



Economic contribution of crop protection products to Australia



5 September 2023

Purpose of this presentation

Deloitte Access Economics was engaged by CropLife Australia to undertake a study on the economic contribution of crop protection products (CPPs) to Australia.

Economic contribution

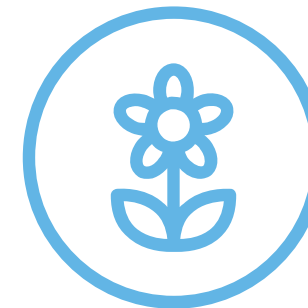
- Direct and indirect contribution of value-added to Gross Domestic Product (GDP)
- Direct and indirect employment attributable to the CPP industry

Attributable crop production

- Percentage of total crop value attributable to CPPs
- Sum of attributable value of production for field crops (broadacre agriculture), vegetables, fruit, nuts and other crops

Research on broader benefits

- Wider social and environmental benefits to Australia of CPPs outside the economic and agricultural values



Economic contribution

Deloitte Access Economics utilised input-output modelling to determine the economic contribution of CPPs to Australia.

In 2022, \$5.1 billion worth of CPPs were sold in Australia, generating a total of:



10,450 FTE jobs
(4,615 direct, 5,835 indirect)

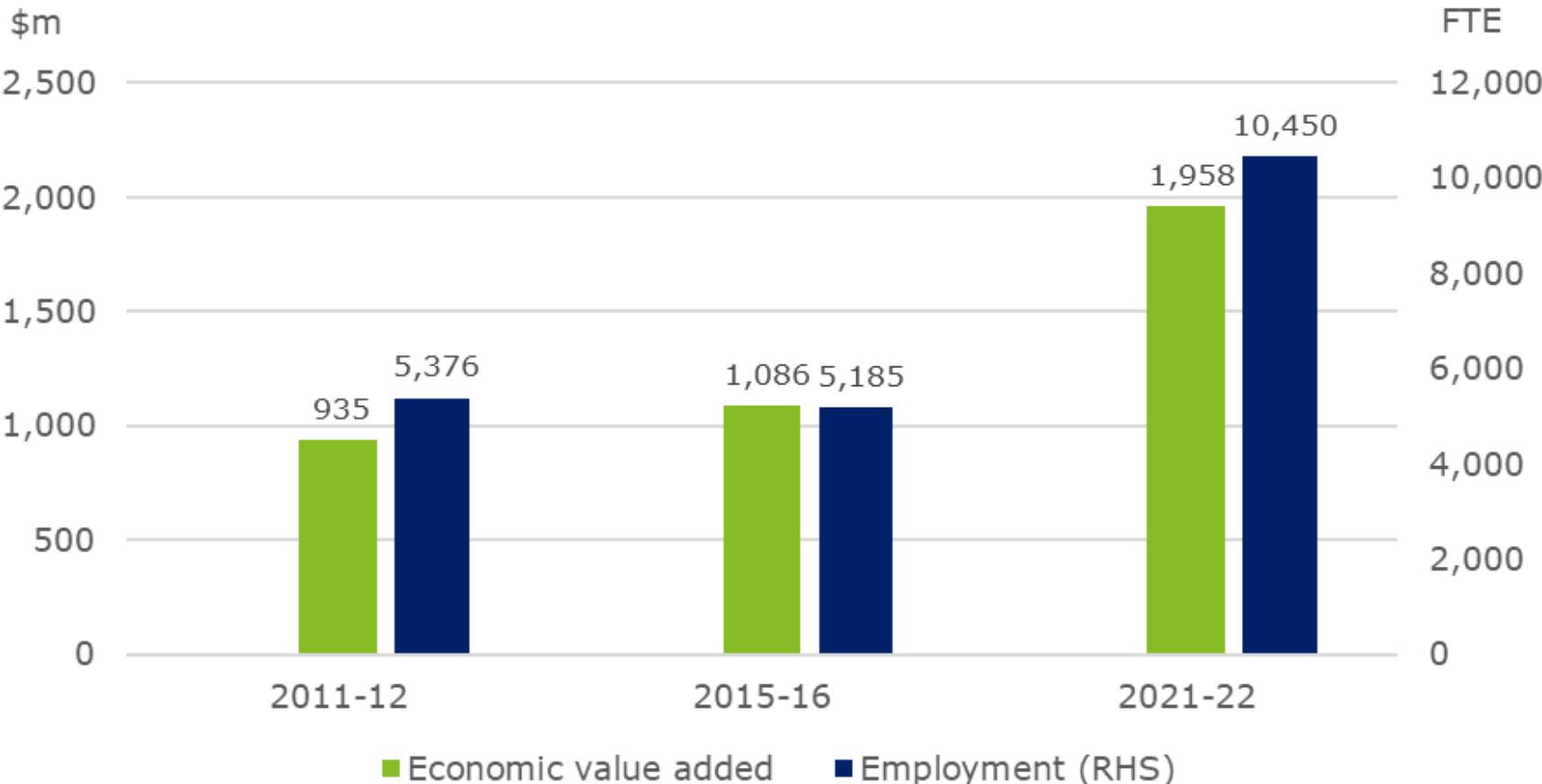


\$1.9 billion in gross value added (GVA)
(\$955m direct, \$1b indirect)

Economic contribution

The contribution of CPPs to the Australian economy has grown significantly.

Contribution of the CPP industry to the Australian economy, 2011-12, 2015-16 and 2021-22



Attributable crop production

A vast amount of Australian crop production is attributable to CPPs.

In aggregate, it is estimated that \$31.6 billion of cropping production is attributable to the use of CPPs, or 73 per cent of the total value of crop production in 2020-21.

Estimated value of crop production attributable to CPPs

	Total CPP (\$m)	% of total
Field crops (broadacre)	12,292	53.7%
Vegetables	6,900	92.0%
Fruit and nuts	11,070	93.5%
Other crops	1300	56.7%
Total	31,562	73.0%

Broader benefits of CPPs

In addition to generating employment and economic activity, CPPs offer broader benefits to Australia.

CPPs offer broader social benefits to Australia outside of the economic and crop production values discussed above. Whilst not quantified in this report, these form part of the broader role of CPPs in the Australian economy.

- 1 Community benefits from non-agricultural uses
- 2 Benefits to the climate and environment
- 3 Food security and biosecurity benefits
- 4 Spillover benefits to R&D

Broader benefits of CPPs

Community benefits and non-agricultural uses

~15% of all CPPs are used by households, local councils and other non-agricultural users.



Households

Gardening and lawn maintenance



Sporting facilities

Golf courses, football ovals



Local government

To control weeds and other invasive species

Broader benefits of CPPs

Environmental protection and climate benefits

CPPs contribute to environmental protection and climate benefits in three ways:

Herbicide enabled no-tillage practices

