



Australian Government

# Enhancing Australia's systems for tracing agricultural production and products

Traceability Working Group



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Department of Agriculture and Water Resources

GPO Box 858 Canberra ACT 2601

Telephone 1800 900 090

Web [agriculture.gov.au](http://agriculture.gov.au)

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### Acknowledgements

This report has been prepared by a joint Australian Government, state and territory government working group established in 2017 for the purpose of maintaining and advancing Australia's trade and market access. This approach is to ensure that Australia is well placed to meet trading partners' future traceability requirements.

Against this backdrop, the development of a national approach to Australia's agricultural traceability systems was investigated by a Traceability Working Group of representatives from the Australian Government and state and territory governments. The investigation is progressing through a 2-stage project – the National Traceability Project.

This paper delivers key findings from Stage 1 of the project involving the review of existing traceability systems in agricultural production and trade, assessing their performance and identifying global and future drivers for traceability systems. The purpose of Stage 2 will be to design a national traceability policy framework and action plan in collaboration with industry to support future traceability innovations and requirements for a range of domestic and international trade purposes.

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# Key points

- Australian agriculture depends on export markets to absorb the bulk of its production, and to underpin prices and returns.
- Effective traceability systems are critical for access to export markets.
  - They underpin our export certification processes, often leading to improved access arrangements and reduced costs in meeting importing country requirements.
  - Our traceability arrangements are reasonably effective for most high risk, high value products, such as meat and dairy products, and live cattle.
  - There are third party schemes certifying traceability for sustainability, provenance and other product attributes for commercial purposes which are not necessarily tested by government.
  - Food fraud is increasing in overseas markets, which traceability can help combat.
- Traceability systems that serve us well will need greater support.
  - Gaps could create biosecurity and food safety risks and diminish our ability to respond quickly.
  - Compliance with importing country requirements requires increasing certainty.
  - Governance and resourcing to support existing traceability systems is being challenged to keep pace with policy and market demands.
- Australia's export certification processes are coming under pressure as markets demand stronger assurances about our traceability.
  - Trading partners are imposing more requirements on a wider range of imported products. Globally, World Trade Organisation (WTO) sanitary and phytosanitary notifications have been growing at an average rate of 6.3 per cent a year.
  - Changing consumer preferences (such as for animal welfare, environment protection and worker conditions) and rising incomes are driving demand for traceability.
- The consequences and costs of Australia not complying with importing country requirements are likely to be significant.
  - Improving our traceability systems to enable exporters to prove that importing country requirements are met, and to quickly manage instances where they are not, is necessary for exporters to remain competitive and to maintain and improve market access.
  - Any perception that our export certification processes are not delivering required outcomes would likely result in more costly importing country requirements or, potentially, loss of market access.
- There is an opportunity to improve aspects of existing systems at a national level.
  - Traceability for some agriculture, food and animal feed products is less mature compared with others. In particular, traceability systems could be strengthened in some sectors which are projected to drive growth in agricultural exports (including horticulture and grain products).
  - Current data and information sharing practices between governments can impede effective implementation, enforcement and system improvement.

- Good governance across all jurisdictions and all products is critical for improving traceability.
  - In some cases there is uncertainty around traceability roles and responsibilities and the acceptable level of harmonisation of regulation between Australian governments.
  - It will be important to clarify roles and responsibilities of industry and all governments in managing Australia's agricultural traceability systems.

# Australia's agricultural traceability systems

Australia's agricultural traceability systems comprise all government regulation and industry arrangements that enable tracing of agricultural production and products, back and forward along entire supply chains.

Traceability in agriculture has historically served three main purposes: (1) mitigating risks related to biosecurity incursions; (2) mitigating risks related to food safety incidents and (3) meeting the market access requirements of trading partners. When necessary, timely and accurate tracing can reduce costly consequences by targeting pest and disease responses, limiting product recalls, minimising market disruptions and restoring market access when markets are lost. More recently, traceability is being used to assure third parties about other product attributes, such as authenticity or sustainability.

