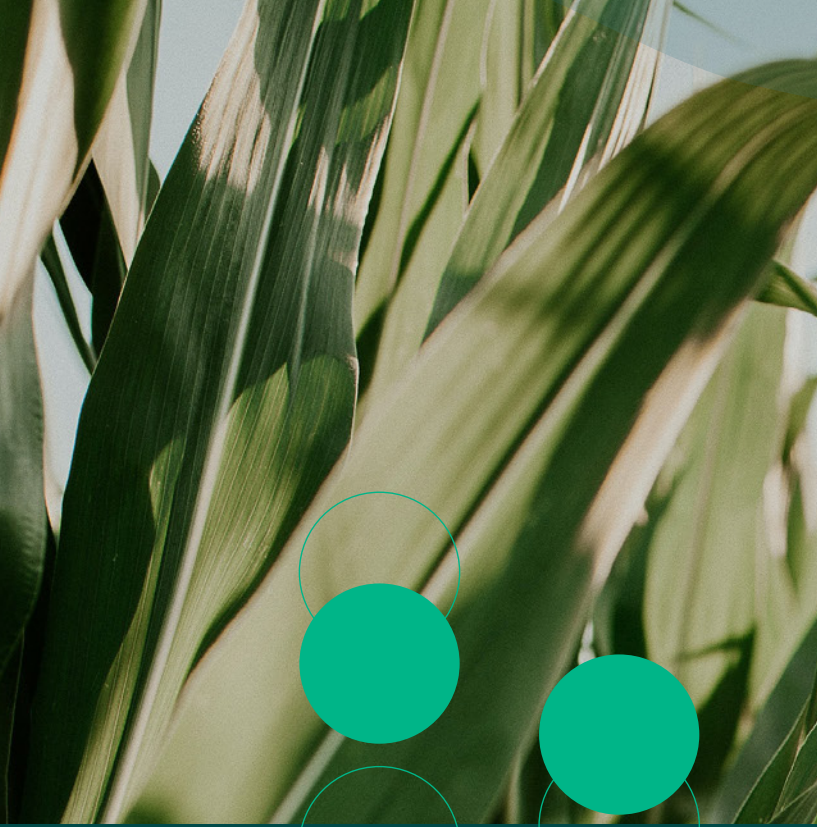




National Agricultural Traceability Strategy

2023 to 2033





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Acknowledgment of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

Foreword

I am pleased to present Australia's first ever *National Agricultural Traceability Strategy 2023 to 2033* on behalf of all Australian, state, and territory agriculture ministers.

The strategy was co-designed from 2022 to 2023 with a wide range of stakeholders along agricultural supply chains, from producers to retailers and government regulators.

The future of Australian agriculture is exciting. We produce world class agricultural products and we are heading ever closer to the industry goal of a \$100 billion agricultural sector by 2030.

This strategy plays a critical role in strengthening our world-class biosecurity systems at home, while supporting Australian farmers to capitalise on trade opportunities overseas.

Australia has a great story to tell, but there are clear opportunities to modernise and harmonise our traceability systems. For too long, we've been missing a coordinated and strategic approach to improve our world-class agricultural traceability systems for the future.

Better traceability systems will help us adapt to changing trade relationships and consumer preferences, emerging technologies, the impacts of climate change, COVID-19, data-sharing, credential demands and increasingly complex food safety incidents and biosecurity threats. We need to work together to meet these challenges.

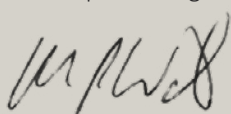
A modern national traceability system can verify our claims and credentials along the supply chain, to protect and grow Australian agriculture. It can help increase product value domestically and internationally. It can help bring benefits back to the farm gate – to those who undertake sustainable practices – and bring benefits to Indigenous Australians in agriculture.

Importantly, a modern traceability system supports food safety and biosecurity preparedness and response. In the worst-case scenario, we will have the best possible system to detect and eradicate any major pest or disease incursion, and respond to food safety incidents quickly and effectively.

Strengthening our national traceability systems is a shared responsibility: producers, retailers, transport and logistics, exporters, and of course government regulators, all have a part to play. We collect, hold and share key information along the supply chain to consistently prove our food and fibre is world class.

To support this strategy, I announced the formation of the Australian Agricultural Traceability Governance Group to provide guidance on priorities and actions for Australia's agricultural traceability systems.

I believe there are huge opportunities ahead for the agriculture sector. Implementing this strategy is a step in the right direction to unlock benefits for our producers.



Murray Watt

Minister for Agriculture, Fisheries and Forestry

We all have a role to play



Image: Mika Baumeister

The private sector and industries

The private sector and agribusinesses can assist by actively participating within the various collaborative forums to identify best practice, encourage uniformity of standards and technology, and promote uptake. The private sector is also critical for driving best practice, protecting Brand Australia and supporting industry producers, such as First Nations Australians, to develop and prosper. Industry can also invest in research and development to ensure there is a sufficient and affordable market supply of traceability products and services to be used throughout the agricultural sector.



Image: Brad Halcrow

The public sector

Agricultural traceability is a national priority that requires the cooperation of all jurisdictions. Consequently, a coordinated and shared effort across industry sectors and all levels of government – Australian, state, and territory – will be essential. The public sector also has a vital role in promoting and supporting initiatives on biosecurity, opportunities for First Nations Australians and sustainability.



Image: Getty Images/Stockphoto

The research community

Research and development will play a crucial support role in helping to create a comprehensive, cross-commodity approach to agricultural traceability through its role in expanding the knowledge base about efficient and cost-effective traceability technologies and methodologies. Researchers, academics and funding agencies can also improve our understanding of target export markets' traceability requirements now and in the future.

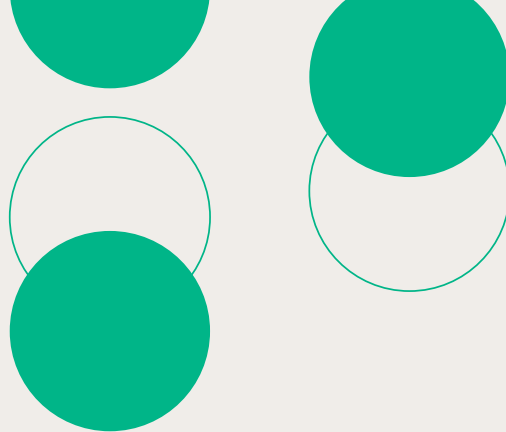


Image: Getty Images/Stockphoto



Image: Markus Spiske





Implementing the strategy

To achieve the objectives of the strategy over the next 10 years, clear plans of action will be established, implemented, monitored and evaluated.

