implementing appropriate, effective and industry-supported recommendations
 - b. Replace the outdated APVMA fee and levy model with a cost recovery regime that is fit for purpose in today's dynamic environment and keeps downward pressure on costs, encourages and supports improved efficiencies and incentivises innovation being brought into the Australian market
 - c. Fund the public benefit functions of the APVMA to demonstrate both the independence of the Regulator and not unfairly impose costs onto the farming sector, noting that other regulators are provided with such funding.
 3. Enhance and follow-up on the Australian Government's Supply Chain Resilience Initiative (SCRI). The \$107.2 million SCRI was established as part of the Government's Modern Manufacturing Strategy.
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Terms of Reference (b) : The role that the Australian manufacturing industry has played, is playing and will play in the future

The Australian manufacturing industry, specifically the manufacture of pesticides and biotech crops, demonstrated its role during the current global pandemic, which has caused the single greatest disruption to global food supply in generations. During these unprecedented times, the Australian agriculture sector delivered, and continues to deliver, continuity in supply of safe, nutritious food, feed and fibre to domestic and global markets, while managing the challenges associated with the manufacturing, distribution, and accessibility of critical farm inputs and supply chain services, an agricultural workforce, and border restrictions. The safe and powerful technologies of crop protection products and biotechnology have an increasing role in meeting and mitigating these challenges as the impact on global economies endures and provides an opportunity for Australian agriculture to leverage these opportunities

Pesticides Manufacturing – opportunities and challenges

Crop protection products are crucial to modern agronomic land and pest management techniques and systems used by farmers. Access to fewer crop protection tools would facilitate faster development of resistance among target pests, diminishing the efficacy of chemical options. The economic impact of weeds alone is estimated to be in excess of \$4.8 billion each year, or \$13 million per day².

Pesticides also play a significant role in protecting Australia's rich biodiversity. In 2006, the then NSW Department of Environment and Conservation listed weeds and pests as second only to habitat loss as a cause of biodiversity decline³ and cautioned that weeds presented the greatest threat to our National Parks.⁴ Similarly, a more recent study by researchers at the CSIRO and Flinders University demonstrated that invasive plants are the costliest pests in Australia, costing \$200 billion since 1960⁵. In 2021, the Invasive Species Council's report 'Glyphosate: A Chemical to Understand' highlighted that herbicides offer the only really effective option for removing invasive weeds from Australia's bushland reserves and that, without them, most of the remaining indigenous vegetation in Australia would decline in both quantity and quality.⁶

² <https://invasives.com.au/wp-content/uploads/2019/01/Cost-of-weeds-report.pdf>

³ <https://researchprofiles.canberra.edu.au/en/publications/the-impact-of-weeds-on-threatened-biodiversity-in-new-south-wales>

⁴ <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/state-of-the-parks-2004-050051.pdf>

⁵ Corey J A Bradshaw and others, 'Detailed Assessment of the Reported Economic Costs of Invasive Species in Australia', *NeoBiota*, 67 (29AD), 511–50 <https://doi.org/10.3897/neobiota.67.58834>

⁶ <https://invasives.org.au/wp-content/uploads/2020/11/Glyphosate-A-Chemical-to-Understand.pdf>

It is imperative that the Australian Government maintain the primacy of science and facts in regulatory and policy decisions. There is a need for a paradigm shift in thinking from regulating the science (as it has been proven safe) to facilitating the growth of the Australian economy by driving the plant science industry and workforce (both in the public and private domain) to its full potential.

The responsible use of crop protection products must be supported by a regulatory scheme that maximises the benefits associated with their responsible use, while minimising the costs from excessive, inappropriate, and ineffective regulation. Farmers need these products because of the benefits they provide to their businesses and consumers need these products to ensure they have access to safe, affordable and nutritious food. Environmental land managers require these products to protect Australia's delicate biosecurity and natural spaces. While it is important for governments to provide for appropriate and rigorous regulation of pesticides and biotechnologies, any regulation must be mindful of the effects that poorly considered and excessive regulation will have through increasing production costs, discouraging investment and innovation, while not delivering any improvement in safety, health or environmental outcomes.

As such, s70 of the Patents Act 1990 provides for patent term extensions for pharmaceutical products of up to five years in appropriate circumstances. Like the pharmaceutical industry, the agricultural chemical and crop biotechnology industries are subject to mandatory pre-market regulatory assessment and approval before a product can be brought to market. In the interest of fostering regulatory equivalency, the Government could easily extend this time credit to agricultural chemicals and biotechnology products as a means of protecting investment and encouraging innovation in Australian manufacturing.

Challenges

Efficient and effective regulation is essential to support an innovative, productive and sustainable agricultural industry in Australia. Unfortunately, from an agricultural chemical perspective, innovation is stymied by a regulatory system that is inefficient and operated to discourage investment in modern crop protection technologies.

These regulatory burdens are not without consequence. In addition to raising costs and delaying introduction of innovative new products, excessive regulation increases the pre-market barrier for new products, meaning that fewer tools for farmers are ultimately registered and approved for use. It is well-recognised that, where the market size does not justify the necessary investment in data generation and registration costs by a registrant, a company will not generally make the necessary investment to register that product. Exacerbating this problem in Australia is the equivalent cost of regulation for a crop protection product in Australia and the United States, despite the size of the Australian market being one-tenth that of the United States. This means that Australia is uniquely susceptible to the effects of excessive regulatory cost on the availability of chemical products for minor uses.

A lack of available insect pest, disease and weed protection products provides a significant barrier to the development of new agricultural industries. New crops are less likely to be commercially cultivated for domestic and export markets if there are no options for pest control. Horticultural crops in particular face challenges as the smaller areas under production often render the registration of new chemical products unfeasible.

