CropLife Australia

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National Food Security Strategy

Discussion Paper

1. INTRODUCTION

CropLife Australia (CropLife) is the national peak industry organisation representing the agricultural chemical and plant biotechnology (plant science) sector in Australia. CropLife represents the innovators, developers, manufacturers, formulators and suppliers of crop protection products (organic, synthetic and biological based pesticides) and agricultural biotechnology innovations. CropLife's membership is made up of both large and small, patent holding and generic, Australian and international companies. Accordingly, CropLife advocates for policy positions that deliver whole of industry and national benefit. However, our focus is specifically on sustainable environmental land management and an Australian farming sector that is internationally competitive through globally leading productivity and sustainability practices. Both of which are achieved through access to world-class technological innovation and products of the plant science sector.

The plant science industry contributes to the nation's agricultural productivity, environmental sustainability and food security through innovation in plant breeding and pesticides that protect crops against pests, weeds and disease. More than $31 billion of the value of Australia's agricultural production is directly attributable to the responsible use of crop protection products, while the plant science industry itself directly employs thousands of people across the country.[1] CropLife Australia is a member of CropLife Asia and part of the CropLife International Federation of 91 CropLife national associations globally.

CropLife welcomes the opportunity to provide comments on the *National Food Security Strategy: discussion paper*. As a major international exporter of agricultural commodities, it is essential to ensure Australian farmers can be empowered to continue producing safe, healthy and nutritious food and fibre. This is important to sustain domestic food security, supporting global efforts to alleviate hunger and to leverage the national security advantages that come with improved multi-lateral and bi-lateral arrangements in the trade of food.

Australian agriculture continues to be an important source of export revenue in the economy, contributing over ten per cent of exports of goods and services in 2023-24;[2] however, productivity growth across the sector faces headwinds created by climate change

[1] Deloitte Access Economics, 'Economic Contribution of Crop Protection Products in Australia', August 2023, https://www.croplife.org.au/resources/reports/economic-contribution-of-crop-protection-products-in-australia/.
[2] ABARES, "Snapshot of Australian Agriculture 2025" (ABARES Insights, Issue 1 February 2025) DOI: https://doi.org/10.25814/gs4g-ys39.

and restrictions on new technologies.[3] Price rises in fruit and vegetables as reported by the ABS has led food inflation for the ten months of FY2024-25 and outstripped headline CPI every month of that financial year.[4] This inflation, which reflects the tightness of supply and demand for fresh produce in Australia, erodes the purchasing power of real wages across the economy. Productivity growth across Australia's horticultural commodities is important to curbing the impact of food inflation on household budgets while returning fair reward to our nation's farmers.

2. THE PLANT SCIENCE INDUSTRY DELIVERS FOOD SECURITY

The United Nations estimates there will be 9.7 billion people on Earth by 2050, around 30 per cent more than in 2017.[5] On 15 November 2022, the population officially crossed 8 billion en route to this milestone. [6] This continued increase will require raising overall food production by up to 70 per cent by 2050 to meet the food and nutritional requirements of an expanded population.[7]

The tools and technology of the plant science industry are indispensable in anchoring both Australia's food security, as well as that of the global community and maintaining Australia's ability to remain a net exporter of agricultural commodities. The Deloitte Access Economics report released in 2023, '*Economic Contribution of Crop Protection Products in Australia*', illustrates that more than $31 billion of total Australian agricultural output (or 73 per cent of the total value of crop production) is attributable to the use of crop protection products.[8] Crop protection products (pesticides) are crucial to modern integrated pest management techniques and systems used by farmers. These tools include fungicides, herbicides and insecticides which are critical in maintaining and improving Australia's agricultural productivity to meet future global food security challenges.

CropLife's members are world-leading innovators, developers and manufacturers of pesticides derived from both natural and synthetic sources, as well as biologically based compounds and ingredients. Regardless of the source of the pesticide, all are rigorously assessed for safety, efficacy and any potential harm to humans or the environment.

