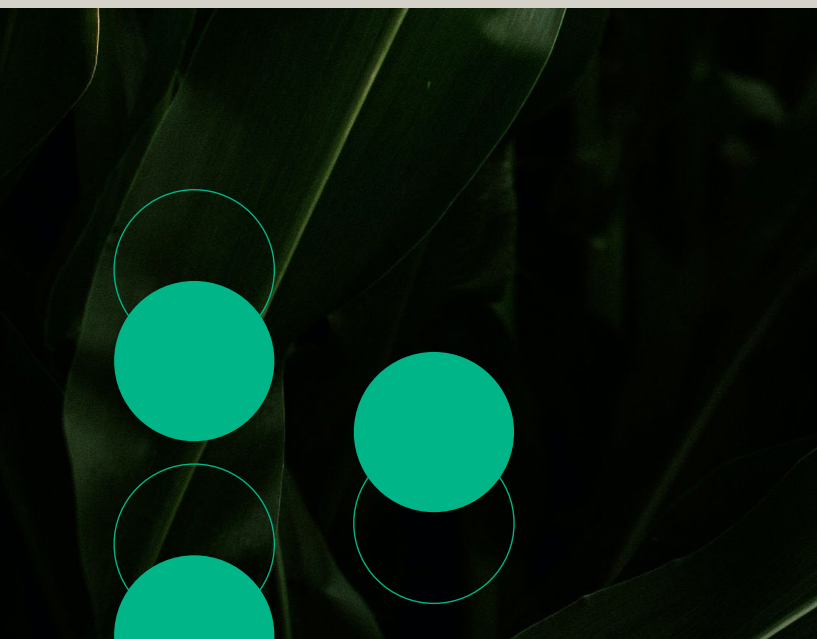




National Agricultural Traceability Strategy: Implementation Plan **2023 to 2028**





© Commonwealth of Australia 2024

Ownership of intellectual property rights

Unless otherwise noted, copyright (and any other intellectual property rights) in this publication is owned by Commonwealth of Australia (referred to as the Commonwealth).

Creative Commons licence

All material in this publication is licensed under a [Creative Commons Attribution 4.0 International Licence](#) except content supplied by third parties, logos and the Commonwealth Coat of Arms.



Cataloguing data

This publication (and any material sourced from it) should be attributed as: DAFF 2024, *National Agricultural Traceability Strategy: Implementation Plan 2023 to 2028*, Department of Agriculture, Fisheries and Forestry, Canberra, September. 2024. CC BY 4.0.

This publication is available at agriculture.gov.au/biosecurity-trade/market-access-trade/national-traceability

Department of Agriculture, Fisheries and Forestry

GPO Box 858 Canberra ACT 2601

Telephone 1800 900 090

Web agriculture.gov.au

Disclaimer

The Australian Government acting through the Department of Agriculture, Fisheries and Forestry has exercised due care and skill in preparing and compiling the information and data in this publication. Notwithstanding, the Department of Agriculture, Fisheries and Forestry, its employees and advisers disclaim all liability, including liability for negligence and for any loss, damage, injury, expense, or cost incurred by any person as a result of accessing, using or relying on any of the information or data in this publication to the maximum extent permitted by law.

Copyright

Cover image: Mika Baumeister

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

Australia's first ever *National Agricultural Traceability Strategy 2023 to 2033* (the strategy) aims to elevate agribusinesses and their supply chains, as we grow our nation's agriculture industry value towards a \$100 billion sector per year by 2030. Since the National Traceability Summit, we have observed a changing landscape for agricultural traceability. Strong evidence-based credentials and data are needed to meet emerging requirements, support claims (e.g. product integrity and animal welfare) and remain competitive in an increasingly complex international trading environment. This is alongside new digital technologies to easily use and transfer information for multiple purposes.

Enhancing our current traceability systems will make them further connected, aligned and interoperable, providing value-adding benefits for domestic and international supply chains. Data collected through these systems is beneficial for industry development and informs critical strategic priorities. It ensures supply chains remain fit for purpose, efficient and dynamic, accelerates Australian exports, and strengthens our national response to biosecurity and food safety risks.

The National Agricultural Traceability Strategy builds upon strategic initiatives such as the *National Biosecurity Strategy 2022-2032*. While the National Biosecurity Strategy focuses on protecting Australia's way of life, the National Agricultural Traceability Strategy focuses efforts on increasing market access, and helping to better manage animal and plant health and food safety risks to support profitable and resilient agribusiness across sectors, who are more efficient and dynamic in processes for trade.

The strategy is being overseen by the Australian Agricultural Traceability Governance Group (AATGG), which has been established by the Minister for Agriculture, Fisheries and Forestry to provide guidance on priorities and actions for Australia's agricultural traceability systems. As part of the broader governance framework, the AATGG assists the Australian Agricultural Traceability Alliance (the Alliance) by helping with awareness and implementation of scalable changes that support certification processes, and ensures Australia remains the trading partner of choice.

It is recognised that our customers and international trading partners seek more transparency with Australian agricultural supply chains. From these enhancements, we expect improved market access, increased efficiencies, and delivery of benefits to farmers. A national approach to agricultural traceability supports emerging environmental, social and governance (ESG) reporting requirements and protects the cultural intellectual property of our sought after First Nations Australians' agricultural products. It demonstrates the quality, safety, sustainability and provenance of our agricultural commodities and products from source to customer.

The strategy's implementation plan was co-designed from the skills, knowledge, and expertise of the AATGG, its subgroups, and the Alliance. We thank those involved for generously sharing insights and experience in developing the direction towards more efficient and streamlined traceability arrangements. On behalf of the AATGG, we are excited to continue working with you, as we begin to realise the vision of the strategy and a future-focused, traceability ecosystem, proving our world-leading supply chain credentials.

Dianne Tipping | co-Chair (AATGG) |
Export Council of Australia

Jo Grainger for Matt Koval | co-Chair (AATGG) |
Department of Agriculture, Fisheries and Forestry



Table of Contents

Foreword	3
Table of Contents	5
A national agricultural traceability vision and mission	6
Our vision	6
Our mission	6
Pressing challenges	8
Objectives	9
Key activities and timeframes	10
Pressing challenge 1	11
Pressing challenge 2	12
Pressing challenge 3	13
Pressing challenge 4	15
Benefits realisation management plan	17
Target benefits	17
Benefits governance	20
Benefits risks and mitigation strategies	21
Appendix A: Stocktake of agricultural traceability initiatives	23
Pressing challenge 1	23
Pressing challenge 2	25
Pressing challenge 3	25
Pressing challenge 4	28
Appendix B: Tactical measures reporting template	31
Pressing Challenge 1	32
Pressing Challenge 2	34
Pressing Challenge 3	35
Pressing Challenge 4	38
Appendix C: Operational measures	42
Example survey questions to correspond to the operational measures	42
Appendix D: Strategic measures	43
Glossary	45



A national agricultural traceability vision and mission

Our vision

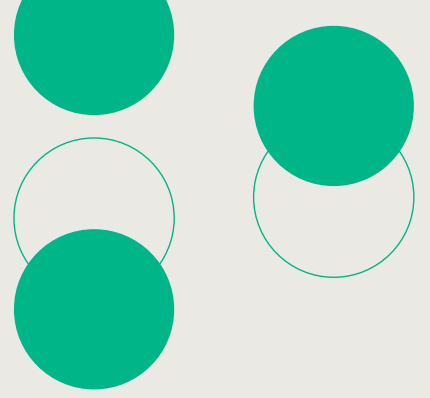
Industry, governments and other agricultural supply chain participants have adopted connected, aligned and interoperable world-class traceability systems along supply chains that are fit for purpose, efficient and dynamic, to accelerate Australian exports and enhance biosecurity and food safety and protect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



Image: *Dylan Shaw*



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 the strategy, including its vision and mission. This implementation plan follows the strategy and was co-designed with stakeholders.