Biotechnology – opportunities and challenges

Biotechnology is a pivotal tool for sustainable development and has become a policy priority for global policy makers. Emerging biotechnologies offer novel approaches with the potential to achieve ecologically sustainable development by transforming the way we address challenges in medicine, food production and processing and the environment.⁷

The major strength of biotechnology is its multidisciplinary nature and broad range of scientific approaches. Recent advances in various biotechnological fields are facilitating the production of chemicals, recombinant proteins, biomaterials and pharmaceuticals. Biotechnology plays an important role, especially in the fields of medicine, food production, renewable raw materials and energy, pollution prevention and bioremediation. Resource recovery, recycling and waste disposal are other environmentally beneficial facets of biotechnology.

A 2017 report by the National Academy of Sciences, “Preparing for Future Products of Biotechnology”⁸ considered technological advances and products likely to emerge over the next 5-10 years and the risks presented by these compared to those that already existed. Given the rapid progression of technological advances, the report recommended implementing the necessary mechanisms for regulators to continuously “scan the horizon” for new processes and products that could present novel risks and to ensure their approaches to risk assessment remain robust and effective.

Genetically modified (GM) crops are an example of an application of modern biotechnology already being utilised to deliver safe and affordable food, feed and fibre to Australia and the world. GM crops represent just one of the many opportunities in breeding innovation.

GM crops are a necessary and important tool in meeting the global food and nutrition security challenge. Since being first commercially cultivated in 1996, GM crops have contributed to global food security, sustainability and helped farmers to adapt to and mitigate climate change by:

⁷ Mukhopadhyay, K., Sachan, A., & Kumar, M. (2017). Applications of Biotechnology for Sustainable Development. Springer Singapore.

⁸ National Academies of Sciences, Engineering, and Medicine (2017). Preparing for the future products of biotechnology. Washington, DC. National Academies Press.

- Increasing the value of crop production by US\$186 billion⁹
- Improving the sustainability of pesticides by reducing usage (kg active ingredient) by 775 million kg¹⁰
- Reducing CO₂ emissions in 2018 alone by 27.1 billion kg¹¹ (equivalent to taking 16.7 million cars off the road for one year, more than all the passenger vehicles registered in Australia and 86 per cent of all vehicles registered in Australia)
- increasing the incomes of more than 17 million small farmers and their families – some of the poorest people in the world, and thereby helping to alleviate poverty¹²

Cultivation of GM crops has equally proven to be beneficial to the environment. Crop biotechnology is an important tool helping to farm more sustainably by allowing them to produce more while using fewer natural resources and decreasing their usage of pesticides. Since GM crop cultivation started in 1996, more than 183 million hectares of land have been saved from ploughing and cultivation, leading to improved water storage, reduced soil erosion and increased availability of land for other environmental uses.

GM crops currently under research and development in Australia will help our farmers address the unprecedented challenges they are facing in a changing climate. GM traits currently investigated at the national level will be crucial tools for farmers to mitigate climate risks, subsoil constraints and emergent diseases. There is also considerable Australian research into GM traits that will bring health benefits to consumers, such as healthier starches and oils modified to be lower in saturated fats and with improved cooking qualities.

Challenges

The lack of clarity in Australia's regulatory framework has failed to keep pace with technological developments. The result is a disproportionate regulatory burden on some products developed using plant breeding innovations, such as genome editing where they are regulated as genetically modified organisms (GMOs) based on the use of gene technology, rather than on the risks presented by the characteristics of the final product. This is disproportionate because many of the resulting products are comparable to that developed using conventional methods that are not within the regulatory scope of the National Gene Technology Scheme (NGTS).

⁹ Brookes G and Barfoot P (2020) 'Environmental impacts of genetically modified (GM) crop use 1996-2018: impacts on pesticide use and carbon emissions'. *GM Crops and Food* 11 (4).

¹⁰ Brookes G and Barfoot P (2018) 'GM crops: global socio-economic and environmental impacts 1996-2016'. PG Economics, Dorchester, UK.

¹¹ ISAAA (2019) 'Global Status of Commercialized Biotech/GM Crops in 2018: Biotech Crops Continue to Help Meet the Challenges of Increased Population and Climate Change. ISAAA Brief No. 54. ISAAA: Ithaca, NY

¹² Ibid.

The implementation of the recommendations from the Third Review of the National Gene Technology Scheme is a crucial first-step to improve the existing risk-based regulation to achieve a better balance between regulating the process involved in creating products of gene technology and regulating the risks (if any) to human health and safety and the environment associated with the final products.

Regulatory systems that do not keep up with scientific development limit innovation, irrespective of the size of the enterprise. Developing improved crops has a cost and the regulatory burden can make or break a project. Business decisions are made depending on regulation processes and costs, therefore limiting the use of technology and depriving farmers and consumers of improved or innovative crops and products. Australia could miss out on further opportunities if the recommendations from the NGTS review are not implemented in a timely manner.



2 CONCLUSION

CropLife welcomes the opportunity to provide comment to this Senate Inquiry into the Australian Manufacturing Industry. Agricultural chemicals and genetically modified crops are major contributors to the profitability, sustainability and productivity of Australia's food production systems. The benefits they generate for farmers, other users, consumers and the environment far outweigh any manageable or imagined risks associated with their adoption or use. These tools are vital to producing nutritious, healthy, affordable and disease-free food for Australian and overseas consumers. CropLife and its members are committed to supporting all farming systems in Australia by providing farmers with the innovations, technologies, tools and products they need to ensure sustainable and profitable farming practices.