The strategy will be accompanied by implementation plans based on consultation with stakeholders. These plans will provide guidance on key activities and timeframes to address the Priority Areas for Action.

A monitoring and evaluation framework and benefits management framework will also help to demonstrate that the strategy has met its goals. The key performance indicators and data sources for measuring the effectiveness of the progress and the potential benefits to be realised will also be based on stakeholder input.

A process of co-design: Summary of strategy development

01 Identification of the Pressing Challenges

Comprehensive input which led to the creation of the 3 original pressing challenges of data, regulation and value creation. The subsequent working group and industry design group sessions tightened their scope, and led to the addition of a 4th pressing challenge around the creation of enduring and motivated traceability partnerships.

Co-design mechanisms

1 x National Traceability Summit

> 250 people | 7 to 12 April 2022

To launch the Agricultural Traceability Alliance and showcase Australian agricultural traceability

3 x working group sessions

approx. 30 people per session
8 to 12 April 2022

To build out and define the pressing challenges

3 x Industry design group sessions

16 May, 15 June & 30 June 2022

To iteratively test and work on strategy development real-time with the traceability stakeholders

02 Shaping the strategy and priority areas for action

Internal and external consultation to collaboratively develop the fundamental elements of the strategy and its supporting implementation plans. This covered its purpose, vision, mission, objectives, priority areas for action, and associated activities. It also included an industry determined ranking of the priority areas for action, with an initial view on the critical first steps for implementation.

Co-design mechanisms

2 x Department of Agriculture, Fisheries and Forestry consultation sessions

8 & 9 September 2022

To ensure policy priorities from across the department were supported in the strategy

1 x Traceability Alliance Forum

More than 240 people (approximately 30 people per session)
19 October 2022

Central forum for prioritising fundamental elements of the strategy – namely the priority areas for action

1 x post-forum feedback incorporation session

24 November 2022

To discuss and reconcile the stated prioritisation and strategy feedback

03 Tailoring and finalisation

Settling the vision, objectives, and priority areas for action through consolidating wide-reaching feedback on the contents of the strategy, and ensuring it reflected the interests of all traceability ecosystem participants. This included foregrounding relevant traceability initiatives underway as case studies.

Co-design mechanisms

5 x targeted consultations with Agricultural Trade Group (DAFF)

To ensure existing DAFF traceability initiatives were accurately represented

Have your say feedback

Over 20 survey responses and written submissions
19 October to 16 November 2022

Opportunity to provide more detailed written feedback on the strategy fundamentals

Adhoc consultation with participants

To clarify specific sector insights and questions that arose outside of the group forums



Purpose and scope of the strategy

Australia has a favourable position in world agricultural trade, because of its existing regulatory standards, systems, and processes. These have been jointly developed by industry and government over many decades. Traceability is a shared responsibility between industry, the Australian Government, state and territory jurisdictions and agricultural supply-chain participants. Delivering on the Agriculture 2030 objectives remains a key feature of the government's support for industry to achieve its ambition of increasing farm gate output by \$100 billion by 2030. To support and sustain the delivery of these objectives, we need strong and forward leaning national agricultural traceability systems that are relevant to all supply-chain participants.

Agricultural traceability is a critical and fundamental infrastructure for emergency response, and Australia's economy and prosperity. A nationally harmonised agricultural traceability approach will enhance our already strong biosecurity and food safety track record. Country to consumer traceability is a value proposition for Australia that offers strong biosecurity and trade benefits.

The National Traceability Summit was held in 2022 to highlight the broad range of national agricultural traceability initiatives and to launch the Australian Agricultural Traceability Alliance. The summit highlighted that while much progress had been made since the release of the National Traceability Framework 2019, more work still needed to be done to realise a national approach to traceability.

The *National Agricultural Traceability Strategy 2023 to 2033* outlines a common and enduring approach to coordination of current and emerging issues, and application of previous National Traceability Framework (NTF) 2019 elements (NTF; The Traceability Working Group 2019).

The overarching purpose of the strategy is to align and maintain momentum with relevant stakeholders around a common vision for an enhanced national agricultural traceability ecosystem.

The strategy focuses on the whole agricultural supply chain, and supports agricultural products and value-adding benefits domestically and internationally. It has a particular focus on agricultural commodities and products (including First Nations Australians' products), live production animals and biosecurity emergency response, while being highly relevant to broader product movements. It does not address banking, finance and insurance traceability aspects.



Building from a strong foundation

Extensive work on reforming our traceability systems has already taken place. Under this strategy, the Australian Government, industry and other relevant sectors will work together to continue these enhancements to our traceability systems and chart a common national approach to our ongoing coordination and application of priority areas for action. The strategy draws and builds upon a range of existing documents, including:

- National Traceability Framework 2019
- National Biosecurity Strategy 2022-2032
- Commonwealth Biosecurity 2030
- Commonwealth Biosecurity Action Plan 2022
- Animalplan 2022-2027: Australia's National Action Plan for Production Animal Health
- AQUAPLAN 2022-2027: Australia's National Strategic Plan for Aquatic Animal Health
- Other existing state and territory and industry biosecurity, traceability and sustainability strategies, plans and frameworks.



Creating greater value through agricultural traceability



Recent studies show
Australia's agricultural
sector is worth

\$88b

in 2021-22

Australian Bureau of Agricultural and
Resource Economics and Sciences, 2022



of Australia's
agricultural produce
is exported

(Department of Agriculture, Fisheries
and Forestry, 2022a)



of food consumed
domestically is
produced in Australia

(Department of Agriculture, Water and
the Environment, 2021a)



1.6m

people employed
across the agricultural
supply chain

(Department of Agriculture, Water and
the Environment, 2021b)

Enhanced traceability systems can unlock significant benefits

We have significant opportunities to raise Australia's profile (Brand Australia) and leverage global market advantage. Enhancing and connecting fragmented and inconsistent legacy systems will also further strengthen our agricultural sector and industries.

Enhanced agricultural traceability will help us to:

1. Better meet our trading partners' current and future market access requirements
2. Enable prompt responses and mitigate biosecurity risks, food safety incidents and other market access issues
3. Create value-added opportunities to grow the agricultural sector.