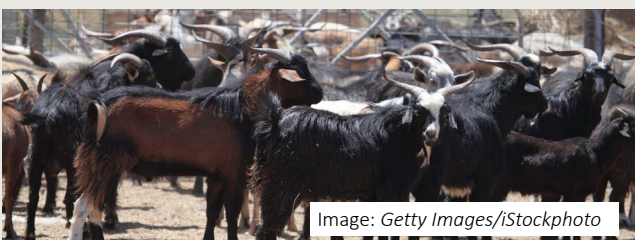
The 4 pressing challenges include:



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 system 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.

Key activities and timeframes

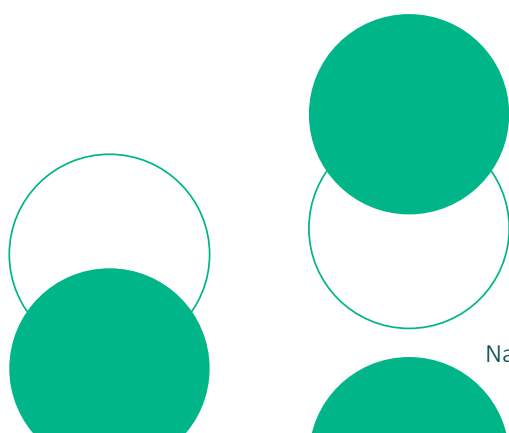
The following high-level key activities are the tangible, targeted actions needed to drive coordinated implementation of the *National Agricultural Traceability Strategy 2023 to 2033* in its first 5 years to provide further enhancements and competitiveness in our agricultural traceability systems. These traceability enhancements will help with the value-add for our agricultural trade, biosecurity, food safety, ethical sourcing and sustainable agricultural practices. This implementation plan provides a framework for this approach and principles for investment.

Pressing challenge 1

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

Indicative leads and collaborators include universities, industry bodies and the Australian Government.

Priority areas for action (PAA)	Key activities for the next 5 years	Time frames for completion
PAA1 Identify and influence national and international traceability data standards, classifications and assurance model that can be used to support a consistent approach to agricultural traceability.	a) Establish multidisciplinary working groups to coordinate and contribute towards overarching data standards, interoperability and data integrity and privacy frameworks (including who owns the data along the supply chain and gives permission).	Completed
	b) Implement proof of concepts for data-enabled traceability systems to support the fair distribution of value-added opportunities through agri-supply chains.	June 2025
	c) Create a transition approach for industry adoption such as the development of a common data model.	December 2024
	d) Support industry through pilot participation to promote the return on investment (ROI) and increased uptake.	June 2025
	e) Achieve long-term adoption amongst industry based on identified leading standards.	January 2026
PAA2 Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers.	a) Undertake national and international maturity assessments and gap analyses of data and technology systems, capabilities, leverage pre-existing maturity assessments and understand legislative requirements.	December 2024
	b) Encourage industry to work with businesses, producers and processor groups to identify drivers and barriers to the adoption of traceability, and develop consistent traceability and logistics processes in defined areas.	March 2025
	c) Develop and/or align draft traceability process guidance and drive technological interoperability across agricultural traceability.	September 2025



Pressing challenge 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.

Indicative leads and collaborators include Australian Government and agencies, and state and territory governments.

Priority areas for action (PAA)	Key activities for the next 5 years	Time frames for completion
PAA3 Develop a 'tell us once' approach across the traceability ecosystem.	a) Identify current interstate and international requirements and horizon scan emerging trends, including cross-commodity requirements and potential impacts to be captured, information sources and case studies, cybersecurity (including others' cybersecurity particularly with centralised data pools), privacy, signals-based approach, and ongoing market access.	March 2025
	b) Develop and implement a fit-for-purpose guide of regulatory and commercial traceability market requirements.	June 2025
	c) Draft, consult and agree to principles focusing on a 'tell us once' approach for guiding legislators and regulators.	December 2025
	d) Encourage industry and government to work with all supply chain stakeholders to develop easy-to-implement traceability requirements and approach.	July 2026
	e) Investigate data exchange principles and automated systems.	December 2026/January 2027
	f) Agree and establish an automated system for ongoing sharing and visualisation.	To be advised
	g) Confirm beta version/draft form and scope funding considerations for ongoing maintenance.	June 2027
	h) Conduct and evaluate RegTech proof of concepts that would support a 'tell us once' approach.	December 2027

Pressing challenge 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).

Indicative leads and collaborators for priority area for action number 4 include industry bodies. Indicative leads and collaborators for priority areas for action numbers 5 and 6 include universities, research organisations and Australian Government and agencies.

Priority areas for action (PAA)	Key activities for the next 5 years	Time frames for completion
PAA4 Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment.	a) Identify value propositions that support interoperability, scalability, affordability, repeatability, sustainability and Environmental, Social and Governance (ESG) considerations.	Ongoing
	b) Develop use cases and benefits analyses (including cost benefits and risk mitigation) to inform business decision-making and continuous improvement drawing on existing pilots, case studies and initiatives.	Ongoing
	c) Engage champions to demonstrate the value of these case studies.	February 2025
PAA5 Support industry to implement interoperable systems.	a) Build and align understanding and capability across industry and supply chain stakeholders on interoperability of traceability systems and requirements that enable market access, such as for sustainability claims and how to implement it across the ecosystem.	Ongoing
	b) Collaborate on system frameworks and their integration between industry/government systems and technologies to develop use cases and pilots to early adoption considering business maturity.	February 2026
	c) Raise awareness and market new viable solutions, including in response to potential cybersecurity risks (including others' cybersecurity, particularly with centralised data pools).	August 2025
	d) Establish incentives and mechanisms to drive adoption of new viable solutions.	December 2024
	e) Implement national biosecurity traceability reforms and enhancements (such as livestock, plant property identification and horses).	To be determined
	f) Specify approaches and requirements for a sustainability credential verification system that is responsive to emerging international requirements and considers Australia's unique landscape and production conditions.	To be determined
	g) Specify methods and requirements to leverage existing data sets to provide evidence for sustainability claims to maintain and grow market access.	To be determined

Priority areas for action (PAA)	Key activities for the next 5 years	Time frames for completion
PAA6 Improve 2-way, producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development.	a) Scope the market intelligence needs of early supply chain participants.	To be determined
	b) Identify and expand feedback loops to early supply chain participants, including producers.	Ongoing
	c) Foster the timely sharing of valuable market intelligence back to early supply chain participants.	July 2025
	d) Evaluate value-add, sustainability and creation and distribution opportunities.	To be determined



Image: Brad Halcrow

Pressing challenge 4

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

Indicative leads and collaborators for priority areas for action numbers 7 and 9 include Australian Government and agencies, state and territory governments, and industry bodies. Indicative leads and collaborators for priority area for action number 8 include Australian Government and agencies, and state and territory governments. Indicative leads and collaborators for priority areas for action numbers 10 and 11 are Australian Government and agencies.