- **Minimised soil degradation**, enhanced water conservation and nutrient retention.
- **Avoiding burning fossil-fuels** to power machinery required for tillage.
- **Lessens the amount of greenhouse gases** that are released from the soil.

Invasive weeds

- CPPs such as herbicides and fungicides can be used to **control the spread of these invasive weed species**, helping to preserve Australian crops as well as native flora and fauna.

Deforestation

- **Reduces deforestation** in other parts of the world to accommodate the required increase in food production.
- This **avoids any greenhouse gas emissions** and nature loss that would be associated with this land use change.

Broader benefits of CPPs

CPPs alleviate domestic and global food security pressures

In April 2021, the Sri Lanka Government imposed a ban on importing and using conventional agricultural chemicals including pesticides. Since the 1960s, Sri Lanka has utilised synthetic CPPs in agricultural production, and this has made the country largely self-sufficient in rice crops.

After the pesticide ban in Sri Lanka:



- **80 per cent** of farmers had to **pay higher prices** for conventional pesticides and 79 per cent were not able to purchase products at all.



- **20 per cent reduction** in rice production; and the production of tea (one of Sri Lanka's largest exports) fell by 18 per cent.



- **Over 80 per cent** of farmers reported a **higher weed infestation**, over 70 per cent noticed higher insect activity and 77 per cent experienced a higher disease infestation in their crops.



- **Food inflation reached 95 per cent** in September of 2022, ranking Sri Lanka among the top five countries for high food price inflation. This has led to **37 per cent** of the Sri Lankan population experiencing **food insecurity** in August 2022.

Broader benefits of CPPs

Contributions to scientific research and development.

Although the primary objective of CPP development and use is for agricultural productivity, it can also provide spill over benefits to other related industries. For example, CPP research enables innovation in adjacent fields, such as biosecurity and pest control.

Research institutions and organisations



- Their research investigates **methods to protect these crops as well as native plants from threats from pathogens, pests and weeds**, as well as understanding disease resistance genes.

Importance of research into CPPs

- Conducting this research can create revenue streams that contribute to the overall operation of the institute as well as **providing opportunities for innovation** and new products and businesses.
- DemAgtech (a new institution) have commercialised herbicides that were researched and developed at the University of Western Australia, and aim to continue to **develop products that address increasing herbicide resistance** in Australia.



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