Modelling around the highest quantifiable economic benefits, derived from progressing priority areas for action, has shown benefits could include, but not be limited to:

Growing the value of the agricultural sector through an estimated

\$400m to \$1b

in export value per year through enhanced traceability

(PwC, 2021)



Increasing efficiency in agricultural trade through:

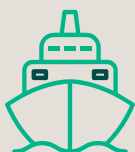


Reduced compliance costs of approximately

\$110m to \$170m

per year

(PwC, 2021)



Improved export administration efficiency of approximately

\$115m to \$155m

per year

(PwC, 2021)



Protecting the agricultural sector through reduced costs of potential biosecurity outbreak scenarios by an estimated

\$59m to \$68m

per year through enhanced responses enabled by traceability

(PwC, 2021)

A national agricultural traceability vision and mission

Our vision

Industry, governments and other agricultural supply chain participants have adopted connected, aligned and interoperable world-class traceability systems along supply chains that are fit for purpose, efficient and dynamic, to accelerate Australian exports and enhance biosecurity and food safety and protect cultural intellectual property in a sustainable way.

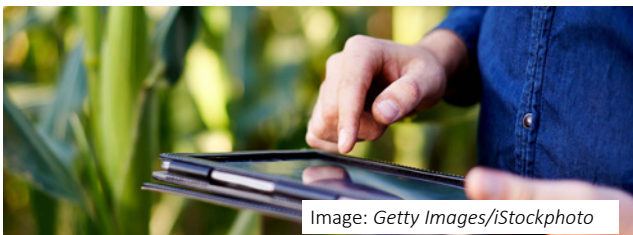
Our mission

Accelerate our journey exceeding \$100 billion of farmgate output through a 10-year strategy by the adoption of enhanced traceability and credentials, cultural product provenance, the creation of value-added opportunities, and the mitigation of biosecurity and food safety risks and arising issues that may restrict ongoing and expanding market access.

Pressing challenges

Engagement with industry, government, First Nations Australians, businesses and other stakeholders across the supply chain identified 4 key pressing challenges that are currently impeding progress. These challenges arose during and following the National Traceability Summit 2022, and have informed the creation of this strategy, including its vision and mission. The strategy will be accompanied by implementation plans based on co-design with stakeholders - and more information can be found further in this document.

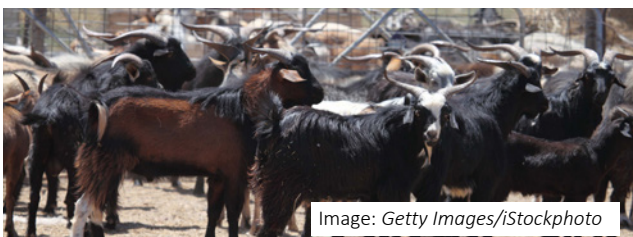
The 4 pressing challenges include:



Alignment of frameworks and data standards to maximise traceability system innovation, security and interoperability, including streamlined regulation.



Alignment of government and commercial regulatory and compliance requirements to reduce unnecessary regulatory burden, to support market access, and promote consistent supply chain procedures.



Increase traceability value-add while ensuring benefits are distributed across the supply chain to sustain and expand market access, and protect and enable agricultural exports, biosecurity and other benefits (e.g. productivity and brand building).



Create enduring and motivated partnerships across the whole traceability system to own and drive continued improvements and outcomes.

Objectives

The following strategic objectives respond to the 4 pressing challenges, critical trends and drivers impacting the wider agricultural sector. They will guide national and cross-sectoral ambitions by industry, government, and other stakeholders to strengthen and accelerate Australia's traceability systems and capabilities.

All strategic objectives are of equal importance. They are not listed in any order of priority.

The 8 strategic objectives are:



Objective 1

Improve tracking and tracing capabilities in relevant sectors to advance export opportunities, commodity confidence, and biosecurity and food safety responses



Objective 6

Strengthen national and international collaboration and partnerships on traceability to protect Brand Australia, influence international trends, and demonstrate our world class systems



Objective 2

Align regulatory management frameworks to reduce regulatory burden and streamline government interactions



Objective 7

Build a coordinated, collaborative, evidence-driven education, research and development agenda to lift our understanding of, and responses to, risks and opportunities



Objective 3

Coordinate a data-enabled, adaptable and secure approach within the traceability ecosystem to sustain and promote efficient market access



Objective 4

Deliver an automated system that is secure, national, interoperable and digital to reduce interface costs



Objective 8

Establish governance, and work within government rules and regulations, to uphold transparency and accountability on initiatives and ensure fit-for-purpose traceability outcomes for the future to exceed \$100 billion in farm gate output by 2030



Objective 5

Meet new and emerging product claim requirements and changing market demands to support producers, remain competitive and enhance trust

These objectives will be explained further and highlight priority areas for action to strengthen our systems.

Priority areas for action

A series of identified priority areas for action will help to deliver on the 8 objectives.

01

Identify and influence national and international traceability data standards, classifications and assurance models that can be used to support a consistent approach to agricultural traceability

02

Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers

03

Develop a ‘tell us once’ approach across the traceability ecosystem



Image: Priscilla Du Preez

04

Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment

05

Support industry to implement interoperable systems

06

Improve two-way, producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development

07

Create an evidence-based and sustainable funding model for agricultural traceability initiatives

08

Implement a communication and education campaign to strengthen awareness of agricultural traceability

09

Establish a flexible and responsive agricultural traceability research and development agenda

10

Establish governance mechanisms for the Australian agricultural traceability ecosystem

11

Promote the importance of agricultural traceability to reach mutually beneficial outcomes with Asia Pacific partners and other countries





Objective 1

Improve tracking and tracing capabilities in relevant sectors

to advance export opportunities, commodity confidence, and biosecurity and food safety responses

Objective 1

There are many global developments and emerging trends reshaping the agricultural traceability landscape domestically and internationally. These include the increased focus on timely, accurate and traceable data following the COVID-19 pandemic, which exposed Australia's potential vulnerability to global supply chain disruptions. This is in addition to growing biosecurity and food safety risks.

For example, the identification of potential biosecurity risks such as Lumpy skin disease (LSD) or Foot-and-mouth disease (FMD) is becoming increasingly important. They can have potentially devastating, costly, and far-reaching impacts for Australia. The estimated direct economic impact of an FMD outbreak alone would be \$80 billion over 10 years (Department of Agriculture, Water and the Environment, 2022). Efforts to address such biosecurity risks and promote strategic market access are being concurrently progressed in the recently released Animalplan 2022-2027 (Department of Agriculture, Fisheries and Forestry, 2022b) and the AQUAPLAN 2022-2027 (Department of Agriculture, Fisheries and Forestry, 2022c).