Priority areas for action (PAA)	Key activities for the next 5 years	Time frames for completion
PAA7 Create an evidence-based and sustainable funding model for agricultural traceability initiatives.	a) Investigate ways to improve funding for traceability initiatives, including through industry uplift/private investors and co-funding opportunities with a focus on delivering shared value.	September 2025
	b) Develop and regularly review a flexible and responsive national research and development agenda.	June 2025
	c) Establish and support innovative research commercialisation and translation that underpins product assurance and certainty.	December 2025
	d) Strengthen and expand forums to share research and development.	December 2026
PAA8 Implement a communication and education campaign to strengthen awareness of agricultural traceability.	a) Develop and implement a communication and education strategy that raises awareness and is targeted to solve discrete problems on traceability.	June 2025
	b) Improve audience reach and engagement through traditional, social and innovative media platforms.	December 2025
	c) Strengthen education and training initiatives to improve knowledge about, and develop, resources that promote and support, traceability standards and policies.	December 2026
	d) Design tailored education campaigns that clearly and simply communicate traceability benefits to each part of the supply chain.	December 2026
	e) Promote regulation as an asset for agricultural trade and traceability.	December 2026
	f) Monitor and evaluate the effectiveness of a communication and education strategy.	January 2028
PAA9 Establish a flexible and responsive agricultural traceability research and development agenda.	a) Investigate opportunities to increase support for national traceability research and development priorities.	December 2024
	b) Support innovative research design for translation into practical solutions.	July 2025
	c) Strengthen and expand forums to share research and development e.g. an industry-government biennial national traceability summit.	March 2026
	d) Identify pathways to translate research findings into the most appropriate measures.	June 2027
	e) Leverage international relationships to collaborate and coordinate on research and development and improve national best practices.	November 2028
	f) Regularly review research and development priorities and impacts.	July 2028

Priority areas for action (PAA)	Key activities for the next 5 years	Time frames for completion
PAA10 Establish governance mechanisms for the Australian agricultural traceability ecosystem.	a) Establish and support an ongoing governance framework for the Australian Agricultural Traceability Alliance.	February 2023 – ongoing
	b) Identify and agree on needs and priorities through the governance mechanisms.	Ongoing
	c) Share information and expand linkages and opportunities between stakeholders across all sectors to provide a nationally coordinated approach to enhancing traceability.	Ongoing
	d) Share knowledge (such as the development of benchmarks) between industries to update industry sustainability frameworks and plans and reduce animal health and welfare risks.	Ongoing
PAA11 Promote the importance of agricultural traceability to reach mutually beneficial outcomes with Asia Pacific partners and other countries.	a) Contribute to the current knowledge and understanding of traceability initiatives in Asia-Pacific partnerships.	June 2025
	b) Assist in the development of strategies, tools, and resources to support traceability initiatives in the Asia-Pacific region.	June 2026
	c) Support cross-border capacity to track and trace internationally.	June 2025
	d) Participate in international organisations and other high-level and technical international forums to enhance global traceability policies and initiatives.	Ongoing
	e) Leverage international relationships to collaborate and coordinate on research and development and improve national best practices.	Ongoing



Image: FreshChain Systems

Benefits realisation management plan

The benefits realisation management (BRM) plan is the tracking and reporting on measures to demonstrate whether the objectives of an initiative or investment are being met.

This BRM plan provides a benefits framework with the measures and metrics that can be used to track the outcomes and benefits from the implementation of the *National Agricultural Traceability Strategy 2023 to 2033*. Guidance is also provided on the enabling governance framework and appropriately managing risks to the successful implementation of the strategy.

Qualitative and quantitative data relating to the strategy is in its infancy as implementation is at the initial stages. As qualitative and quantitative data improves and our strategy progresses, so too will the ability to develop improved metrics and the collection of relevant data and case studies to demonstrate success.

As the strategy is owned by the Australian Agricultural Traceability Alliance (AATA) as a coalition of industry, government and other supply chain stakeholders, the collection of data is also owned by this coalition. Data will be sourced from:

- existing agricultural and export data from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and the Australian Bureau of Statistics (ABS)
- grant funding recipients and grant program outcomes
- survey of industry participants across the supply chain
- case studies.

Target benefits

The strategy uses agricultural traceability to help Australia to:

- continue to be a leader internationally in agricultural traceability
- be prepared to meet our trading partners' current and future market access requirements
- enable prompt responses and mitigate biosecurity risks, food safety incidents and market access issues
- create value-added opportunities to grow the agricultural sector and its profitability.

The strategy sets out 4 target measures to estimate the benefits that could be realised from enhanced traceability:

1. Grow the value of the agricultural sector by an estimated \$400 million to \$1 billion in export value per year.
2. Reduce compliance costs by up to \$170 million per year.
3. Improve export administration efficiency by up to \$155 million per year.
4. Reduce the cost of potential biosecurity outbreak scenarios by up to \$68 million per year.

The BRM plan supports the implementation of the strategy by using measures that demonstrate the contribution towards these target benefits. This is done by establishing a line of sight from the key activities, which become tactical measures, to operational measures and finally strategic measures.

The evidence of performance flows up from activities to indicate the success of operational decisions, which feed into the measurement of success against the objectives. Diagram 1 illustrates this flow.

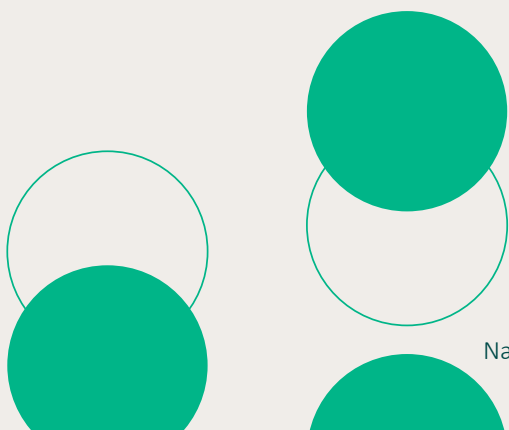
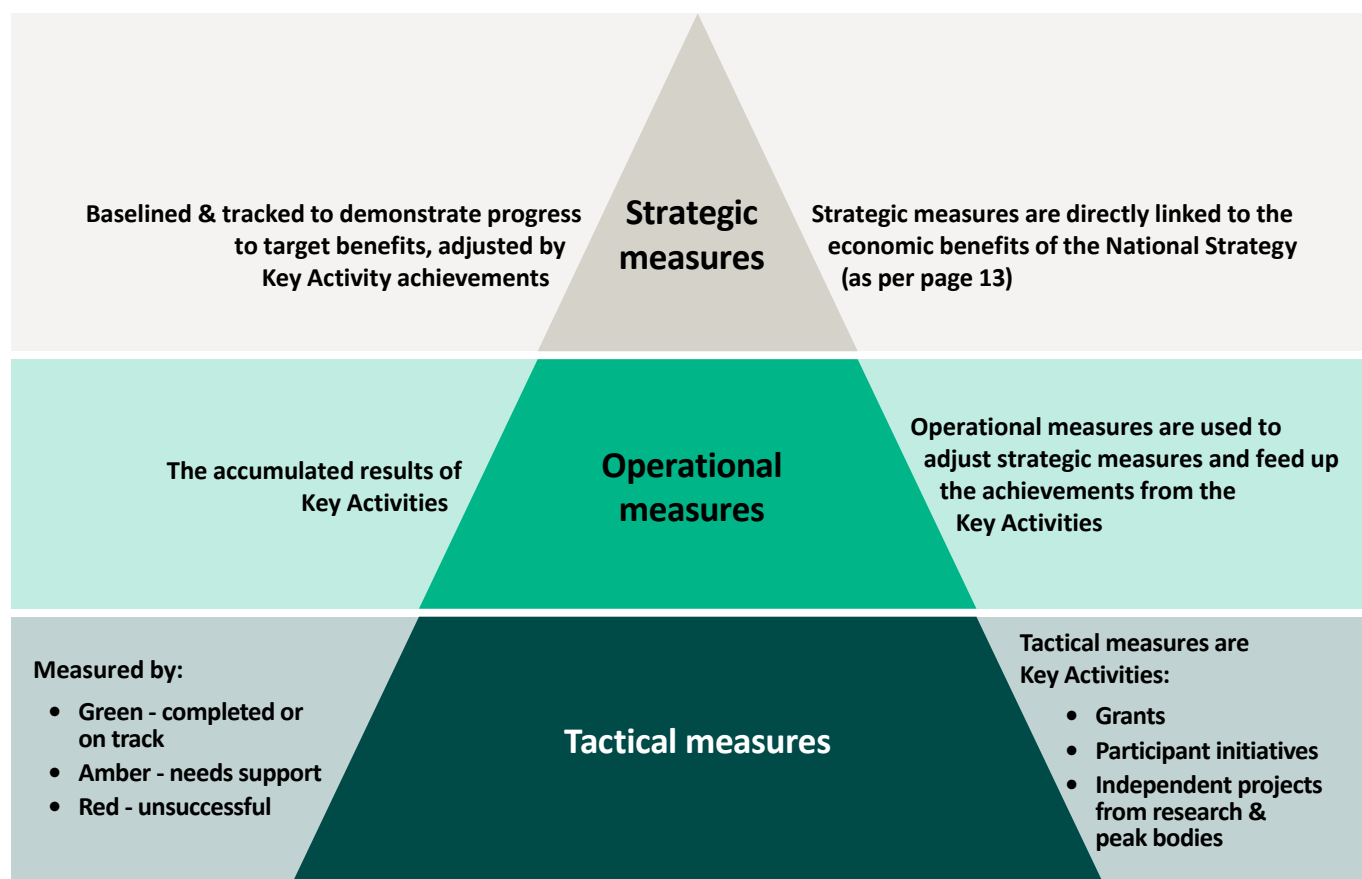