## Why is traceability so important?

Australia's traceability systems enable outcomes of national importance. All jurisdictions have contributed to the establishment of regulatory arrangements that complement industry-led systems to support national biosecurity, food safety and market access outcomes. In most instances, responsibility for regulatory implementation rests with state and territory governments and industry-led systems operating in their jurisdictions. By itself, compliance with these domestic requirements delivers a range of beneficial outcomes quite apart from underpinning various export requirements.

It is expected that trend growth of Australian agriculture will depend on maintaining and improving access to export markets. Exports are vital to Australia's agricultural industries and, in particular, to regional economies, as international markets absorb the bulk of Australia's agricultural production. The Australian Bureau of Agricultural and Resource Economics (ABARES) estimates 70 per cent of agricultural production was exported in the three years to 2015–16. In 2016, Australia's agricultural, fisheries and forestry exports of \$54 billion contributed around 16 per cent to Australia's total export value of goods and services.

Key trading partners are demanding stronger assurances about Australia's traceability for agricultural and seafood products, often by imposing importing country requirements. Consumers are demanding more information about food safety, quality, provenance and sustainability of production. At the same time, emerging and evolving technologies have spawned new solutions and lowered the costs of traceability.

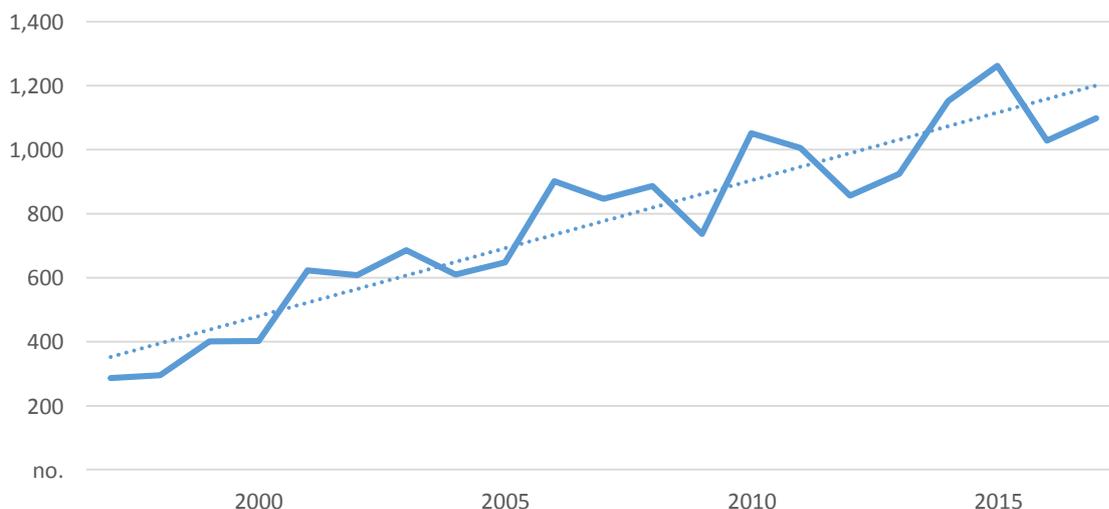
Changing consumer preferences are driving demand for greater traceability world-wide. Increasing disconnectedness with agricultural systems, increasing incidents of food safety scandals and better education have all influenced this demand. Consumers are increasingly demanding robust traceability that verifies product integrity throughout the supply chain and they are willing to pay for it (Brester et al. 2011).

Not only are consumers demanding more detailed information, but also more timely information. Modern consumers are more connected with communication technologies, educated in environmental issues, and more likely to seek convenience and status in consumption. Their demand for anywhere, anytime information relates to the food safety and provenance, such as the sustainability of processes that have produced and delivered it. Rising incomes and populations are driving global demand for high-end agricultural products and foods, which are often characterised by superior traceability (CSIRO 2017). The medium variant forecast from the United Nations is for the global population to rise by 40 per cent between 2007 and 2050.