[3] W Chancellor and C Boult, "Australia's farm productivity slowdown – why it matters, and what it means for policy makers", (ABARES Insights, Issue 2, July 2024) DOI: https://doi.org/10.25814/dcvj-7934.
[4] ABS, "Monthly Consumer Price Index Indicator" https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/monthly-consumer-price-index-indicator; and AUSVEG, 'Pricing and inputs: July 2025' https://ausveg.com.au/article/pricing-and-inputs-july-2025/.
[5] https://www.who.int/en/news-room/fact-sheets/detail/pesticide-residues-in-food
[6] https://www.un.org/en/dayof8billion
[7] http://www.fao.org/fileadmin/templates/wsfs/docs/Issues_papers/HLEF2050_Global_Agriculture.pdf
[8] Deloitte Access Economics, 'Economic Contribution of Crop Protection Products in Australia', August 2023, https://www.croplife.org.au/resources/reports/economic-contribution-of-crop-protection-products-in-australia/.

What is the role of crop protection products (pesticides) in food security

Herbicides - pesticides that kills unwanted plants (weeds) so crops can flourish. Weeds and other invasive plants are the most damaging pests for many agricultural crops because they compete for vital nutrients, space, water and sunlight and can seriously reduce both quantity and quality of food crops.

Insecticides - pesticides that control insects that could damage crops by eating them or infecting them with diseases. Fighting these pests is difficult in part because of the wide variety of insects and because new invasive species are continually being introduced, either as "hitchhikers" at the border or naturally through the environment. As climate change moves ecoregions and habitat into hitherto unfavorable climates, the natural incursions of these pests will continue, most recently with notable pests such as the fall armyworm and serpentine leafminer. Insecticides protect against insects like locusts, lawn-devouring grubs, tree-smothering caterpillars, maggots that tunnel through fruit crops and moths/aphids that can devastate grain crops.

Fungicides – pesticides that protect plants from disease-causing organisms called fungi, like the one that caused the infamous Irish potato famine of the 1800s. In people's home gardens, roses, tomatoes and peppers are particularly susceptible to fungi. On a farm, fungal disease can spread quickly from one plant to destroy an entire field.

The total cost of weeds across Australia is estimated at over $5 billion.[9] Chemical control costs across broad acre cropping enterprises combined with production losses among grain, beef and wool industries make up most of these expenditures, corresponding to a value of produce resulting directly from herbicide use at $8.3 billion per annum. Aggregated across the six major Australian grain crops in 2013, the estimated annual loss of food crop quantity and quality due to insect pests totaled $359.8 million annually.[10] Over $8 billion worth of food across all Australian crops is grown, harvested and consumed as a result of insecticides use to manage crop losses by insect pests[11]. Finally, losses of both quantity and quality of food crops due to infection by various fungal, bacterial and viral plant diseases in Australian grain crops are valued

[9] Deloitte Access Economics, 'Economic Contribution of Crop Protection Products in Australia', August 2023, https://www.croplife.org.au/resources/reports/economic-contribution-of-crop-protection-products-in-australia/; and Oerke E.C. Crop losses to pests. J. Agric. Sci. 2006;144:31–43.

[10] Dave A. H. Murray, Michael B. Clarke and David A. Ronning, *The current and potential costs of invertebrate pests in grain crops* (GRDC Report, 2013) https://grdc.com.au/resources-and-publications/all-publications/bookshop/2013/02/the-current-and-potential-costs-of-invertebrate-pests-in-grain-crops.

[11] Oerke E.C. Crop losses to pests. J. Agric. Sci. 2006;144:31–43.

at between $920 million to $1 billion per annum – an $80 million increase since 2010.[12] Using fungicides to manage these diseases is estimated at generating $11.7 billion in food and grains annually.[13]

The products of the plant science industry are crucial to maintaining and increasing food production in Australia. Pesticides have a double role in protecting Australia's biosecurity during containment and eradication of invasive species which could cause catastrophic implications for sustained food production. One recent example is the deployment of insecticide treated baits to prevent the spread of Red Imported Fire Ants in Queensland and NSW. Pesticides are also crucial in managing and mitigating established weeds, diseases and insect pests. The tools and technology of the plant science industry will continue to be indispensable in anchoring Australia's food security. These tools include the fungicides, herbicides and insecticides which are critical in maintaining and improving Australia's agricultural productivity to meet future global food security challenges.