Diagram 1 - Measures Hierarchy



Strategic measures

Strategic measures have been developed to track progress against the economic target benefits. They are adjusted by key activity achievements. The strategic measures were informed by the pressing challenges and objectives of the strategy and directly link to the realisation of the strategy's benefits, increasing Australia's export value and volume, and maintaining Australia's comparative advantage in agricultural traceability. The table below sets out the strategic measures and where the data for these measures will be derived.

Strategic measure	Description	Relevant data
1) Net additional value of agricultural exports due to traceability	Total growth in export attributable to traceability	ABARES, ABS, estimate of Willingness to Pay (WTP) from academic literature
2) Return on investment (ROI) for industry	Case studies on ROI of traceability investment by industry	Examples from industry
3) Reduction in regulatory cost to industry	Estimation of hours spent meeting traceability requirement and levies and fees imposed on industry	Examples from industry, ABARES data, levies imposed in industry
4) Increase in trading partners that adopt Australian traceability approaches	Trading partners that have adopted Australian traceability approaches	Information from international discussions from Government and Industry, export education sessions, case studies
5) End to end traceability adopted (%) by industry	Agricultural producers using end to end traceability	Estimations in the initial stages and later refined by government/industry data
6) Tracking case studies of biosecurity and food safety outbreaks	Case studies on the traceback for biosecurity and food safety emergencies	Examples from government
7) Employment attributable to increased exports value	Estimation of the jobs created from Australia's agricultural traceability	ABARES and ABS data

Data to inform the strategic measures will mature over the life of the strategy. In the initial stages, data will be sourced from the ABS and ABARES and calculated using best estimates. Over time, as the key activities are undertaken, grant funding projects are completed and industry traceability matures, these will also contribute further data. Additional information will assist reporting against the strategic measures and enhance the insights that can be derived. Further information outlining the stages of maturity for the strategic measures is outlined at [Appendix D](#).

Operational measures

Ten operational measures will be used to provide a link between the key activities (which are the tactical measures) and the strategic measures. This will help inform data collection of the strategic measures. The proposed operational measures are the accumulated results of the success of the tactical measures. The 10 operational measures are as outlined in the table below. Information to report on the operational measures will come from an annual survey for grant recipients and industry participants.

Agriculture	Regulation and compliance	Biosecurity and food safety	Support initiatives
Price per KG value added	Regulation and compliance costs	Biosecurity and food safety	Research and commercialisation success
Export value	—	—	Industry adoption and investment in interoperability
Uptake	—	—	Total government funding for traceability
Cost of IP theft	—	—	—
First Nations export value	—	—	—

Note: Example survey questions relating to these measures are included at [Appendix C](#).

Tactical measures

The tactical measures are the key activities as outlined in the [Key activities and timeframes](#) section of the implementation plan. The key activities include:

- grants
- activities by industry and government to further traceability
- independent research and projects from peak bodies and academic institutions.

The key activities have a time span of 5 years and will likely change and evolve over the life of the strategy.

Implementation of the tactical measures, or key activities, will be reported on using a 'traffic light' system at 6-monthly intervals. Each tactical measure will be assessed on status as either:

• Green – completed or on track

• Amber – needs support

• Red – unsuccessful

Consideration is to be given to the following:

- key activity programs and schedule adherence as set out in [Key activities and timeframes](#)
- budget and cost management
- scope management
- resource planning and utilisation
- risk management.

As implementation matures, analysis will be undertaken to assess the success of the tactical measures over time. Additionally, the analysis can help inform the next tranche of key activities beyond the 5-year horizon of this implementation plan. The tactical measures' reporting template is included at [Appendix B](#).



Benefits governance

An effective BRM plan is contingent on implementing a governance process that is outcome-focused throughout the strategy's implementation time span. The benefits governance arrangements outlined in this section will enable this and provide clearly defined benefits governance roles throughout the strategy's implementation.

Governance structure

The Australian Agricultural Traceability Governance Group (AATGG) has been established as part of a broader governance framework for the AATA. The previous Minister for Agriculture, Fisheries and Forestry, Senator the Hon Murray Watt, announced the establishment of the group via [media release](#) on 2 March 2023.

The AATGG's purpose is to provide national governance, leadership, coordination and linkages between various agricultural traceability sectors. Through this shared coordination of implementation, the AATGG ensures effective and non-duplicative efforts when responding to agricultural traceability in Australia.

The AATGG governs the development and implementation of the strategy with an outcome-focused perspective through a committee-in-confidence role.

The Australian Agricultural Traceability Strategic Reference Group (SRG) has also been established to provide technical, operational and strategic advice to the AATGG and other technical working groups where required. The guidance and advice will focus on current and emerging issues, research priorities and implementation approaches.

Through its membership, the SRG will strengthen linkages between governments, industry, professional bodies and other key stakeholders to support a comprehensive and sustainable agricultural traceability ecosystem.

The current technical working groups include the data standards, research and development and assuring sustainability claims working groups. They have been established to provide specific technical advice to the AATGG on priorities for agricultural data standards, national research and development priorities, and existing and emerging sustainability requirements respectively.

Benefit ownership

The SRG is responsible for the measurement of benefits of the strategy, supported by the secretariat within DAFF. The SRG membership provides a broad spectrum of experience across governments, industry and the research community. The realised benefits of the strategy will be shared across the entire agricultural ecosystem.

The BRM plan has been designed to, where possible, build on existing data sources. Where these are not available, the SRG has the unique opportunity to influence data collection across governments and industry to support implementation of the strategy.

Work on data standards focusing on the data needed for future traceability and a gap analysis of the current state will inform the SRG about future data collection and the further refinement of the implementation plan over time.

Benefits risks and mitigation strategies

The table below highlights the risks related to the measuring and realisation of benefits for the strategy and identifies high-level mitigation approaches. This table should be continually monitored and updated during the implementation phases of the strategy.