Over the same period, total world real income is projected to more than treble (United Nations 2011). Asia is projected to account for the bulk of global growth in agrifood imports to 2050, with substantial increases expected in meat, vegetables and fruit imports—imports widely produced in Australia (ABARES 2013). Australia must remain competitive to meet the opportunities provided by this demand.

Our trading partners are also imposing more and more complex requirements on their imports. Chief among these are sanitary and phytosanitary (SPS) measures, which countries impose to ensure their consumers are being supplied with food that is safe by their own food safety standards. SPS measures typically involve some level of traceability, directly or indirectly. The total number of SPS notifications provided to the WTO has been increasing at an average rate of 6.3 per cent a year (Figure 1).

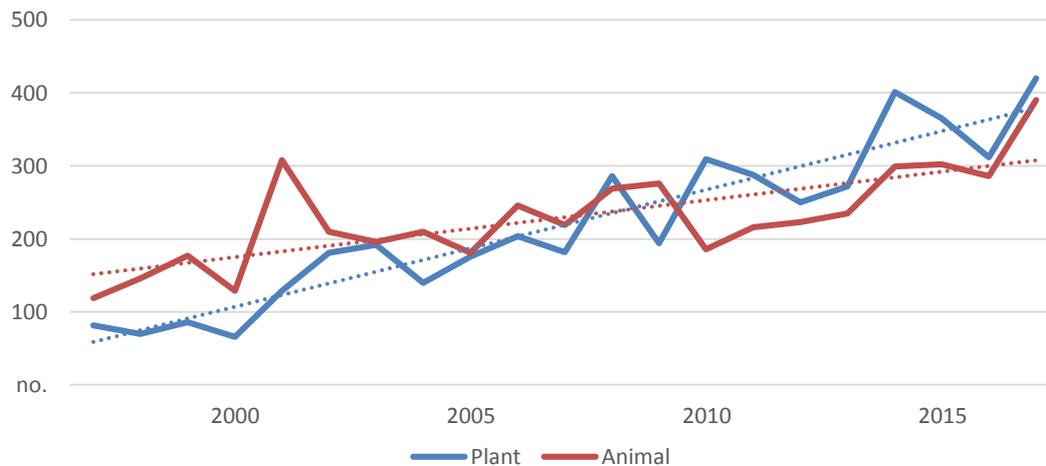
**Figure 1 Notifications submitted to the World Trade Organization regarding proposed changes in sanitary or phytosanitary measures, 1997 to 2017**



Note: Excludes addenda, corrigenda and revision notifications.

For example, just as many importing countries expect their trading partners to have robust traceability systems for beef, similar expectations are now developing for plant products. The number of SPS notifications submitted to the WTO regarding changes for plant products is increasing much faster rate than those for animal products (Figure 2). It would therefore be pertinent for industry and governments to proactively invest in plant traceability systems that can verify adherence to the SPS measures.

**Figure 2 Notifications to the World Trade Organization regarding proposed changes in sanitary or phytosanitary measures, by type of product, 1997 to 2017**



The Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS) is an international committee chaired and hosted by Australia. This committee develops principles and guidelines related to food import and export inspection and certification systems with a view to harmonising methods and procedures which protect the health of consumers, ensure fair trading practices and contribute to facilitating international trade in food stuffs. CCFICS recently identified traceability as one of 10 global emerging issues that will likely impact on the current global food trade system and future directions for the work of CCFICS. Noting the rapidly changing technologies and processes supporting food production, globalisation, and the emergence of other risks, the Committee identified an increasing need to ensure consumers are protected from unsafe foods, with traceability being a component of the systems implemented to achieve this.