A recent study by researchers at the CSIRO and Flinders University demonstrated that invasive plants are the costliest pests in Australia, costing $200 billion since 1960.[14] In 2021, the Invasive Species Council's report 'Glyphosate: A Chemical to Understand' highlighted that herbicides offer the only truly 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.[15] The deployment of pesticides in safeguarding Australia's magnificent biodiversity also indirectly supports the long-term sustainability of food production in Australia. A biodiverse landscape is a resilient landscape, better able to absorb and mitigate pest outbreaks.

The current regulatory system for agricultural chemicals in Australia is scientifically competent, technically proficient and globally recognised. However, regulation of the registration and use of crop protection products in Australia must also be efficient and effective so that famers, environmental land managers and municipalities across Australia have access to the innovative tools the plant science industry provides. Each of these products is rigorously assessed by the Australian Pesticides and Veterinary Medicines Authority (APVMA) to ensure they are safe to use and present no unacceptable risk to applicators, consumers, the community as a whole, the environment or Australia's domestic and international trade of agricultural produce. Access to fewer crop protection tools would facilitate faster development of resistance among targeted pests, diminishing the efficacy of remaining chemical options.

[12] https://www.ccdm.com.au/about/
[13] Oerke E.C. Crop losses to pests. J. Agric. Sci. 2006;144:31–43
[14] 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>.
[15] https://invasives.org.au/wp-content/uploads/2020/11/Glyphosate-A-Chemical-to-Understand.pdf

In 1995, it took the assessment of 52,500 compounds to develop one effective new pesticide chemical active constituent. It now requires the assessment of more than 160,000 compounds and expenditure of more than $400 million ($301m USD) over a 12-year period to bring just one successful pesticide to the market in the major markets of the EU and North America. More than one-third of this cost directly relates to compliance with regulation and registration requirements.[16] Additional investment is then required to conduct Australian relevant trials and to fund the regulatory framework through cost recovery frameworks for the APVMA prior to Australian farmers obtaining access to a new pesticide technology.

However, without access to these tools, farmers could lose as much as 50 per cent of their annual production to pests, weeds and diseases, and environmental land managers would have no ability to prevent, eradicate and manage threats to the natural environment. Therefore, in order meet the imperative of maintaining and increasing Australia's food production capability to underpin food security, it is essential that our policy settings and the operational performance of the APVMA do not act as a disincentive to this commercial investment.

Ensuring efficient, effective, predictable and timely implementation of regulation of pesticides is important to ensure stakeholders have access to innovative tools to use on the ground mitigate both endemic and invasive species; be they plant, insect or pathogen. Above all, this requires an efficient, adaptive and science-based regulatory environment to encourage both continued innovation in next-generation tools, but also support for existing, proven, effective and safe solutions.

GM crops, an application of modern biotechnology, play a crucial part in food security; representing the next natural stage in centuries of plant breeding innovation. Their use is a step along the same path of technological innovation that led to Australian agricultural inventions such as the combine harvester and the adaptation of wheat varieties to the Australian environment that began with William Farrer's *Federation*.

The utilisation of GM crops has delivered significant productivity and environmental sustainability improvements in farming. Over 400 million hectares of GM crops have been cultivated worldwide since 1996 and over 1 trillion meals containing GM food ingredients have been consumed globally. GM crops are the most tested and regulated food product in history. There are no substantiated scientific reports of any food safety issues related to the consumption of genetically modified crops, nor any unexpected effects on ecosystems.

The development, planting and consumption of an approved GM crop is safe. Every scientific and regulatory body that has examined the evidence has arrived at the conclusion that GM crops and the foods they produce are as safe as their conventional counterparts. This includes the World Health Organization, the Australian Academy of Science, the

16 https://croplife.org/wp-content/uploads/2024/02/Time-and-Cost-To-Market-CP-2024.pdf

European Commission, the American National Academy of Sciences and the Royal Society of Medicine.