Risk ID	Risk	Risk type	Mitigation
Risk001	Data to support benefit measurement is obtained from external parties to the SRG (e.g. ABARES). Changes to the availability of these data sources presents a risk to measuring the relevant benefits.	Data risk	Benefits and measures developed collaboratively between ecosystem participants, increasing buy-in and reducing the likelihood that data is made unavailable.
Risk002	Insufficient baseline data to enable target identification, creating a risk that targets are either unrealistic or not identified at all.	Data risk	The quality and quantity of data will mature over time to improve measurability and reporting. This is clearly articulated in this document.
Risk003	Reporting of benefits (and data) is a shared responsibility across government and ecosystem participants. Inaccessibility to data and/or reports may impact alignment across stakeholders and the consistent reporting of benefits.	Data risk	Benefits and measures developed collaboratively between ecosystem participants, increasing buy-in and reducing the likelihood that data is made unavailable.
Risk004	Inadequate resourcing to measure and report benefits presents a risk that BRM activities are not prioritised.	Resourcing risk	Benefit ownership is shared by members of the SRG to support data collection and analysis.
Risk005	Funding of the strategy could come from a range of sources across all agricultural traceability partners, which makes the implementation activities and timelines uncertain.	Funding risk	Benefits identified for each pressing challenge, reducing the risk that benefits have not been identified for funding activities.
Risk006	Strategy is insufficiently funded, creating a risk that its implementation cannot be optimised, and the pressing challenges cannot be resolved.	Funding risk	Funding of the strategy has been earmarked from a range of sources, increasing the pool of potential funds that could be allocated to the strategy. As the benefits of the strategy are more clearly articulated and the ROI on traceability investment better understood, greater industry investment is likely to occur.



Image: Getty Images/iStockphoto

Appendix A: Stocktake of agricultural traceability initiatives

Pressing challenge 1

Priority area for action 1

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.

Agriculture Victoria

Agriculture Victoria Research (AVR) has undertaken research and published or has been accepted to publish journal papers utilising global data standards/coding extrapolated using Global Location Numbers (GLNs) from the farm location assigned to the product packaging. The Key Data Elements (KDEs) and Critical Tracking Events (CTEs) that AVR has developed in the context of orchard production systems have been presented to the AATGG's Data Standards Working Group (DSWG). These have the potential to provide the foundation for horticulture data standards with a focus on tree and vine fruit crops.

Agriculture Victoria is partnering with [GS1](#) to develop a traceability framework for orchard data exchange. The research integrates GS1 standards including Global Location Numbers, Electronic Product Code Information Services (EPCIS) and the Australian Agriculture Traceability Protocol (AATP) and, will establish a model for orchard automation utilising precision location services – Global Unique Identifiers (GUID's). Orchard production data will be connected with a third-party system at selected points in the supply chain. Guidelines that support data exchange will also be developed, including platform harvesting and fruit grading technologies. This will provide secure access to information about the produce, including growing conditions, eco-credentials, spray treatments and water applications. The research project was expected to be completed by 30 June 2024.

Agriculture Victoria partnered with [Fruit Growers Victoria](#) and apple and pear producers to design and test integration of pest and diseases data into AVR's traceability application programming interface (API). The API architecture supports the exchange of selected pest and disease events and information by demonstrating, evaluating and integrating with third party systems. Read the [Technology review for traceability of apple and pear fruit production supply chain](#).

Agriculture Victoria partnered with Australian Research Data Commons to explore how GS1 data standards for orchard chemical use can be applied to apiaries' health and movements. The aim is to develop information models for data exchange and secure sharing of information via agreed GS1 standards between orchard and apiary systems. In addition, a pollination traceability solution will be developed that promotes transparency in the supply chain and has the potential to aid national pest and disease traceability in the event of an outbreak. The design solution will use micro-services-based cloud infrastructure to ensure scalability, cost-effectiveness, and industry readiness. The final report is due 31 May 2025.

Australian AgriFood Data Exchange Consortium

The proposed Australian AgriFood Data Exchange (AAFDX) is to enable participants to share, re-use and merge data from disparate systems in a secure environment on a permissioned basis. Meat & Livestock Australia is the lead partner in the consortium leading development of the AAFDX, along with Fisheries Research and Development Corporation, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Charles Sturt University, Food Agility Cooperative Research Centre, and Australian Wool Innovation.

CSIRO

CSIRO has summarised how a whole-of-chain approach to benchmarks, data collection and reporting could support the Australian agricultural sector's continued access into export markets through demonstrating and improving their sustainability credentials.

Department of Agriculture, Fisheries and Forestry (DAFF)

The Agricultural Traceability Branch at DAFF is working with partners like Codex – International Food Standards; the Department of Foreign Affairs and Trade (DFAT), Standards Australia, the Joint Accreditation System of Australia and New Zealand, and research bodies like Deakin University to develop a data-led approach to traceability.

DAFF is also funding 11 projects under the Sustainability Reporting Uplift open competitive grant round. It will help build the agricultural sector's data capabilities to meet emerging international requirements and industry standards and support

development of consistent sustainability frameworks. The projects will support the agricultural sector through consistent collection, measurement, and reporting of data to make it easier to demonstrate sustainable practices to meet increasing expectations from international markets and consumers.

Deakin University

Deakin University Food Traceability Project promotes low-cost food data standardisation/integration in line with international best practice through their [Implementing Food Traceability Program](#).

Food Agility Cooperative Research Centre

DAFF has awarded a grant to the Food Agility Cooperative Research Centre, to lead industry-government projects to test data-enabled traceability concepts and facilitate industry and government alignment on data standard, which will encourage and empower farmers to securely capture, re-use and share data.

Food Standards Australia New Zealand

The [Australia New Zealand Food Standards Code](#) contains traceability requirements.

Indigenous Land and Sea Corporation

DAFF has partnered with the Indigenous Land and Sea Corporation to develop an Indigenous Agricultural Product Framework. The framework will provide an evidence base to help establish Indigenous agricultural product credentials that can verify provenance, support value-added benefits to First Nations Australians and secure economic benefit for domestic and exported products.

National Farmers' Federation

DAFF has awarded a grant to the National Farmers' Federation to bring industry together to determine how to demonstrate evidence-based sustainability credentials, continue work on the Australian Agricultural Sustainability Framework (AASF), and shape international sustainability standards.

National GS1 Traceability Advisory Group

The National GS1 Traceability Advisory Group has identified global standards based on industry needs and aligned with the role of government to ensure Australian industry maintains and builds sustainable capability, international market access and global competitiveness.

Australian Nuclear Science and Technology Organisation

The Australian Nuclear Science and Technology Organisation (ANSTO) ensures the Kakadu Plum is authenticated as part of a new project in partnership with the Northern Australian Aboriginal Kakadu Plum Alliance. The alliance has received a major grant from DAFF for a 'Certification and Bushfood Traceability and Provenance Project' that will develop a framework combining leading technologies in provenance and traceability within an auditable certification system for producers of Aboriginal products.

Priority area for action 2

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

Agricultural Innovation Australia

Agricultural Innovation Australia identifies, develops, and invests in strategies that address shared challenges and opportunities to deliver transformative outcomes that drive sustainability, productivity and profitability across Australian agricultural value chains.

CSIRO

CSIRO is undertaking the following initiatives:

- Developing technology that allows automating agricultural compliance, while incorporating the associated data protection considerations.
- Collaborating with industry to support data connectedness throughout their operations to improve consistency in compliance and to reduce risk.
- Exploring the digital maturity of the agricultural industries to identify hurdles of adoption of digitisation.

Pressing challenge 2

Priority area for action 3

Develop a 'tell us once' approach across the traceability ecosystem.

Aus-Meat

Through Aus-Meat, the Harmonised Australian Retailer Produce Scheme (HARPS) allows direct suppliers to Australian food retailers to use a single recognised global food safety standard. This eliminates the need for multiple audits for different customers.