Food fraud and safety also continues to be a significant issue of concern for Australia, costing farmers an estimated \$2-3 billion each year. Counterfeited, mislabelled, misrepresented, diluted, or tampered products pose significant health risks to consumers, as well as reputation and financial risk to Australia and its producers.

Traceability systems at the forefront of modern agricultural policy, which can respond quickly, accurately and effectively to emerging risks, are essential for ongoing protection, prevention and prosperity. Cultural provenance and intellectual property are critical issues for First Nations Australians' communities and producers. Robust tracking and tracing will give communities the tools to protect their products and culture.

Australia has an opportunity to further raise its profile, enhance international confidence in Brand Australia, diversify export markets to increase market advantage, build greater supply chain resilience, support First Nations Australians' agricultural initiatives, and improve our ability to better meet import requirements. An aligned and evidence-based national agricultural traceability ecosystem supports these outcomes.

Priority areas for action to achieve objective 1

- 02.** Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers
- 03.** Develop a 'tell us once' approach across the traceability ecosystem
- 04.** Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment
- 05.** Support industry to implement interoperable systems
- 06.** Improve two-way, producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development
- 07.** Create an evidence-based and sustainable funding model for agricultural traceability initiatives



Objective 2

Align regulatory management frameworks

to reduce regulatory burden and streamline government interactions

Objective 2

Stakeholders within the agricultural traceability ecosystem have expressed repeated concerns at the current state of regulations surrounding the agricultural traceability environment in Australia. Currently, regulation involves a variety of disparate, duplicative and commercial requirements. Australian agribusinesses and their service providers have developed many different regulatory management frameworks to navigate numerous regulatory requirements across jurisdictions. They also incur unnecessary costs in configuring their systems to meet various commercial and regulatory obligations, which serve the same purpose.

Responsibilities for food and other agricultural products are spread across Australian, state, and territory government ministers, departments, and portfolios. This presents challenges in the regulation of agricultural traceability systems to ensure coordination, cost effectiveness and appropriate coverage of all aspects of the supply chain.

By aligning agricultural traceability regulatory management frameworks through this objective, we have the potential to deliver an industry-wide economic benefit of approximately \$115 million to \$155 million a year (PwC, 2021). These savings in time and costs could be achieved through better alignment of requirements and improved information sharing, as well as flexible documentation and audit requirements. The streamlining of agricultural traceability regulations will also benefit Australia's ability to identify biosecurity risks and respond quickly and effectively. The strategy seeks to involve all jurisdictions to work towards a common digital code for regulation across the agricultural traceability ecosystem and encourage uniformity of technology wherever possible.

Priority areas for action to achieve objective 2

- 01.** Identify and influence national and international traceability data standards, classifications and assurance models that can be used to support a consistent approach to agricultural traceability
- 02.** Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers



Objective 3

Coordinate a data-enabled, adaptable and secure approach within the traceability ecosystem

to sustain and promote efficient market access

Objective 3

Current systems across supply chains are a mixture of paper and electronic information recording, making it challenging and time consuming to access necessary data for food safety, biosecurity emergency response, and import and export needs. Reliance on manual input when completing compliance documentation and subsequent record uploads can be affected by human error. Connectivity in remote locations also presents a unique issue for Australia.

Data also often tends to sit in commercial and regulatory silos, resulting in unnecessary inefficiencies and information irregularities between supply chain partners. This is compounded by the fact that, while the sophistication of traceability systems and the accessibility of traceability-related data is also increasing, there are varying levels of uptake across commodities. These disparities make it difficult to address growing expectations from industry, researchers, consumers and governments for more availability of information and data from across supply chains.

Country to consumer traceability is critical infrastructure for biosecurity and trade. The traceability ecosystem will allow fast identification of biosecurity risks and help guide efficient and effective responses.

The creation of a data-enabled and secure traceability ecosystem helps ensure information is accurate, captured and shared in a way that builds trust and value, saves our farmers and industries time and money, and manages cybersecurity, privacy, data sensitivities and other risks.

Priority areas for action to achieve objective 3

- 01.** Identify and influence national and international traceability data standards, classifications and assurance models that can be used to support a consistent approach to agricultural traceability
- 02.** Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers
- 04.** Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment
- 06.** Improve two-way, producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development

Objective 4

Deliver an automated system that is secure, national, interoperable and digital

to reduce interface costs



Image: Getty Images/iStockphoto

Objective 4

Since 2019, industry engagement has identified digital interoperability as an explicit requirement to reduce agricultural traceability costs. To highlight this, interoperability was ranked the highest priority across strategic areas identified for each pressing challenge at the inaugural National Traceability Summit 2022.

Digital interoperability is affected by a lack of widespread adoption of best practice data standards, frameworks, or mature nationwide digital, automated traceability. These gaps make it difficult for industry participants to benefit from the interoperability enabled by Application Program Interfaces (APIs) that provide interconnectivity between technology platforms.

A lack of nationwide interoperability results in supply chain participants developing systems and processes independently to serve their own needs within siloes, with interoperability being a secondary consideration. Where systems and processes are made interoperable, compliance costs and the regulatory burden across a supply chain can be minimised through the automated processing of higher quality, better linked and more standardised data. This higher quality data will also lead to greater confidence in traceability information provided, support our biosecurity system, and enable an enhanced ability to combine new data sets to generate novel insights and gather market intelligence across supply chain participants.

If government has greater understanding of supply chain movements through interoperability, then infrastructure planning and operational decisions, such as biosecurity risk assessments, can be better informed to meet current and future needs.

Priority areas for action to achieve objective 4

- 04.** Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment
- 05.** Support industry to implement interoperable systems

The background of the slide is a dark teal color. In the top left corner, there are three white circles of varying sizes, some overlapping. On the right side, there is a vertical strip showing a close-up photograph of two green avocados hanging from a branch with dark green leaves. The avocados have a bumpy, textured skin.

Objective 5

Meet new and emerging product claim requirements and changing market demands

to support producers,
remain competitive and
enhance trust

Objective 5

Consumers and trading partners are driving an increase in traceability and credential requirements. There is rising consumer and market demand for certifications (such as sustainable farming, organic, Halal, and Kosher) with different export markets requiring multiple certificates and audit processes. There is also the need to support producers, such as First Nations Australians protecting the provenance and cultural intellectual property of their produce.