Since being first commercially cultivated in Australia in 1996, GM crops have contributed to global food security, sustainability and helped farmers to adapt to and mitigate climate change by:

- Increasing the value of crop production by US$186 billion.[17]
- Reducing pesticide usage (kg active ingredient) by 671 million kg.[18]
- Reducing CO_2 emissions in 2018 alone by 27.1 billion kg (equivalent to taking 16.7 million cars off the road for one year, more than all the passenger vehicles registered in Australia; and 86% of all vehicles registered in Australia). [19]
- Increasing the incomes of more than 17 million small farmers and their families, some of the poorest people in the world, helping to alleviate poverty.[20]

GM crops have also helped farmers financially. Globally, GM technology directly increased farm income by US$18.2 billion in 2016,[21] with over half the gains going to farmers in developing countries[22]. According to the meta-analysis published by Klumper and Qaim, GM crops have reduced pesticide use by 37 per cent (in turn, reducing emissions), while increasing crop yields by 22 per cent and increasing farmer profits by 68 per cent[23].

GM crops under research and development in Australia will help our farmers address the unprecedented challenges they are facing in a changing climate. GM traits being investigated at the national level will be crucial tools for farmers to combat drought, soil acidity and/or salinity, as well as 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.

One threat to the potential success of this important agricultural innovation is the frustratingly slow implementation process following the Third Review of the National Gene Technology Scheme. The delay in implementing agreed reforms means that the Scheme has not kept pace with advances in technology, providing roadblocks to the investment that

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

16 *Ibid.*

19 *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.*

18 *Ibid.*

21 *Brookes and Barfoot (2018) Op. Cit.*

22 *ISAAA (2019) Op. Cit.*

23 *Klümper, W. and Qaim, M., (2014). 'A meta-analysis of the impacts of genetically modified crops'. PloS one, 9(11), p.e111629.*

will enable the benefit of these technologies to be available to Australian farmers and consumers. An adaptive, future-oriented National Gene Technology Scheme is urgently needed. This future-proof Scheme needs to be informed by the accumulated knowledge and experience gained from previously assessed GMOs and applied to similar newly developed products. This will help 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.

The removals of GM crop moratoriums in South Australia is a best-practice example of how crucial it is to base regulatory decisions on science. After being denied opportunities for over two decades, farmers in South Australia can choose which cropping systems best suit their business operations. To give the agricultural sector a chance to achieve its goals, science-based regulation must remain at the forefront of all government policies.

Without new, innovative agricultural products, Australian agriculture's productivity cannot grow, nor face the challenges of a changing climate. Crop protection and GM products are core components of agricultural innovation, enabling Australian farmers to be better equipped while facing unprecedented challenges, to remain competitive internationally, to benefit the Australian economy and to address global food security issues.

What is counter-productive, however, is the application of unscientific, ideological concepts to the issue of food security.

Case study: Sri Lanka, pushed to the brink by an organic agenda

The Sri Lankan Government was recently coerced into a dogmatic and ideological agricultural policy by affluent foreign activists peddling failed philosophies. Following several years of consultation with and influence from prominent, well-funded international activists, Sri Lanka abruptly banned the importation and use of synthetic pesticides and synthetic fertilisers. Far from securing Sri Lanka's long term food supply, yields of staple and export crops (namely rice and tea) collapsed by nearly half. The catastrophic loss of revenue resulting from a failure of agricultural production hit every aspect of life in Sri Lanka: inflation exceeded 50 per cent, basic utilities become unavailable, supplies of critical medical goods and infrastructure dwindled to zero. Far from becoming the "all-natural utopia" conceived by aristocratic lecturers, $450 million (AUD) worth of rice needed to be imported to a nation which was previously self-sufficient in that commodity.