Austrade

The Simplified Trade System Unit within Austrade provides integrated advice to government on cross-border trade reforms. It works across government including with DAFF, the Department of Home Affairs, the Attorney General's Department and Department of Infrastructure, Transport, Regional Development, Communications and the Arts to align current and future regulatory and digital reforms.

CSIRO

CSIRO is undertaking the following initiatives:

- Developing data privacy processes that lead to increased data security and controlled data access, including in relation to secondary use of data.
- Undertaking activities and developing technologies that will enable digitisation of compliance rules (which could be applied to e.g. the Manual of Importing Country Requirements (MICOR) and the Export Control Act).
- Developing technologies that can automate agricultural compliance and export certification, integrating the associated data security and privacy considerations.

Department of Agriculture, Fisheries and Forestry (DAFF)

DAFF is funding 15 projects under the Regulatory Technology and Insights Grant round that will show how to leverage RegTech along agricultural supply chains to enhance agricultural traceability reforms and support the growth of the agricultural sector.

Pressing challenge 3

Priority area for action 4

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

Agriculture Victoria

Agriculture Victoria has developed a [Traceability Quick Start Guide](#) providing a practical starting point for anyone wanting to increase traceability measures in their business. Users of the guide can follow a 5-step process to help understand their traceability requirements. Users are guided on developing a business case and apply a cost benefit analysis tool that highlights the benefits of implementing traceability in the business, expected financial and time costs and estimated annual return on investment associated with upgrading or introducing a new traceability system.

GS1

GS1 Australia has been supporting industry and state governments (e.g. Agriculture Victoria) through a series of pilot projects and agricultural extension initiatives involving; cherries, potatoes, citrus, table grapes and melons to demonstrate and use interoperable global data standards to enhance supply chain traceability.

CSIRO

CSIRO is undertaking the following initiatives:

- Conducted studies and surveys on the value of credence attributes in the domestic supply chain and in some of Australia's key export markets.
- Developing a socio-economic model to demonstrate the cost-benefit of more sustainable practices in livestock.

Regen Farmers Mutual

Regen Farmers Mutual operate an open-source, farmer controlled digital system. The system allows farmers to digitally represent their farming activities, independently verify the credentials and decide what data they share or redact. Agencies, customers and entities downstream can access the data – encouraging interoperability and fair distribution of data across the chain.

Priority area for action 5

Support industry to implement interoperable systems.

Agriculture Victoria

Agriculture Victoria provided \$1.4 million to Citrus Australia and the Australian Table Grape Association to lead 2 innovative traceability pilots for premium fruit – in order to grow, diversify and protect high-value exports. This was announced in a [Media Release](#) on 31 August 2021.

Australian Agriculture Ministers

Australian Agriculture Ministers (Commonwealth, state, and territory) have agreed to collectively work to implement mandatory individual electronic identification tagging (eID) of sheep and goats born on or after 1 January 2025. The Australian Government is co-investing with all Australian states and territories to support the transition to mandatory individual eID for sheep and goats and enhance on-farm and off-farm traceability.

Agriculture Victoria has invested \$17 million on the implementation of eID of sheep and goats across the state and has been actively involved with the Commonwealth, states/territories and industry in providing learnings and recommendations from Victoria's experience to inform national development of traceability systems. Victoria has also been actively involved in discussions to reach agreement between government and industry on key recommendations for a national horse traceability system.

Australian Egg Industry

Australian Eggs has finalised a project designed to further the adoption of traceability in the Australian egg industry, providing Australian egg farmers with a raft of new tools to trace the path of eggs across their farms.

Headlining the project's activities is the development of EggTrace, a free, digital tool which democratizes traceability, ensuring that all egg farmers have access to the tools and technology required to trace eggs from lay to dispatch.

A comprehensive traceability manual has also been developed and made available to all egg farmers in Australia. The manual outlines best practice for tracking eggs and provides guidance to support the design of reliable traceability systems for egg farms of any size.

These tools are available to farmers via the newly created Australian Eggs Traceability Hub, a one-stop site for traceability resources.

Access to EggTrace and the Australian Eggs Traceability Manual is available to all egg farmers for free via the [Australian Eggs Traceability Hub](#).

Australian Pork Industry

Australian pig industry has a nationally recognised and independently audited quality assurance program, Australian Pork Industry Quality Assurance Program (APIQV®). APIQV® certification provides customers with assurance of the high standards in place on farms. The program covers food safety, animal welfare, biosecurity, environmental management, and traceability. It is based on the internationally recognised principles of hazard identification and managing risks at Critical Control Points (HACCP). APIQV® also supports PigPass by verifying traceability requirements are met and providing the supporting quality assurance framework. APIQV® Management within Australian Pork Limited handled the administration activities of the APIQV® program.

Australian Pork Limited (APL)

APL provided industry-led development of PigPass in the early 2000s and integration with the National Livestock Identification System (NLIS) in 2016. PigPass is the national traceability system which provides information on the movements of pigs in Australia. PigPass complies with [NLIS Pig Standards](#) to ensure traceability of pigs for disease control and food safety purposes. It underpins industry and government's ability to respond to an emergency animal disease incursion. PigPass is a consignment (mob) based livestock traceability system covering the pig production system from property of birth to the point of slaughter, and all movements in between. PigPass links pigs to a property of origin using a Property Identification Code (PIC), registered pig identification (ear tags and/or tattoos), and pig movement documentation (PigPass National Vendor Declaration (NVD)). A PigPass NVD form must be completed when pigs are moved from properties. The PigPass system applies to everyone who owns a pig, to meet state and territory government traceability legislative requirements. APL maintains a contractual arrangement with Integrity Systems Company to support data from PigPass, which APL manages, to be transferred into NLIS at the point of collection.

Australian Wool Industry

Australian wool industry organisations are working to develop a traceability hub potentially managed by the nation's testing authority, Australian Wool Testing Authority Ltd (AWTA). The proposal follows on from a WoolProducers Australia traceability report that highlighted the importance of industry service organisations, Australian Wool Innovation, Australian Wool Exchange and AWTA, aligning resources to provide a database that allowed a rapid response to an emergency animal disease outbreak with widespread adoption, and support provenance and other non-physical attributes of wool being passed through the supply chain.

CSIRO

CSIRO is creating interoperable, scalable, and accessible traceability solutions reliant on objective verification and validation of products and production attributes throughout the supply chain.

Deakin University

Deakin University's Implementing Food Traceability Project provides industry incentive by saving on cost of integrating across incompatible systems. The project facilitates product monitoring and enables product identification by providing an internationally recognised code visible across the supply chain.

Department of Climate Change, Energy, the Environment and Water and Queensland Department of Agriculture and Fisheries

The Department of Climate Change, Energy, the Environment and Water, Queensland Department of Agriculture and Fisheries and industry are investing in the design and implementation of a traceability system for live coral specimens harvested from the Queensland Coral Fishery. Most of the harvested coral (~80%) is sold for export to overseas markets as part of the ornamental aquarium trade with an estimated industry value of \$25.3m (2020–21). As a listed species under the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES), the export of coral from Australia is subject to controls and monitoring. A traceability system will help provide greater transparency and evidence to demonstrate sustainable trade. Corals play a critical ecosystem role building reefs which support fish and other marine species. The traceability system for coral will position Australia at the forefront of coral trade accountability, and support bolstered social license and sustainability assurance to domestic and international markets.

Integrity Systems Company

Integrity Systems Company continues to enhance the electronic National Vendor Declaration (eNVD) platform to support the digital exchange of information through the livestock supply chain. The eNVD platform encompasses:

- Livestock Production Assurance (LPA) NVDs
- Animal Health Declarations
- Meat Standards Australia Declarations
- National Feedlot Accreditation Scheme Documentation.

