CropLife Australia

April 2021

Vulnerable Supply Chains
Productivity Commission Interim Report

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 innovators, developers, manufacturers and formulators of crop protection and agricultural biotechnology products. CropLife's membership is made up of both patent holding and generic, large and small, Australian and international companies and accordingly, CropLife advocates for policy positions that deliver whole of industry benefit. Our focus is on an Australian agricultural sector that is internationally competitive through globally leading productivity and sustainability achieved via access to the technological innovations of the plant science sector.

The aforementioned products of the plant science industry 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 country[1]. Meeting the challenges presented by sustainably increasing food production for growing global demand requires science-based policies that support all farming production systems and the manufacture, supply and application of the tools of the plant science sector. These include chemistry and biotechnology, the opportunities of which extend far beyond the agriculture sector with applications in medicine, environmental management and industrial processing.

Recent crises, not limited to the ongoing 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, supply chain services, an agricultural workforce and border restrictions. These ongoing circumstances have highlighted the need to examine the vulnerability of supply chains for Australia to be prepared, responsive and resilient under such circumstances. It has also shown where opportunities lie for Australian agriculture. The safe and effective technologies of crop protection products and biotechnology innovations have an increasing role in meeting and mitigating food supply challenges as the pandemic impact on global economies endures. The pandemic has not only highlighted the value of technological advances, such as those that facilitated the rapid development and public access to several vaccines, but the importance of the political and logistical environment being prepared, responsive and resilient throughout dynamic and unpredictable border, transportation and trade affairs.

[1] https://www.croplife.org.au/wp-content/uploads/2018/04/Deloitte-Access-Economics-Economic-Activity-Attributable-to-Crop-Protection-Products_web.pdf

Australian farmers produce almost 93 per cent of Australia's daily domestic food supply,[2] with each farmer producing enough food to feed 600 people, 150 at home and 450 overseas. 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. This includes access to agricultural biotechnology innovations, as well as biological and chemical crop protection products. Crop protection and biotechnology solutions can assist farmers to produce high yields with fewer natural resources by reducing water consumption, increasing nutrient uptake and reducing reliance on any single input, practice or production tool.

A truly productive, competitive and sustainable agricultural industry in Australia can only be achieved with access to innovations such as those the plant science sector delivers for Australian farmers. Chemical crop protection products and crop biotechnologies are crucial to modern farming. It is essential that government and industry work together to ensure the continued access to and supply of crop protection products and services. Identifying and evaluating the vulnerable supply chains in agricultural production will support Australian farmers to remain globally competitiveness and maintain a safe, plentiful and reliable food supply for both Australia and export markets.

It is important that when evaluating vulnerabilities in supply chains for critical goods to the Australian economy, the vital sectors of crop production in the development of a safe and secure food system are appropriately considered and measured.

[2] National Farmers Federation (2018). Food, Fibre and Forestry facts. A Summary of Australia's Agriculture Sector

2 INTERIM REPORT – ITEM 2 – SUPPLY CHAINS AND RISKS

CropLife welcomes the opportunity to provide these comments to assumptions and conclusions made in the Productivity Commission's Interim Report. CropLife recognises the role globalisation and liberalised trade policy has played and continues to play in the establishment of international supply chains and the economics of offshore production and manufacture of components and constituents of essential goods for Australians. CropLife also agrees that the market-level approach to risk management supersedes the risk experienced by an individual firm. Hence, a necessary evaluation of the risks presented by geopolitical, environmental, economic, societal and infrastructure related threats is welcomed.

Framework to identify vulnerable supply chains

CropLife is pleased to note that the Commission considers food an essential good and the recognition that Australia is both a major and diversified producer of food, in addition to being a major exporter of both food products and the bulk commodities (grains, oilseeds, forage), which are processed into food. CropLife does, however, dispute the Commission's assumption that food as a category is not dependent on the maintenance of long and vulnerable supply chains, especially the production of food and commodities, as stipulated above. CropLife is also concerned by the timeline for evaluation of the supply chain disruptions as described by the Commission. While the six-month timeframe may be appropriate for manufacturing, energy and textile industries – given the abundant presence of the resources required to produce them – it barely encompasses one cropping season, let alone the lifecycle of livestock dependent on access to food and forage, which is grown by the import and manufacture of seed, crop protection products and fertilizer.