## Increasing demands on Australia's traceability systems

Australia negotiates preferential access to markets in part, by promoting our export certification processes as robust and reliable, and able to meet import requirements. Australia's ability to provide acceptable assurances to our trading partners translates to enabling access for exports of large volumes and/or value of agricultural product worldwide. Any perception that the traceability systems underpinning Australia's export certification processes are not delivering expected outcomes could undermine preferential arrangements and risk greater increases in importing country requirements and attendant compliance costs.

Investment in traceability differs among stakeholders. Businesses implement traceability systems to manage commercial risks and pursue profitable opportunities, where consumers demand assurances and product information about quality attributes—provenance, production history and the like. Government involvement in traceability is largely, and should be commensurate with the assessed level of food safety, biosecurity and market access risk, to achieve broader public outcomes. From a government perspective, the return on traceability can be improved by leveraging investments to satisfy multiple information needs, for example, from tracing cattle in the event of a disease outbreak to recalling food products from retail sale in the case of a food safety incident.

There is increasing pressure on our export certification process—a process that issues certificates for more than 70 per cent of Australia's agricultural and fishery exports to meet specific importing country requirements. Continued growth in exports has increased inspections, audits and certifications and the number of certificates issued has increased by more than 30 per cent in the past five years. Considerable growth has occurred in grains and horticulture exports in particular, where the Australian Government Department of Agriculture and Water Resources (DAWR) issued 81,765 export certificates in 2015–16, up 16.3 per cent on the previous year. Growth in the number and types of importing country requirements for agricultural produce is occurring across a wide range of products. This growth is placing further pressure on Australia's systems. All governments will need to work more closely with each other and with industry to ensure export certification processes are robust, verifiable and acceptable to trading partner requirements and expectations.

Demand for improved traceability is challenging long-held government arrangements for data and information sharing, particularly as industry supply chains become increasingly digitalised. As industry-held data is vital to timely traceability, it will be critical that industry and governments collaborate as much as possible and share traceability information along supply chains, as appropriate.

Improving Australia's traceability system will require investment in more advanced IT systems to allow for a more nationally cohesive approach to data and information sharing that better supports regulatory traceability requirements and help Australian exporters and producers to keep pace with developments in global trade.

Declining costs and wider availability of increasingly-advanced information and communication technology are enabling more effective and efficient traceability systems to be developed and implemented along diverse supply chains. It is important that Australia take advantage of these opportunities.

## How well are systems performing?

Australia's export certification system is highly regarded and its robustness has been fundamental to achieving market access for our agricultural exports. Australia has a strong, transparent and mature regulatory framework to ensure that Australian agricultural produce, including food produced in Australia, is safe for domestic consumption and export.

Traceability systems for agricultural products are usually successful when required for tracing produce to assure food safety and protect human health. However, there are opportunities to improve performance across all industries with unique challenges for each. The effectiveness of Australia's systems for tracing agricultural products varies and is heavily influenced by practicalities and the risks (biosecurity and food safety) posed by the product. Successful and cost-effective tracing in all industries could be impeded, for instance, by the cumulative effect of unlabelled produce and inconsistent record-keeping.

Australia's competitive advantage as a leading exporter of agricultural production needs to be protected. Other major agricultural exporting countries have implemented, or are in the process of implementing new traceability systems and Australia faces the growing threat of other exporting countries capturing a larger market share by demonstrating traceability to differentiate their products even where importing countries do not impose traceability requirements.

In a global comparative study on food traceability, Australia was considered to have strong livestock identification and traceability systems, however it was ranked 'average' across all commodities, along with Canada, Japan, Brazil, New Zealand, and the United States (Charlebois et al. 2014). Countries whose food traceability ranked higher ('superior') were 11 member countries of the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Sweden and United Kingdom), as well as Norway and Switzerland. The report noted that requirements to enable tracing of most foods from farm to fork are absent.