For example, approaches to prove 'sustainability' attributes are becoming increasingly important in some international markets. Market information and provenance requests may evolve and increase over time, and industry may need to adapt or enhance its systems.

Consumers also want information that enables them to determine such things as cultural provenance, whether our products are safe and clean, and to assess whether they align to their own ethical and health values. For example, consumers are willing to pay an additional \$1 per kilogram for certified 'grass fed beef' in the United States (US) market.

Furthermore, Australia represents nearly half of the global 72.3 million hectares under organic certification (Willer et al. 2021). This highlights an opportunity for Australia to become a global leader with organic export commodities (such as meat, produce, wine and manufactured goods). To do this, improvements in current certification schemes will need to be considered to enhance trust.

There is also mounting pressure for the government to strengthen oversight and monitoring of new certifications for exported goods. This is coupled with demand to assist Australian exporters by verifying compliance and enabling equivalence to international certifications to meet increased market access requirements.

As climate change and sustainability continue to be at the forefront of global commentary, product regulation and assurances about a product's carbon footprint are also being prioritised. Traceability helps support the agricultural sector in meeting these requirements and certifying their environmental impact.

Australia relies heavily on its clean, green image, ensuring its biosecurity status remains free from many of the world's damaging pests and diseases. This helps to retain the trust of consumers at home as well as to differentiate and sustain trust in its products in an ever-competitive international marketplace.

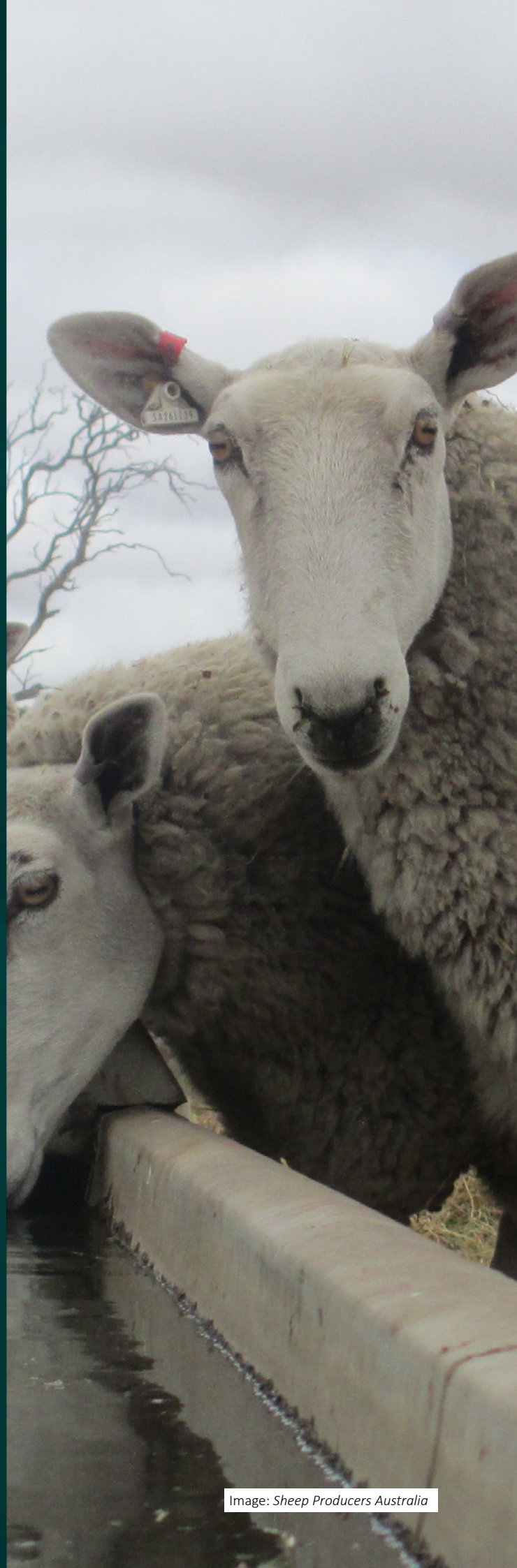
Priority areas for action to achieve objective 5

- 02.** Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers
- 03.** Develop a 'tell us once' approach across the traceability ecosystem
- 06.** Improve two-way, producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development
- 11.** Promote the importance of agricultural traceability to reach mutually beneficial outcomes with Asia Pacific partners and other countries

Objective 6

Strengthen national and international collaboration and partnerships on traceability

to protect Brand Australia, influence international trends, and demonstrate our world class systems



Objective 6

In some instances, Australia's key international trading partners are proactively enhancing and integrating their domestic traceability systems and improving the ability of their exporters to differentiate products to unlock additional value.

Through improved domestic cooperative arrangements, Australia should take a similar approach to improving its broader systems to enhance biosecurity emergency responses, and support and expand market access. It is more effective than making incremental adjustments for specific commodities.

There is an expansive volume of shared national agricultural traceability initiatives underway across the whole ecosystem, including, but not limited to, data standards development, market access retention initiatives, education programs, technology trials and credentials development.

Each Australian state and territory is progressing distinct traceability work programs around biosecurity tracking, regulatory mapping, international engagement, and investment targeting. Without nationally coordinated leadership and alignment, there is a risk of these initiatives and work programs overlapping and efforts being duplicated. There is also a need for national coordination on cultural provenance and intellectual property for First Nations Australians and producers.

Additionally, increased consideration of agricultural traceability issues in multilateral forums could provide a platform for Australia to take a leadership role in developing new rules and norms. This could eventually provide the basis for a common international approach.

A way to achieve this is through forging proactive international partnerships, which enable active participation in the development of multilateral rules and standards.

Priority areas for action to achieve objective 6

- 07.** Create an evidence-based and sustainable funding model for agricultural traceability initiatives
- 08.** Implement a communication and education campaign to strengthen awareness of agricultural traceability
- 09.** Establish a flexible and responsive agricultural traceability research and development agenda
- 10.** Establish governance mechanisms for the Australian agricultural traceability ecosystem
- 11.** Promote the importance of agricultural traceability to reach mutually beneficial outcomes with Asia Pacific partners and other countries

Objective 7

Build a coordinated, collaborative, evidence-driven education, research and development agenda

to lift our understanding
of, and responses to, risks
and opportunities



Image: Justus Menke

Objective 7

Better directing investment, coordinating research, and invigorating educational programs has been a longstanding objective of the national agricultural traceability work program, including the broader efforts of the traceability ecosystem.