The supply chains for these products are long, encompassing imports through various nations and means. The delivery of these products is extremely time sensitive and while the disruption in supply of constituents for the manufacture and use of crop protection products may not have repercussions in terms of food availability in the timeframe posited by the Commission, owing to the biology of plant growth and development, 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 – and do – have catastrophic implications for crop and produce yields.

Even though there may appear to be multiple products registered and available to manage the myriad of pests that can affect these losses, they are not by any means perfectly substitutive. The disruption of supply to one product to manage or control a pest may seem insignificant in a whole-of-market sense, but upon deeper analysis it becomes apparent that the reliable and timely supply of each chemistry is of utmost importance. This is because products are registered only for specific pests, on specific crops, in specific

seasons. From a resistance management perspective, it is inadvisable to place reliance for pest management on single chemical classes or families, let alone individual products. As an example, the guidelines for responsible stewardship of these products are maintained by CropLife's Expert Committees on Resistance[3]. The application of these strategies is often planned years in advance and the disruption of supply could have egregious consequences for the sustainability of food production in Australia.

To attempt to put an economic value to the imperative nature of the predictable and reliable supply of crop protection products, the Deloitte Access Economics report (2018), '*Economic activity attributable to crop protection products',* estimates that up to $20.6 billion of Australian agricultural output (or 73 per cent of the total value of crop production) is attributable to the use of crop protection products.[4] The economic impact of weeds alone is estimated to be over $4.8 billion each year, or $13 million per day.[5] In terms of yield or tonnage on individual paddock losses from weeds, insect damage and plant diseases, it can be as much as 100 per cent when conditions and pressures align.

Testing the Framework with imports data

Given the consolidation of imports from a small number of nations – China, the United States, Japan, Thailand and Germany – for the important constituents, namely fuel, pharmaceuticals and chemicals, the filters applied to the Framework would likely not delineate agchem to the granular level required to reflect the above nuances. The first filter being whether the market for each product that Australia imports is highly concentrated. Owing to the trade-sensitive nature of this type of data, CropLife is unable to comment on or supply the data required to identify specific countries where 80 per cent of a product is sourced. As much as the Commission is hesitant to evaluate single-firm import and manufacture statistics, the second filter determining whether there are limited alternative suppliers that Australia could access in the event of a disruption would likely not capture this balance. For reasons evidenced above, these are not products for which there are alternate supplies, or suppliers.

As food and crop production were excluded from the analysis, it is no surprise that there is no comparison for the vulnerability of production. The evidence that many essential goods and services do not depend critically on vulnerable imported inputs therefore completely misses any potential impacts on food production and availability. This oversight is concerning.

[3] https://www.croplife.org.au/resources/programs/resistance-management/.

[4] https://www.croplife.org.au/wp-content/uploads/2018/04/Deloitte-Access-Economics-Economic-Activity-Attributable-to-Crop-Protection-Products_web.pdf

[5] https://invasives.com.au/wp-content/uploads/2019/01/Cost-of-weeds-report.pdf

CropLife is encouraged that these oversights may yet be addressed given the Commission's recognition that the results have limitations stemming from a lack of product detail and the difficulties in linking trade and production data. CropLife is hopeful that the Commission's appreciation for the role of expert knowledge to identify whether an import (or category of the same) is technically critical to maintaining the supply of an essential good, food. CropLife suggests that a case study into several crop or horticulture products be included in any evaluation of the analysis of the vulnerability of food to supply chain interruptions.

Interim Report - Item 2.1 Supply chains are complex, and becoming more so

CropLife appreciates the Commission's recognition that supply 'chains' are actually networks and the description that the supply chain is the process of transforming raw materials into goods that are delivered to final users, both industries and consumers. The inculcation that, from an economy wide perspective, it does not matter which downstream firm supplies a particular good or service is noted, but the comparison of a single pharmaceutical brand of a non-patented product does not reflect the complexity of the crop protection product market. The disruption of the supply of one brand of a chemical, for which there is no effective substitute, is not reflective of this brand-to-brand comparison.

Further recognition of other potential disruptions of supply – specified as (but not limited to) labour in the Commission's report is also appreciated and goes to highlight the importance of including food in the report's evaluation: Labour throughout the agricultural industry is vital in maintaining the previously elucidated timeliness of agricultural production. Delays in application of products due to the unavailability of labour result in a disproportionate loss of production. This has implications in food security for Australians, but also economic security of producers, who are growing produce for both domestic and international markets.