Domestic and international agricultural scientists and experts had warned the ban was unscientific, and potentially catastrophic. The most dire of these predictions came true, as global relationships between food production and pest infestation essentially mirrors the above data. Simply, the food demands of 8 billion people exceed the natural capacity of the land to provide it. Synthetic inputs including pesticides and fertiliser will be required to maintain and increase food production, as the effect of weeds, insects and diseases continue to compromise food quality and quantity.

3. THE ROLE OF BIOSECURITY IN FOOD SECURITY

Invasive, exotic weeds, insects and diseases would not only be catastrophic to Australia's food production but also cause significant damage to Australia's unique and fragile environment if they become established. Vigilant monitoring for the arrival and introduction of these species is required to inform stakeholders of the threats they pose.

Between 2012 and 2017, the annual number of interceptions of biosecurity risk materials at Australian borders rose by almost 50%, to 37,014[24]. The NSW DPI notes that insect and disease introductions into Australia have quadrupled in the last five years, forming an increasing upward trend.[25] This underpins the need for effective partnerships across government, industry, research bodies, the private sector and non-government organisations to intercept and mitigate these burgeoning threats, in a level appropriate to the risks they present.

[24] https://www.igb.gov.au/sites/default/files/documents/qid52820_igb_interceptions_and_incursions_report_-_final_1.pdf
[25] https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/1414505/Consultation-Draft-Biosecurity-and-Food-Safety-Strategy-2022-2030.pdf

The plant science industry is critical to meeting the challenges of the future and addressing emerging biosecurity and food safety threats. This includes developing disease and pest resistant crops, as well as new and novel pesticides, including biological control agents. This includes an ongoing commitment to stewarding existing products through understanding of antimicrobial and pesticide resistance and zoonotic pathways, as well as the development of resistance management strategies. This commitment to stewardship is expanded, below. These partnerships of industry technical experts in Australia and globally, as well as state department and university scientists, demonstrate the value of these partnerships, both ongoing and as a pillar of sustainable food security and production.

Vigilant monitoring for the arrival and introduction of invasive pests, including insects, weeds and diseases, as well as education, is required to inform stakeholders of the threats they pose. Investment in people, partnerships and knowledge and information systems to improve performance and meet current and emerging challenges will help build the capability and capacity prepare for and prevent novel pest incursions which threaten food security. It is important to note and utilise the APVMA's capacity to provide emergency permits and registrations to prepare for the predicted incursions of biosecurity threats. Many examples exist and are held by various national, state and territory departments, but also Research and Development Corporations and industry bodies to avoid regulatory delay in the deployment of chemical interventions to mitigate and manage new threats.

4. DOMESTIC MANUFACTURING CAPACITY AND SUPPLY CHAIN RESILIENCE

Given the crucial nature of crop protection products in securing and bolstering farming production and supply, the essential role of pesticides in achieving food security cannot be underestimated.

The IBISWorld Australia 2020 report cited that imports of pesticides currently account for 52 per cent of the Australian market. It is further true that for the remaining amount, only a small amount of technical active ingredient is manufactured in Australia and that the domestic manufacture of pesticides is predominantly the formulation of imported ingredients. This means imports from a small number of nations; China, the United States, Japan, Thailand, India and Germany account for the majority of the imports of important constituents of crop protection products.

However, this recognition does not demand a self-sufficient approach to the manufacture of vital crop protection products. Despite Australia's producers growing similar crops and facing similar pest and disease challenges to producers in other

countries, the Australian crop protection market is less than five per cent of the Global Market compared to other OECD markets such as the US and EU, which are each around seven times larger.[26] This indicates that, from a food security perspective, it is important to recognise Australia's role in extensive and complicated global supply chains and this is a matter which should be evaluated and prioritised to support existing production capability and capacity.

Recent crises, not limited to the COVID-19 pandemic, have caused the single greatest disruption to global food supply in generations. Throughout, the Australian agriculture sector has delivered continuity in supply of safe and nutritious food, feed and fibre to domestic and global markets, while managing the challenges associated with access to critical farm inputs. The supply chains for crop protection products are long, encompassing imports through various nations and means. The delivery of these products is extremely time sensitive. Owing to the biology of plant growth and development, crop programing by farmers, as well as the ecology of pest species such as weeds, pathogens and insect predators, even slight delays in the availability of these products could have catastrophic implications for crop yields.

