

The Presiding Commissioner
Public Inquiry – Opportunities in the Circular Economy
Productivity Commission
4 National Circuit
BARTON ACT 2600

11 April 2025

Dear Presiding Commissioner

RE: CROPLIFE SUBMISSION TO THE PRODUCTIVITY COMMISSION'S INTERIM REPORT ON AUSTRALIA'S CIRCULAR ECONOMY: UNLOCKING THE OPPORTUNITIES

CropLife Australia welcomes the opportunity to provide feedback on the Productivity Commission's interim report on Australia's opportunities in the circular economy.

We are pleased to see that the interim report reflects several key points raised in CropLife's original submission (Submission No. 95), including:

- Recognition of the plant science industry's long-standing, industry-led product stewardship initiatives, **drumMUSTER®** and ChemClear®;
- Reinforcement of previous findings regarding the ineffectiveness of the co-regulatory product stewardship scheme for product packaging, established under *the National Environment Protection (Used Packaging Materials) Measure 2011*;
- Acknowledgement of the need for regulatory consistency and reduced compliance burden. CropLife refers the Commission to page 4 of its original submission, which outlines a potential mechanism for reporting and monitoring of circular economy targets through Agsafe, CropLife's wholly-owned stewardship services provider; and
- Support for improved government funding models that better incentivise circular innovations.

Although the interim report provides valuable insights, we are concerned that the report's treatment of the Australian agricultural sector does not fully align with current scientific consensus.

Recognising Australia's global leadership in sustainable agriculture

Australia's agricultural sector is internationally recognised for its leadership in sustainable production. However, the report's framing of cropping as an emissions-intensive sector (page 84) does not sufficiently account for the substantial progress made in resource efficiency, emissions reduction and waste minimisation.

Modern plant science technologies – including precision application tools, integrated pest management systems and low-toxicity formulations – have significantly reduced the environmental footprint of pesticide use. Australian farmers apply these tools responsibly, delivering demonstrable productivity and sustainability benefits. Research from ABARES, the Grains Research and Development Corporation and the CSIRO confirms that these innovations enable Australian farmers to produce higher yields with fewer inputs, reduce land use and lower greenhouse gas emissions.^{1,2,3,4} Further, US research demonstrates the explicit role of pesticides in enhancing productivity and significantly reducing pressure on water, land and energy use.⁵

Environmental impacts must be acknowledged, but it is equally important that the Commission considers the productivity gains, improved input efficiency and avoided environmental costs (including avoided deforestation) enabled by modern agricultural practices. These are fundamental contributions to a circular economy, facilitating the production of more food using fewer natural resources.

On “regenerative agriculture”

CropLife advises caution regarding unqualified endorsement of any single farming system, including “regenerative agriculture” (page 85), in the absence of robust scientific and economic evidence. Many regenerative practices align with established sustainable intensification methods already employed by Australian farmers. As such, policy frameworks should remain outcomes-based, focusing on measurable improvements in soil health, water use efficiency, biodiversity conservation and emissions reduction, while simultaneously delivering social and economic benefits.

For example, nitrogen use efficiency illustrates the importance of balancing productivity and environmental outcomes. Weeds compete for applied nitrogen, reducing crop uptake and prompting additional fertilizer applications. Responsible herbicide use mitigates this inefficiency, lowering input requirements and associated greenhouse gas emissions, while contributing to improved soil and water quality.

¹ Maartje Sevenster et al., “Australian Grains Baseline and Mitigation Assessment” (CSIRO, January 2022), <https://publications.csiro.au/publications/publication/Plcsiro:EP2022-0163>.

² Department of Agriculture, Fisheries and Forestry and ABARES, “Environmental Sustainability and Agri-Environmental Indicators – International Comparisons,” July 2023, <https://www.agriculture.gov.au/abares/products/insights/environmental-sustainability-and-agri-environmental-indicators>.

³ Stephen M. Ogle et al., “Climate and Soil Characteristics Determine Where No-Till Management Can Store Carbon in Soils and Mitigate Greenhouse Gas Emissions,” *Scientific Reports* 9, no. 1 (August 12, 2019): 11665, <https://doi.org/10.1038/s41598-019-47861-7>.

⁴ G. B. Triplett Jr. and Warren A. Dick, “No-Tillage Crop Production: A Revolution in Agriculture!,” *Agronomy Journal* 100, no. S3 (2008): S-153-S-165, <https://doi.org/10.2134/agronj2007.0005c>.

⁵ Greg Thoma et al., “Life Cycle Assessment of Impacts of Eliminating Chemical Pesticides Used in the Production of U.S. Corn, Soybeans, and Cotton,” April 12, 2024, <https://static1.squarespace.com/static/5faeee45a363746603d1c6e1/t/661e95a6e057f947a1185c5e/1713280424229/CLA+LCIA+ISO+Finalized+Report.pdf>.



Farm waste management to food loss prevention

Preventing food loss presents an equally important opportunity alongside food waste management. Losses arising from pests, disease, adverse weather events and post-harvest degradation represent significant inefficiencies. ABARES data from 2022-23 showed that 63 per cent of Australian horticulture farms reported crop loss due to weather events and 35 percent to pests and diseases.⁶

Crop protection products and biotechnology tools play a crucial role in reducing these losses. By enabling farmers to bring a greater proportion of crops to market, these innovations lower emissions intensity, improve the efficient use of inputs and enhance food security.

Biotechnology and emissions reduction opportunities

The interim report correctly identifies biotechnology's role in developing sustainable protein sources and reducing emissions from livestock (page 85). However, it overlooks the significant and proven benefits of existing crop biotechnology innovations.

Crop biotechnology has been instrumental in supporting the widespread adoption of minimum and no-till farming systems, reducing soil disturbance, improving soil water retention and lowering emissions from land preparation. These technologies also enhance resilience to pests, diseases and climate variability, helping to reduce crop losses and contributing to food security. Importantly, these are scalable and readily available, offering immediate opportunities to improve emissions performance and resource efficiency within Australia's circular economy.

A truly circular economy must go beyond waste management and actively prevent waste generation from the outset. CropLife would welcome the opportunity to engage further with the Commission on these matters. Please do not hesitate to call me to further discuss or have a member of your staff contact CropLife's Director of Government and Strategic Relations, Mr Justin Crosby

Yours sincerely

Matthew Cossey
Chief Executive Officer

⁶ ABARES, "Crop Loss/Waste on Australian Horticulture Farms, 2022-23," June 25, 2024, <https://www.agriculture.gov.au/abares/research-topics/surveys/horticulture-crop-loss-22-23>.