This objective recognises the need to continue to enhance awareness, trust and understanding between industry, government and other stakeholders through credible and compelling research to help tell the traceability story. This enables focused investment, dove-tailed complementary initiatives, and improved understanding of respective public-private benefits.

Australia has some of the world's leading agricultural scientists, and research and development (R&D) corporations. Our approach to COVID-19 and FMD preparedness has been shaped by the best scientific and biosecurity advice. This expertise should be harnessed into a national R&D agenda to focus and coordinate efforts on key issues and avoid duplication of work.

Mapping the current state of traceability research is important for incorporating the latest findings and advancements into policymaking, and for identifying commercialisation opportunities early to ensure R&D return on investment. Understanding the current state is also necessary to enhance and protect Australia's 'clean and green' reputation and our favourable biosecurity status relies heavily on high quality and focused R&D. It can also support a greater understanding of the properties, provenance, and value of First Nations Australians' products.

Researchers, academics and funding agencies can also improve our understanding of traceability requirements for target export markets now and into the future.

Through driving collaboration and dynamic connections, education and R&D can also help address the lack of understanding on the part of some stakeholders about the agricultural traceability system and the important role it plays in building trust, meeting customer expectations and building value across the entire supply chain.

To translate research outcomes and easily explain them, accessible education and marketing campaigns should be developed to improve stakeholders' understanding and provide the evidence base to support the benefits of widely used and interoperable traceability systems.

Priority areas for action to achieve objective 7

- 03.** Develop a 'tell us once' approach across the traceability ecosystem
- 04.** Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment
- 08.** Implement a communication and education campaign to strengthen awareness of agricultural traceability
- 09.** Establish a flexible and responsive agricultural traceability research and development agenda
- 10.** Establish governance mechanisms for the Australian agricultural traceability ecosystem



Objective 8

Establish governance

and work within government rules and regulations, to uphold transparency and accountability on initiatives and ensure fit-for-purpose traceability outcomes for the future to exceed \$100 billion in farm gate output by 2030



Image: Brooke Cagle

Objective 8

Successive consultation, particularly during the National Traceability Summit 2022, indicated that establishing good governance will provide critical oversight of the approach to the pressing challenges and deliver on the priority areas for action. Governance is needed for the application of consistent data standards, and incentive mechanisms, such as managing grant programs.

In the interests of efficiency and avoiding duplication, there is a clear goal to strive for shared responsibility that promotes and maintains continuous improvement in the traceability ecosystem and ensures and validates the focus on key deliverables. Governance is critical to ensure we are delivering especially in areas such as biosecurity, opportunities for First Nations Australians, businesses, and sustainability. There is also a need for accountability and transparency at the national, jurisdictional and local levels regarding agricultural traceability improvements.

All sectors are encouraged to participate in enhancements under this strategy to secure the best outcomes from a nationally coordinated approach. A governance structure will be necessary to oversee this collective national progress with agricultural traceability.

Priority areas for action to achieve objective 8

- 07.** Create an evidence-based and sustainable funding model for agricultural traceability initiatives
- 10.** Establish governance mechanisms for the Australian agricultural traceability ecosystem

Wine Australia: Enhancing traceability and transparency

A brief history of Australian wine regulation

Aided by preferential tariff treatment for exports of fortified wine to the United Kingdom throughout the 1920s, the demand for Australian wine became so great that compromised batches of wine began to be shipped. Australia's international brand and reputation was tarnished.

It took decades for the Australian wine sector to recover from this blow, ultimately leading the wine industry to approach government with a request for stronger mandates and regulations around the standards of Australian wine exports. To this day, wine is one of Australia's only commodities which requires a licence for its export, with regulation of the sector led by Wine Australia – an Australian statutory corporation that promotes and regulates the wine industry.

Label Integrity Program

The management of wine traceability in Australia is supported through the Label Integrity Program (LIP), which was introduced in 1989. The objective of the LIP is to help ensure the truth and reliability of statements made on wine labels about the vintage, variety or the geographical indication of Australian wine. The LIP imposes obligations on every party in the supply chain to make and keep records verifying vintage, variety and origin claims made in relation to wine goods. Verifying the vintage, variety and origin of wine through analytical testing is currently unachievable, so a one-step forward, one-step back tracing system is used across the supply chain.

Wine Australia's Licensing and Approval System (WALAS), requires Australian wine exporters to upload all labels for packaged products prior to gaining export approval. As a consequence, all exported wine labels are searchable through a label directory, which can be accessed through Wine Australia's Export Label Image Search System (ELISS). ELISS allows brand owners to identify potential breaches of intellectual property rights and provides a platform through which consumers can verify whether a label has originated in Australia. The system seeks to minimise the extent of brand infringement throughout the Australian grape and wine sector.

Australia is well regarded for its wine domestically and internationally. Each year, Australia grows approximately **1.8 million tonnes** of wine grapes and produces approximately **1.3 billion litres of wine**, with production spread across **65 regions** and approximately **2,500 wineries** and **6,000 grape growers** (Wine Australia, 2021a)
wineaustralia.com/market-insights/australian-wine-sector-at-a-glance



Traceability learnings across the wine industry

WALAS collects data relating to wine exported by approximately 1,500 licensed wine exporters. This system approves approximately 20,000 products and 15,000 individual shipments each year (Wine Australia, 2021a). It also approves large volumes of shipments per year, with wine exports for 2020 to 2021 at 693 million litres (Wine Australia, 2021b).

This kind of system generates an incredibly rich data set, which tracks not only high volumes of wine, but their vintage, variety, origin breakdown, packaging types, cost, value and the port of loading and unloading. This kind of information underpins the authenticity and traceability of Australia's wine exports, making the wine industry one of Australia's biggest export industries, and assists the wine industry's reputation in a manner consistent with rising consumer demand for greater traceability.

\$45b

is the estimated contribution of wine to the Australian economy each year

Looking to interoperability

Currently, the way in which mandatory records are required to be kept under the LIP is not legislated. Some sector participants keep paper-based records, while others have advanced to developing their own digital systems. Some in the sector consider that there is an opportunity to promote interoperability throughout the industry by keeping records in a centralised system, utilising a geolocated database which could allow users to access an information repository, enhancing traceability and provenance.

A private company, Entrust, recently ran a pilot out of the Clare Valley, utilising geolocation data generated by Wine Australia as part of its National Vineyard Scan. Entrust's trial tested the use of a scannable token within the screwcaps of wine bottles, allowing users to wave their phone over the cap to access traceability information. A key challenge faced during this trial was that there is typically only one grape harvest a year and potential for data sets are limited.