Information collected from jurisdictions in 2018 suggests that performance of and justification for individual traceability systems in Australia vary considerably by product group and by purpose noting government regulation or well-developed industry systems typically underpin robust traceability systems. This analysis included reference to Chapter 4 Primary Production and Production Standards of the Australia New Zealand Food Standards Code that are mandatory requirements in all Australian jurisdictions. These standards provide for paddock to plate regulation of seafood, poultry, meat, dairy, eggs and seed sprouts, inclusive of traceability requirements.

In June 2018, in response to recent increases in foodborne illness outbreaks in high risk horticulture products in Australia, the Australia New Zealand Legislative and Governance Forum for Food Regulation requested that FSANZ identify appropriate regulatory and non-regulatory measures to manage food safety risks in ready to eat, minimally processed fruits and vegetables, fresh leafy green vegetables, melons, berries, and seed sprouts.

There is scope to strengthen Australia's traceability systems. A single, national approach to property identification (including all properties with terrestrial and aquatic animals, and plant production activities) is a fundamental first step to improving traceability. The National Biosecurity Committee is progressing development and implementation of a national property identification system by 2022.

Advancing livestock traceability, potentially by agreeing to consistent implementation and transparent performance assessment regimes, including more frequent audits, regular reporting against performance measures and investment in research to identify initiatives, could improve compliance. A recent assessment of traceability performance also revealed other product groupings with scope for improvement including live animal and animal feed categories.

There are opportunities for improvements to traceability of Australian horticultural and seafood products and grains particularly in the regulatory sphere. However, it is important to note that horticulture is a diverse industry and the biosecurity and food safety risk of products and production methods vary greatly by product and traceability performance is mixed. Some producers and exporters have well-developed commercial traceability systems to pursue commercial opportunities (such as exporting to high-value markets, or certifying produce as organic), while other segments do not.

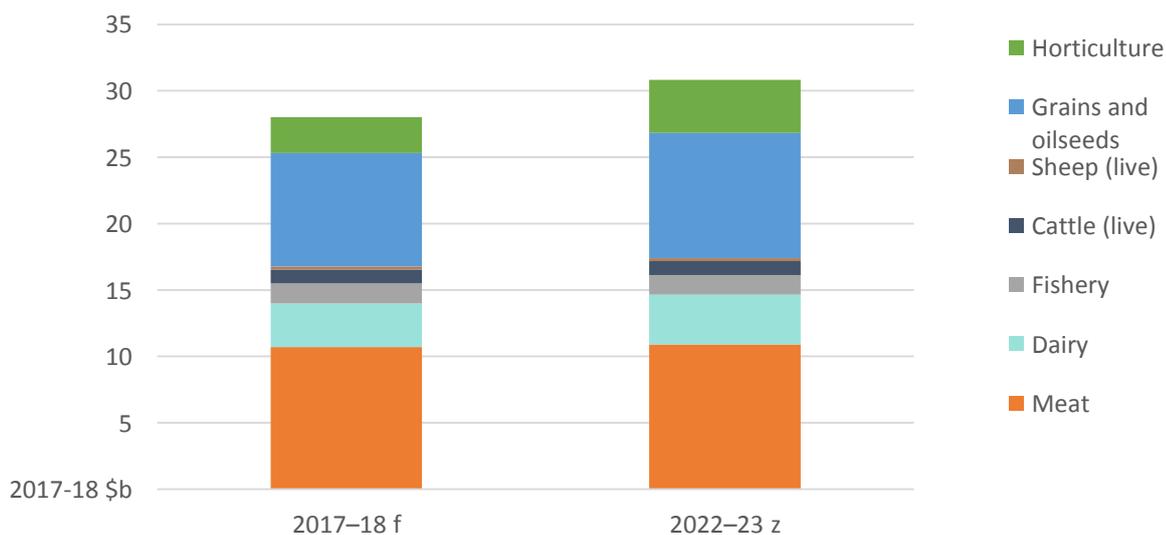
When considered from a national perspective, traceability systems for fresh horticultural products were identified as in most need of advancement to increase the speed of response to biosecurity incidents, assure food safety, protect human health and achieve favourable market access outcomes. Doing so will also reduce risk of economic loss and provide insurance for Australia's reputation as a supplier of safe and biosecure products.