To continue to combat the threat of not only food and nutritional insecurity but the impacts of climate change and increasing production costs, while remaining internationally competitive, farmers must have predictable, reliable and timely access to the latest safe and proven agricultural technologies and innovations. Maintaining and strengthening domestic supply chains, while promoting and incentivising diversification is critical in achieving Australian – and global – food security.

5. QUESTIONS FOR DISCUSSION

1. What other principles should government, industry and community prioritise?

CropLife supports the four principles that are outlined within the Discussion paper.

With regard to the principle on the strategy being collaborative, CropLife acknowledges that many levers within the food system can only be exercised by members of industry and the community and there is strength in shared ownership. However, there are some roles that can only be exercised by Government, whether through policy settings or programs that support market operation or deliver in areas of market failure. Where this is the case, there is a requirement for Government to step into these roles with a sense of urgency and accountability.

[26] Deloitte (2019) Agvet Chemicals – Market Drivers and Barriers

In addition to the four areas identified, CropLife supports the addition of a principle focused of evidence-based action. This should underpin the identification and delivery of imperatives and tactics under the strategy that support the following outcomes:

- Science-based regulation: Policy must remain anchored in robust, evidence-based assessments, avoiding ideological or unscientific restrictions that undermine productivity.
- Innovation enablement: The strategy must explicitly prioritise access to new technologies: crop protection tools, GM traits, digital agriculture—to build resilience and reduce vulnerability.
- Stewardship and resistance management: Long-term food security requires investment in resistance management strategies, industry stewardship programs, and public–private collaboration.
- Global alignment**:** Australia should continue to champion harmonised international standards (Codex, IPPC, OECD, WHO/FAO) to ensure market access and export competitiveness.

2. What timeframe should the strategy work towards?

The strategy must work to the longer term to ensure there are the processes in place to guide evidence-based adaptation in the food system in response to changes in the environment, international trade and the geo-political outlook. Towards this longer-term perspective, the strategy should establish plans to deliver against the short term, medium term and long term objectives. The following outlines priorities of the plant science industry that should be dealt with across these horizons.

- **Short term (1–2 years):**

  Identify and address threats and vulnerabilities to the supply chains that are required to ensure continued access to critical farm inputs, such as pesticides.

  Improve APVMA resourcing to support timely and predictable approvals that underpin the delivery of new technologies to the farm sector.

  Implement agreed recommendations that would ensure Australia's regulatory framework for gene technology has risk proportionate pathways to approval.

- **Medium term (5–10 years):** Expand adoption of next-generation crop protection products, gene technologies, and minor-use solutions to bolster resilience.
- **Long term (10+ years):** Future-proof regulation of gene technology, embed sustainability practices, and maintain a globally competitive, innovation-driven food system.

3. Current or planned initiatives to improve food security

- CropLife and its members are actively delivering initiatives that strengthen Australia's food security through innovation, stewardship, and global alignment. Members invest heavily in R&D

for next-generation pesticides and GM traits addressing drought, salinity, soil health and disease resistance—critical challenges for climate-smart farming and food production.

- International Standards and Market Access. Ongoing representation in OECD, Codex, and FAO/WHO processes to ensure Australian regulations remain harmonised with international benchmarks, safeguarding export access and market confidence.
- Partnerships with CSIRO, universities, and RDCs to accelerate access to novel technologies for Australian farmers.
- Biosecurity Response Readiness: Active collaboration with DAFF, state departments and APVMA to ensure emergency permit systems function effectively, allowing rapid deployment of critical tools against incursions such as fall armyworm, serpentine leafminer, and varroa mite.

4. Do the proposed key priority areas and whole-of-system considerations adequately represent the actions needed?

Yes, but with gaps. The three key priority areas are necessary but not sufficient. Missing elements include:

- Explicit recognition of agricultural innovation and access to both domestic and international R&D pipelines as essential to productivity and climate resilience.
- Support for science-based regulatory frameworks (APVMA, OGTR, FSANZ) as a foundation for trust, safety, and global competitiveness.
- Food system stewardship (resistance management, product lifecycle responsibility, sustainable use) as a distinct enabling factor.