Wine Australia is currently applying for further support of its traceability efforts and to improve the LIP.

For information about Wine Australia labelling, see: wineaustralia.com/labelling/domestic-labelling



Key insights

01 Education on regulation:

Wine Australia, as the regulator, places a strong emphasis on communication and education regarding the role of regulation, and how it benefits the industry.

02 Risk perspective:

Maintaining and continually enhancing a traceability framework is essential for the sector to mitigate risks associated with fraud or loss of reputation for authenticity or integrity.

03 Market access:

A robust regulatory framework is essential to securing market access. By certifying and authenticating a product prior to export, receivers of goods can be confident knowing it is in line with their country's requirements, removing the need for further analytical testing on arrival.





The Australian Government is committed to trade diversification, and will continue working with industry to simplify trade and improve cross-border IT systems, to help strengthen our supply chains and boost our cross-border trade competitiveness.

Don Farrell, Minister for Trade and Tourism

Simplified Trade System

Australia's cross-border trade environment is complex and fragmented, posing challenges for business and reducing our competitiveness on the global stage. The Simplified Trade System (STS) reforms will support Australia to diversify and become a leading trading nation. The reforms are delivering simpler trade rules, more integrated trade-related services, and higher levels of digitisation and data sharing, while continuing to strengthen Australia's border security, biosecurity and community protections.

The Simplified Trade System Implementation Taskforce (STS Taskforce), working across all levels of government and with business has built a comprehensive understanding of Australia's cross-border trade environment. This included the first-ever baseline of cross-border trade regulations, digital systems and the business experience. This work informed the co-design of a draft future state with business and supported advice to government on aligning and integrating whole-of-government cross-border trade reforms.

The STS will deliver regulatory, process, digital and data reforms to improve Australia's cross-border trade environment in the short, medium and longer term. The STS is already delivering value to business, government and the Australian community. Reforms such as a biosecurity self-service portal, simpler customs rules, and real-time customs system status information have been delivered or are well underway.

These reforms will support modernising Australia's agriculture export and import systems and processes and deliver on commitments to support industry's \$100 billion by 2030 and the Commonwealth Biosecurity 2030 agenda. In particular, work to make cross-border trade rules easier and simpler to comply with, increase data sharing and harmonise data standards and further digitalising cross-border trade processes will support the *National Agricultural Traceability Strategy 2023 to 2033*.

For information about Simplified Trade, see simplifiedtrade.gov.au/simplifying-trade.

Benefits

- Making trading easier and cheaper for Australian businesses, lifting productivity and growing jobs
- Improving supply chain resilience and reducing cost of living pressures
- Increasing Australia's global cross-border competitiveness
- Increasing the efficiency and effectiveness of government administration



Traceability solutions can help streamline export and customs clearances, quickly authenticate auditing and sustainability requirements, reduce the burden of manual documentation which can save money and valuable resources for the industry, and most importantly, provide consumers confidence that the product they are purchasing internationally is our great, Australian seafood.

Veronica Papacosta, CEO Seafood Industry

Seafood Industry Australia

Seafood Industry Australia is undertaking a pilot project focused on verifying the authenticity for traceable Australian seafood. A robust traceability and authenticity system will help protect the reputation of Australian seafood in export markets, defend Australia's value-add position, reduce the burden of market entry and customs clearance, and address provenance verification. All while telling the 'Australian' story of our produce.

The project is led by OpenSC and builds on the pre-existing partnership between OpenSC and Austral Fisheries, where OpenSC's platform is used to verify the sustainable catch location of Austral's Glacier 51 Patagonian toothfish. The platform tracks the product from the depths of Australia's sub-Antarctic fishing territories located in the Southern Ocean, through to the purchase of the product by consumers in Tier 1 cities in China.

Once the pilot is finalised, the technology will be made available to the broader seafood industry and Australia's primary producers. The flexibility of the pilot program and scalability of the technology means the industry will not be reliant on one service provider for commercialisation, instead allowing producers to select their preferred authenticity and traceability provider.

For information about Seafood Industry Australia, see seafoodindustryaustralia.com.au.

Benefits

- Counterfeit mitigation
- Scanning technologies unable to be copied
- Brand and product authenticity
- Trust in the ocean to plate story
- Support for Australia's high-value, premium produce



By using digital traceability capability, we have been positioned to implement faster responses when recalling and withdrawing a product (if required), in turn providing better protection for the local and export markets, while also allowing us to receive consumer feedback on quality and supply chain conditions.

Johnathon Davey, Chief Executive – Melons Australia

Melons Australia

In 2022, Melons Australia continued a series of trials to successfully trace a number of shipments of melons from farm to various markets. This included tracing melons to New Zealand using a new traceability system and digital platform. This trial was achieved using the 'FreshChain' traceability platform which stores information such as: the grower, pick and pack dates and cut dates (if sold as cut). It also included links to recipes and a website to record a quality score rating based on customer experience of the product.

Another ground-breaking trial saw large seedless watermelons being traced from farm to supermarket (in a partnership between Melons Australia, NSW Department of Primary Industries, FreshChain, Select Melons Australia and Woolworths) to support the transition of specific melon information from the whole product to the quartered/cut product on Australian supermarket shelves (Singh S.P., 2021). This allowed the melon's data and information to be presented via a QR Code on a cut melon for consumers – for the first time ever.

These pilots have been a great success, maintaining traceability from farm to customer, and collecting very high click rates using the QR code. The project also aims to provide the industry with an example of best practice for traceability while enhancing growers' awareness and education around digital traceability and the benefits it provides. It provides useful insights into how to make traceability systems more cost effective for the industry moving forward.

For information about tracing melons in Australia, see melonsaustralia.org.au/traceability-in-melons.

Benefits

- Better supply chain management
- Rapid product recall and food fraud prevention
- More efficient tracing of fruit
- Better farm biosecurity
- Brand and product authenticity



The Code is a practical guide for participants in the grain industry with a key objective to supply grain that meets the expectations of the market. Having capability to trace grain that has travelled through the supply chain is one market expectation.

Tim Ross, Operations Manager – Grain Trade Australia

Australian Grain Industry

The grain sector is one of Australia's largest agricultural industries. To help support market expectations, the Australian Grain Industry employs a Quality Assurance process that is enshrined in the Australian Grain Industry Code of Practice.