Improving traceability in the horticultural industry is challenging because of supply chain complexity, product aggregation and the large number of small producers. However, the growth projected to occur in this industry over the medium term depends on favourable market access arrangements and good industry reputation, underpinned by robust traceability systems. Further analysis, in consultation with industry, would help determine the best evidence-based approach to improving traceability of horticultural products, such as improved self-regulation or stronger state regulation of high risk products.

These observations are important because much of the growth in agricultural exports over the medium term is expected to stem from horticulture and grains (Figure 3). This growth is significant nationally as horticultural exports have been growing strongly in all states and territories often outpacing the evolution of Australia’s traceability systems (Figure 4). Moreover, growth in importing country requirements for plant products has been substantial (Figure 2) and is expected to continue. A national approach for traceability, and particularly for tracing horticultural and grain products, is likely to become integral to meeting importing country requirements, and thus increasing exports in the future.

Further analysis and industry consultation is needed to fully understand the implications of traceability for horticultural products and grains, including to inform the development of options to underpin future action to improve traceability in the horticulture industry. Traceability is a risk management tool and its implementation should be commensurate with assessed risk. Consultation with industry will be crucial to acquiring a better understanding of opportunities to improve and expand existing industry systems.

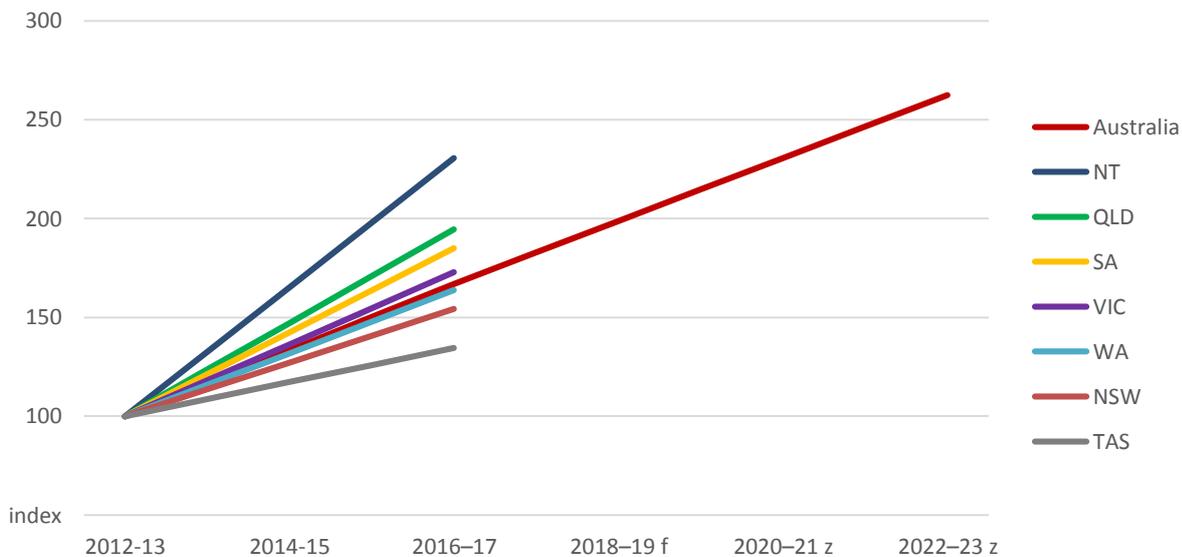
**Figure 3 Agricultural export projections, 2017–18 to 2022–23**



Source: ABARES 2018.

Note: Includes focus products except forestry and processed goods. f ABARES forecast. z ABARES projection.

**Figure 4 Index trends of (real) horticultural export values by state/territory, 2012–13 to 2022–23**



Source: Adapted from ABARES 2018.