Interoperability with third-party applications has been achieved through access to Application Programming Interfaces (APIs) under licence. The recent release of the eNVD Livestock Consignments App has delivered an end-to-end digital solution for the exchange and handover of livestock consignments through the supply chain, regardless of connectivity.

In 2023, Integrity Systems Company initiated the [National Livestock Identification System \(NLIS\) Database Uplift Project](#). This 3-year project, supported by a \$22.5m Australian Government funding grant, has been established to build a new national livestock traceability platform to replace the 23-year-old NLIS database. The NLIS Database Uplift Project will ensure Australia

has a fit-for-purpose and user-friendly traceability platform that offers flexibility and scalability to track all livestock movements now and into the future.

The new NLIS database will offer a more streamlined user experience and will support improved interoperability aimed increased efficiency and streamlined data exchange. It will integrate with the eNVD livestock consignment system ensuring a simpler process for producers and other users. The new system will also be able to handle the increased volume of data inputs expected following the introduction of compulsory sheep and goat electronic identification from 1 January 2025.

Sheep Producers Australia

Through an Australian Government grant, Sheep Producers Australia and the Goat Council of Australia provide communications and engagement support for the Sheep and Goat Traceability Task Force. This is in relation to the national implementation of eID for sheep and goats from 1 January 2025.

Priority area for action 6

Improve 2-way producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development.

CSIRO

CSIRO is undertaking the following initiatives:

- Developed models that estimate the environmental footprint for producers and supply chains.
- Developing and will deploy traceability technologies for proof of origin to verify food credentials across the supply chain and allow for timely responses to threats.

Deakin University

The Implementing Food Traceability Project was co-designed between industry and government, providing further supporting opportunities for both partners to work together to identify premium value opportunities.

Pressing challenge 4

Priority area for action 7

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

Awaiting development.

Priority area for action 8

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

Agriculture Victoria

The Victorian Government has been actively campaigning on agricultural traceability and should be considered as a partner or contact to discuss ideas to launch government-run communication and education campaigns.

Priority area for action 9

Establish a flexible and responsive agricultural traceability research and development agenda.

Grower Group Alliance

The Grower Group Alliance works with producers to identify areas of priority for research, investment and adoption/extension of current research and availability of current tools and techniques to improve practice across multiple agricultural sectors.

Priority area for action 10

Establish governance mechanisms for the Australian agricultural traceability ecosystem.

National Farmers' Federation

DAFF provided \$4 million in funding to the National Farmers' Federation to design an Australian Agricultural Sustainability Framework (AASF) between 2020 and 2022 with the participation of farmers and other industry members. The AASF has been created to communicate the sustainability status and goals of the Australian agricultural sector to domestic and global communities and markets. The aim is for the AASF to assist in alignment and consistency across existing and emerging frameworks, schemes and programs, and to address common issues like access to data.

Priority area for action 11

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

Australian Nuclear Science and Technology Organisation (ANSTO)

ANSTO leads a collaborative project through the Forum for Nuclear Cooperation in Asia (FNCA) titled, 'Combating Food Fraud using Nuclear Technology' which involves 8 countries across the region. The major objectives of this project are to establish a data-driven provenance technology platform to support Australian trade and biosecurity measures among Asia-Pacific countries. Furthermore, ANSTO has a long-standing relationship with the Australian Centre for International Agricultural Research (ACIAR), the University of New South Wales and the National Fisheries Authority (NFA) in Papua New Guinea (PNG) to develop scientific capacity of PNG through aquaculture research. A new aquaculture research project approved by ACIAR began in January 2024 that includes the capacity building of NFA on food safety assessment and traceability which are important for NFA's participation in the fisheries export and the supply of safe products for local consumption.

Australian Centre for International Agricultural Research (ACIAR)

ACIAR works with international partners to foster and implement global research collaborations that support strategic development in agriculture. By leveraging such partnerships Australia can continue to influence and promote more productive and sustainable agricultural systems for the benefit of Asia-Pacific neighbours.

Department of Agriculture, Fisheries and Forestry (DAFF)

Trade and International Division is responsible for improving international market access for Australian primary producers. It works through bilateral, regional, and multilateral engagement to help enhance Australia's trade opportunities. The division also includes agriculture counsellors based around the world in key trade locations.

Department of Foreign Affairs and Trade (DFAT)

DFAT has an agricultural development section focusing on agricultural development in the Indo-Pacific.

Export Council of Australia

DAFF has awarded a grant to the Export Council of Australia to provide international trading partners with awareness and understanding of Australia's initiatives, goals and practices in agricultural traceability and encourage alignment of their traceability efforts with Australia.

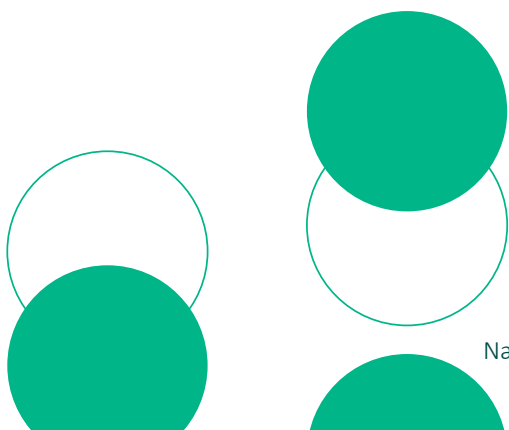




Image: Getty Images/iStockphoto

Appendix B: Tactical measures reporting template

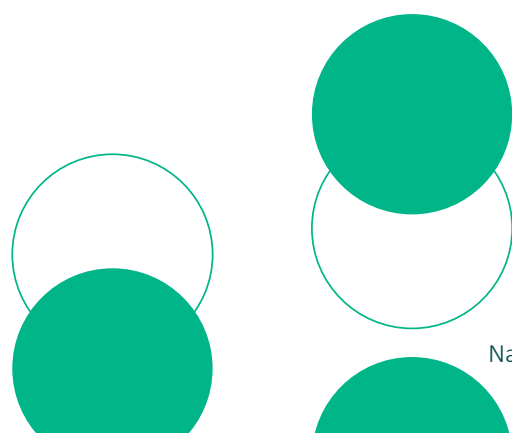
This template is to track key activity delivery on a 6-monthly basis, providing a snapshot to the Australian Agricultural Traceability Alliance (AATA) on the progress of implementation. It is not expected to replace appropriate project planning and governance arrangements for delivery of each of the key activities. This is a living schedule and will be subject to change from time to time.

Instructions

- Determine status of the key activity:
 - Green – completed or on track
 - Amber – needs support
 - Red – unsuccessful.
- Include status from the last reporting period to assist analysis over time.
- Summarise key risks and mitigation measures.

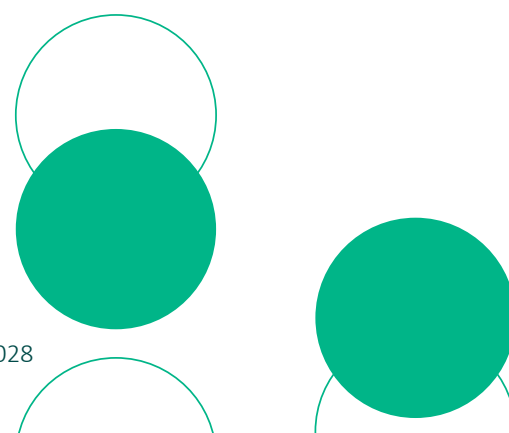
When determining the status of the key activity, consider:

- key activity program and schedule adherence
- budget and cost management
- scope management
- resource planning and utilisation
- risk management.