5. What actions could the strategy take to address challenges under each key priority area?

- **Competition and cost of living:**
    - Enable access to cost-effective crop protection and biotechnology solutions to reduce production costs and support the production of fresh produce necessary to place downward pressure on food inflation.
    - Focus on implementation of Australia's science-based regulation of crop protection products and biotechnology in a way that does not arbitrarily restrict input choices of a farm business (case study: Sri Lanka's failed organic-only policy).
- **Resilient supply chains:**
    - Ensure continuity of supply of crop protection products and biotech traits through policy that supports a mixture of maintaining the existing manufacturing base and

creating a diversified import pathways for both formulated product and active in recognition of Australia's reliance on global active ingredient production.

- Strengthen emergency permit processes for rapid deployment of tools during biosecurity crises.

- **Productivity, innovation and growth:**
  - Invest in R&D for pest-and climate-resilient crops (GM and non-GM).
  - Support private investment in the local R&D and regulatory activities that are required to bring the benefits of international research and commercialisation activities to Australian farmers. This includes:
    - Improving regulatory efficiency, predictability and cost efficacy at the APVMA to reduce the impact of delays in product approval on both farm productivity and the business case for investing in commercialising a new pesticide in Australia.
    - Implement risk tiered regulatory pathways for gene technology to ensure risk proportionate approval processes that can adapt to the growing safety and benefit of newer gene technologies.
    - Strengthen IP arrangements to support the business case for the investment necessary to commercialise plant science products and innovations in Australia. This supports dealing with the relatively small nature of the market and the cost of regulatory delay on the business case for investment.
  - Encourage international collaboration on innovation adoption.

6. What actions could the strategy take to address challenges under whole-of-system considerations?

- **Climate change and sustainability:** Promote adoption of decarbonisation technologies such as GM crops emissions, pesticide-enabled conservation tillage practices that deliver low emissions intensity production, best practice climate change adaptation and support soil carbon retention in crop lands, and integrated pest management systems that improve resource efficiency.
- **Health and nutrition:** Recognise that crop protection products and biotech innovations protect food quality, nutritional value, and safety by preventing spoilage, contamination, and crop loss.

- **Trade and market access:** Defend science-based MRLs and harmonisation with Codex to safeguard Australia's reputation and export competitiveness.
- **People:** Ensure farmers and regional communities have access to modern technologies that reduce labour burdens and support sustainable livelihoods**.**

6. CONCLUSION

CropLife is pleased to provide these comments to the National Food Security Strategy: discussion paper. The National Food Security Strategy must be ambitious yet practical. It should be anchored in science, support innovation, and recognise the indispensable role of plant science in ensuring both domestic and global food security. Without access to modern agricultural innovations, Australia risks diminished productivity, increased vulnerability to climate and biosecurity threats, and reduced competitiveness in global markets.

The essential role of pesticides in delivering Australia's long-term food security, whether they be synthetic, organic, or biologic in origin, is well founded in science. While it is rightly the choice of each farming business, smallholder farms employing niche, organic production cannot replace modern, science-based agriculture in supplying the ever-increasing quantity of food demanded by a growing population.

By this same token, however, all safe, sustainable and productive food systems have a role to play in anchoring food security. Organic and conventional production practices are not mutually exclusive; rather they are part of a broader spectrum of practices, procedures, and products. Pesticides will continue to prevent large crop losses globally and support increased global food production to meet the needs of a hungry and growing world population. This is not limited to agricultural production; it includes environmental conservation and fostering human health through effective management of insects and diseases. CropLife will continue to work collaboratively with all stakeholders; government, farmers, consumers, and environmental land managers, in delivering Australia's food security. The products and innovations of the plant science continue to foster and enable Australia's goal of producing $100 billion in farm gate output by 2030, which will be a crucial step in providing long-term global food security.