The Commission's acknowledgement of the improvements in physical and managerial technologies, resulting in the increased reliability of supply chains, reduced delays and the amount of inventory firms hold to maintain production, is also appreciated by CropLife. As specified above, these just-in-time production processes, where inventory is at an absolute minimum, are absolutely critical in addressing the crop protection needs of crops and crop producers. Interruptions resulting in delays that would be mere inconveniences in other industries have exponential effects on the reliability, yield and absolute supply of agricultural produce. This further illustrates the need to include agriculture and food production into the evaluation of supply chain vulnerability.

Interim Report - Item 2.2 Supply chain vulnerabilities

CropLife broadly agrees with and supports the Commission's evaluation, identification and categorisation of the various supply chain vulnerabilities. However accurate these identified risks, especially in highly specified fields such as agricultural production, CropLife fails to understand exclusion of food from the evaluation, especially given food and agricultural production is both essential in the day-to-day lives of Australians and is also one of Australia's largest industries, with goals of reaching $100 billion in farm gate output by 2030. The reliability of supply chains and management of the risks identified will continue to be of utmost importance in achieving this goal.

Interim Report - Item 4.5 Possible extensions to this work

CropLife is encouraged to note the Commission's insistence that further work is needed to conclusively determine which vulnerable imports are critical to essential industries. The Commission's acknowledgement that industry experts are best placed to determine which of the concentrated inputs identified and used by essential industries are critical is also appreciated. Further identification of gaps in the analysis also supports CropLife's view that food and crop production should be included in the evaluation, not least of which the Commission's view that the analysis could have been improved with a finer delineation of product classifications to ensure substitute products are accurately grouped together. The view that specific chemicals require a finer classification to improve the analysis is also supported and encouraged.

Interim Report – Item 5.1 A framework for managing risks

CropLife agrees that a supply chain disruption effectively causes a sudden increase in the cost of supply. When a source of supply disappears completely, its cost can be thought of as having increased prohibitively. As evidenced above, this bears disproportional risk to agricultural production. Further complicating this analysis of the vulnerability of the supply chains for food production is not only the cost, but the capacity of both international and domestic freight. At its core, the increased costs of freight (for example the cost increases borne by manufacturers over the past 24 months) for these products essential to crop production alters the economics of their application. This altered threshold for pest management has the potential to cause dramatic yield disruptions, threatening the food security currently enjoyed by the consumers of Australian produce.

These costs are also reflected in the capacity of both the international and domestic freight systems. Disruptions in the supply chains for essential goods, not limited to those critical to agricultural production, can create bottlenecks in already tight shipping and freight management regimes. This is affected by both the labour force available to staff these systems and the pivot towards high value freight. Delays in the availability of crucial crop production tools have an exponential effect that exceeds the inconvenience of their untimely availability.

3 CONCLUSION

The framework to evaluate the vulnerability of supply chains for critical goods is largely robust and well thought out, which further highlights the omission of food and food production.

Of the few specific mentions to food throughout the manuscript, the example of a disruption of the supply of American peaches during Australia's off-season fails to demonstrate the Commission's understanding of the complexity and interdependency of modern Agricultural production. The production of a peach is the result of a culmination of the supply chain in delivering all the inputs required to plant, grow and distribute that peach.

Based on the assumptions given in the Commission's report, CropLife is not alone in the dispute of the underlying premise that food and crop production is as substitutive as the Commission believes. Disruptions in the supply and manufacture of the constituents for agricultural production have implications far beyond the mere logistics of food delivery to grocer's shelves. They have grave repercussions in food yield per hectare, per paddock and per crop year as a result of both the seasonality of agricultural production and the defined temporal requirements of the inputs necessary for reliable production of food and food commodities. Again, the Framework's focus on the short-term period after a supply chain disruption fails to reflect the reality of the just-in-time delivery of the products necessary for the predictable, reliable and plentiful production and supply of food and food crops for the both the Australian market and the critical export market for Australia's agricultural production. If, as specified, the final report has a much deeper investigation into critical exports, CropLife hopes and expects that food and food production will be included the evaluation and development of case studies to elucidate the far-reaching and potentially catastrophic effects supply chain disruption could have on the reliability and availability of food and agricultural commodities.