Note: f ABARES forecast. z ABARES projection.

## Consequences of not complying

The consequences of not complying with importing country requirements are significant. For example, in the meat exports sector, non-compliance in labelling and certification could result in the suspension of exports to a particular market for the meat processing establishments concerned. This could cost the Australian meat industry over \$1 million a day (by industry calculations), impacting farmers, transport operations, abattoirs, packing and storage facilities. Similarly, non-compliance with importing requirements in the grains industry could result in a trading partner suspending trade in a commodity worth close to a \$1 billion a year.

Given Australia's dependence on international markets and the increasing standards of food safety assurance that they expect, modern and responsive traceability systems will become integral to meeting importing country requirements into the future.

At present, we have an opportunity to set ourselves above our competitors by investing in our traceability systems to capture a greater share in overseas markets.

Improvements made to our traceability systems motivated by growing our exports will also benefit our domestic customers.

# Good governance will be critical

There are opportunities to improve the governance of Australia's traceability system particularly in areas of compliance and enforcement. This is consistent with governance around decision-making and accountability that has been developed and implemented in response to individual issues and needs, but has not necessarily kept pace with broadening policy and market demands.

Left unaddressed, existing governance challenges are set to increase. The traceability policy domain is broadening and becoming more complex. It is difficult to envisage how the current governance arrangements can deliver the timely decision-making and accountability that is necessary to drive system improvements and maintain competitive advantage without any meaningful reform. Investigating the development of a national approach to traceability with enhanced governance may assist in managing multiple challenges at a national level, as traceability systems become more complex, international scrutiny intensifies and opportunities from enhanced traceability continue to emerge.

Establishing a mechanism for national oversight of agricultural traceability to achieve national outcomes for biosecurity, food safety and market access purposes should be considered.

Clarifying roles and responsibilities of industry and all governments in managing these systems, and improving accountability and visibility of system performance, are likely to assist agricultural industries to capitalise on emerging opportunities. This is especially important as responsibilities for traceability lie within a federated system where governance supports decision-making through government–industry networks rather than hierarchies. It is the role of governments to enable, and not stifle, private and industry innovation to improve and implement effective traceability systems.

Also critical to fully functioning traceability systems is policy coherence which, in turn, depends on high levels of coordination and communication. This ensures alignment of core objectives and consistent governance of the traceability system as a whole, not simply its component systems. Here, consistent governance does not imply, for example, identical standards, as risks and opportunities vary between products and traceability purposes. Nonetheless, establishing national oversight for good governance over agricultural traceability, covering all agricultural sectors and charged with achieving national biosecurity, food safety and market access outcomes is an option for consideration. Such oversight could redress identified concerns around the active and ongoing monitoring of the performance of traceability systems, resourcing and reporting to stakeholders in a transparent and timely manner.

## Future work

Australian governments have come together to respond to the findings of this report with the intention of delivering some government-industry initiatives to support future traceability needs across all of our agriculture food and products.

This report has been prepared by a joint Australian Government and state and territory government working group established in 2017 for the purpose of maintaining and advancing Australia's trade and market access. This approach is to ensure that Australia is well placed to meet trading partners' future traceability requirements.

Against this backdrop, the development of a national approach to Australia's agricultural traceability systems was investigated by a Traceability Working Group of representatives from the Australian Government and state and territory governments. The investigation is progressing through a 2-stage project—the National Traceability Project.

This paper delivers key findings from Stage 1 of the project involving a review of existing traceability systems in agricultural production and trade, assessing their performance and identifying global and future drivers for traceability systems. The purpose of Stage 2 will be to design a national traceability policy framework and action plan in collaboration with industry to support future traceability innovations and requirements for a range of domestic and international trade purposes.

## Information sources

Comprehensive information sources including academia, industry, global, Australian and foreign government research and reports and ABS data was consulted and analysed in Stage 1 of the National Traceability Project in 2017 and early 2018. This public report is therefore supported by evidence and research.

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