Traceability is a support function within the Quality Assurance process and is a component of exporting grain to meet the *Export Control Act 2020*. The code of practice states that participants in the supply chain should have procedures in place that allow for the tracing of grain one-step forward, one-step back in the grain supply chain. The code allows industry to achieve standards and expectations of domestic and export markets and consumers, while also ensuring quality and handling procedures are met.

The code has been designed to promote the use of best management practice by industry participants, including on farm management practices, quality assurance systems, storage and transport practices, and more. The practices may include directions regarding traceability and establish processes when an issue arises to allow a track-back system to be initiated by the relevant industry and government participants in each state and territory.

For information about the Australian Grain Industry, see graintrade.org.au.

Benefits

- Maintain and promote the use of industry-accepted management practices, standards and procedures
- Comply with all legal requirements such as the application and use of chemicals to meet Australian and importing country's maximum residue limits

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Appendix A

Summary of all pressing challenges aligned with relevant priority areas for action, and strategic objectives:

Pressing challenges	Priority areas for action	Aligned objectives
1: Alignment of frameworks and data standards to maximise traceability system innovation, security and interoperability, including streamlined regulation	01. Identify and influence national and international traceability data standards, classifications and assurance models that can be used to support a consistent approach to agricultural traceability	Objective 2 Objective 3
	02. Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers	Objective 1 Objective 2 Objective 3 Objective 5
2: Alignment of government and commercial regulatory and compliance requirements to reduce unnecessary regulatory burden, to support market access, and promote consistent supply chain procedures.	03. Develop a 'tell us once' approach across the traceability ecosystem	Objective 1 Objective 5 Objective 7
3: Increase traceability value-add while ensuring benefits are distributed across the supply chain to sustain and expand market access, and protect and enable agricultural exports, biosecurity and other benefits (e.g. productivity and brand building).	04. Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment	Objective 1 Objective 3 Objective 4 Objective 7
	05. Support industry to implement interoperable systems	Objective 1 Objective 4
	06. Improve two-way, producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development	Objective 1 Objective 3 Objective 5
4: Create enduring and motivated partnerships across the whole traceability ecosystem to own and drive continued improvements and outcomes.	07. Create an evidence-based and sustainable funding model for agricultural traceability initiatives	Objective 1 Objective 6 Objective 8
	08. Implement a communication and education campaign to strengthen awareness of agricultural traceability	Objective 6 Objective 7
	09. Establish a flexible and responsive agricultural traceability research and development agenda	Objective 6 Objective 7
	10. Establish governance mechanisms for the Australian agricultural traceability ecosystem	Objective 6 Objective 7 Objective 8
	11. Promote the importance of agricultural traceability to reach mutually beneficial outcomes with Asia Pacific partners and other countries	Objective 5 Objective 6

Appendix B

Glossary of terms used in the strategy

Agribusiness

Agricultural industries covering primary producers and those businesses further along the supply chains.

Agricultural commodities

Tailored product classification used by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) to identify agricultural, fisheries and forestry goods exported from Australia.

Agricultural products and foods

These include raw and processed products and foods, such as meat, fibre, horticulture, dairy, eggs, forestry, grains, fertilisers, seafood and other fisheries products, honey and other bee products, oils, wine, animal by-products including skins and hides, rendered products and blood products, live animals, and animal feed.

Agricultural sector

A sector reflecting the group of primary industries involved in the production of food, fibres and forestry.

Application Program Interface (API)

An application programming interface, or API, is a type of software interface that makes it easier to transfer information from one system to another.

Biosecurity

Efforts to prevent, respond to and recover from pests and diseases that threaten the economy and environment.

Brand Australia

A term used to highlight the reputation of Australia's high-quality goods and services in a competitive international marketplace.

Co-design

To design (something) jointly by working with others.

Compliance

Adhering to requirements that are decreed by laws and regulation.

Credentials

A trusted product claim that provides assurance to consumers, governments, processors and others regarding the presence of characteristics or attributes that cannot be easily observed. Examples of agriculture credentials include: organic, carbon-neutral, free-range and sustainably-produced.

Digitisation

The process of converting, streamlining and converging analogue information into a digital format on a unified system.

FMD

Foot-and-mouth disease is a highly contagious viral disease of cloven-hoofed animals, including cattle, buffalo, camels, sheep, goats, deer, and pigs.

Interoperable

The ability of different systems, applications or products to connect and communicate in a coordinated way, without effort from the end user.

National Traceability Framework (NTF)

A tool to guide Australian agricultural industries and food producers, governments, and related businesses in enhancing our traceability systems and promoting 'Brand Australia' in our international markets.

OpenSC

OpenSC is a joint venture by World Wildlife Fund Australia and BCG Digital Ventures. It produces a digital platform that uses data to verify a product's sustainable production claims and tracks that product throughout its individual supply chain.

Pressing challenges

A pressing problem, need or issue that has to be dealt with immediately.

Primary production

Those steps in the food chain up to and including storage and, where appropriate, transport of outputs of farming. This would include growing crops, raising fish and animals, and the harvesting of plants, animals or animal products from a farm or their natural habitat.

Priority Areas for Action

These are identified priorities, which will focus efforts and guide the development of broad, integrated and simultaneous action to provide a comprehensive approach and support progress towards the strategy's vision, mission, and objectives.

Provenance

The provenance of a food ingredient or commodity is the origin or source from which it comes, and the history of subsequent operations (supply chains).

Sector

In this strategy, 'sector' refers to agriculture, public sector, private sector, other industries, professionals, the research community, and society.

Stakeholders

Any individual, group or party with an interest or concern in supply chains and can either affect or be affected by them, such as industry and consumers.

Supply Chain

A supply chain is a connected system of organisations, activities, information and resources designed to source, produce and move goods from origin to a final destination—typically from a supplier to an end customer. Modern supply chains are often very complex, spanning multiple countries and involving many steps.

Traceability

The ability to follow the movement of a product through stages of production, processing, and distribution (ISO 2007). In agriculture, traceability typically refers to the tools, systems and processes that enable tracing of agricultural production, food-producing animals and products, back and forth along entire supply chains.

Traceability ecosystem

A holistic view of key stakeholders within the traceability space with varying degrees of multilateral, non-generic complementarities that are not fully hierarchically controlled.

Transparency

The relevant information that is available to all elements of the value chain in a standardised way, which allows common understanding, accessibility, clarity and comparison.

Value-add

Economic and other incentives, such as reduced production costs or increased product value.