Pressing Challenge 1: Alignment of frameworks and data standards to maximise traceability system innovation, security and interoperability, including streamlined regulation

Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
1) Identify and influence national and international traceability data standards, classifications and assurance model that can be used to support a consistent approach to agricultural traceability.	a) Establish multidisciplinary working group(s) to coordinate and contribute towards overarching data standards, interoperability and data integrity and privacy frameworks (including who owns the data along the supply chain and gives permission).	Completed	Completed or on track	—	—
	b) Implement proof of concepts for data-enabled traceability systems to support the fair distribution of value-added opportunities through agri-supply chains.	June 2025	Requires monitoring, needs support	—	—
	c) Create a transition approach for industry adoption such as the development of a common data model.	December 2024	Unsuccessful	—	—
	d) Support industry through pilot participation to promote the return on investment (ROI) and increased uptake.	June 2025	—	—	—
	e) Achieve long-term adoption amongst industry based on identified leading standards.	January 2026	—	—	—



Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
2) Align processes and technologies to capture and use data for multiple purposes, such as regulators and feedback to farmers.	a) Undertake national and international maturity assessments and gap analyses of data and technology systems, capabilities, leverage pre-existing maturity assessments and understand legislative requirements.	December 2024	—	—	—
	b) Encourage industry to work with businesses and producer and processor groups to identify drivers and barriers to the adoption of traceability, and develop consistent traceability and logistics processes in defined areas.	March 2025	—	—	—
	c) Develop and/or align draft traceability process guidance and drive technological interoperability across agricultural traceability.	September 2025	—	—	—

Pressing Challenge 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

Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
3) Develop a 'tell us once' approach across the traceability ecosystem.	a) Identify current interstate and international requirements and horizon scan emerging trends, including cross-commodity requirements and potential impacts to be captured, information sources and case studies, cybersecurity (including others' cybersecurity particularly with centralised data pools), privacy, signals-based approach, and ongoing market access.	March 2025	—	—	—
	b) Develop and implement a fit-for-purpose guide of regulatory and commercial traceability market requirements.	June 2025	—	—	—
	c) Draft, consult and agree to principles focusing on a 'tell us once' approach for guiding legislators and regulators.	December 2025	—	—	—
	d) Encourage industry and government to work with all supply chain stakeholders to develop easy-to-implement traceability requirements and approach.	July 2026	—	—	—
	e) Investigate data exchange principles and automated systems	December 2026 / January 2027	—	—	—
	f) Agree and establish an automated system for ongoing sharing and visualisation.	To be advised	—	—	—
	g) Confirm beta version/draft form and scope funding considerations for ongoing maintenance.	June 2027	—	—	—
	h) Conduct and evaluate RegTech proof of concepts that would support a 'tell us once' approach.	December 2027	—	—	—

Pressing Challenge 3: Increase traceability value-add while ensuring benefits are distributed across the supply chain to sustain and expand market access, protect and enable agricultural exports, biosecurity and other benefits (e.g. productivity and brand building)

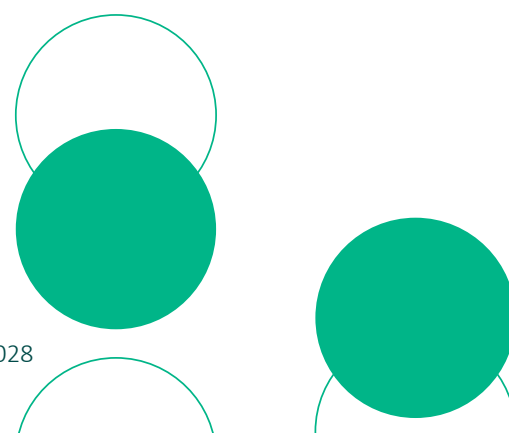
Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
4) Enhance and support trust and adoption of agricultural traceability through demonstration of value-add and return on investment.	a) Identify value propositions that support interoperability, scalability, affordability, repeatability, sustainability and environmental, social, and governance (ESG) considerations.	Ongoing	—	—	—
	b) Develop use cases and benefits analyses (including cost benefits and risk mitigation) to inform business decision-making and continuous improvement drawing on existing pilots, case studies and initiatives.	Ongoing	—	—	—
	c) Engage champions to demonstrate the value of these case studies.	February 2025	—	—	—

Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
5) Support industry to implement interoperable systems.	a) Build and align understanding and capability across industry and supply chain stakeholders on interoperability of traceability systems and requirements that enable market access, such as for sustainability claims and how to implement it across the ecosystem.	Ongoing	—	—	—
	b) Collaborate on system frameworks and their integration between industry/government systems and technologies to develop use cases and pilots to early adoption considering business maturity.	February 2026	—	—	—
	c) Raise awareness and market new viable solutions, including in response to potential cybersecurity risks (including others' cybersecurity, particularly with centralised data pools).	August 2025	—	—	—
	d) Establish incentives and mechanisms to drive adoption of new viable solutions.	December 2024	—	—	—
	e) Implement national biosecurity traceability reforms and enhancements (such as livestock, plant property identification and horses).	To be determined	—	—	—
	f) Specify approaches and requirements for a sustainability credential verification system that is responsive to emerging international requirements and considers Australia's unique landscape and production conditions.	To be determined	—	—	—
	g) Specify methods and requirements to leverage existing data sets to provide evidence for sustainability claims to maintain and grow market access.	To be determined	—	—	—

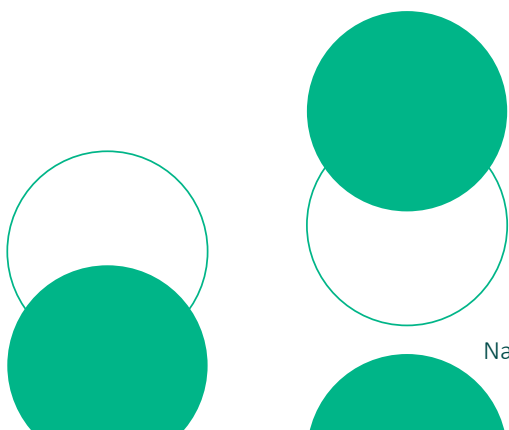
Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
6) Improve 2-way, producer-consumer information flows to identify value-add creation and distribution opportunities and drive business development.	a) Scope the market intelligence needs of early supply chain participants.	To be determined	—	—	—
	b) Identify and expand feedback loops to early supply chain participants, including producers.	Ongoing	—	—	—
	c) Foster the timely sharing of valuable market intelligence back to early supply chain participants.	July 2025	—	—	—
	d) Evaluate value-add, sustainability and creation and distribution opportunities.	To be determined	—	—	—

Pressing Challenge 4: Create enduring and motivated partnerships across the whole traceability ecosystem to own and drive continued improvements and outcomes

Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
7) Create an evidence-based and sustainable funding model for agricultural traceability initiatives.	a) Investigate ways to improve funding for traceability initiatives, including through industry uplift/private investors and co-funding opportunities with a focus on delivering shared value.	September 2025	—	—	—
	b) Develop and regularly review a flexible and responsive national research and development agenda.	June 2025	—	—	—
	c) Establish and support innovative research commercialisation and translation that underpins product assurance and certainty.	December 2025	—	—	—
	d) Strengthen and expand forums to share research and development.	December 2026	—	—	—



Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
8) Implement a communication and education campaign to strengthen awareness of agricultural traceability.	a) Develop and implement a communication and education strategy that raises awareness and is targeted to solve discrete problems on traceability.	June 2025	–	–	–
	b) Improve audience reach and engagement through traditional, social and innovative media platforms.	December 2025	–	–	–
	c) Strengthen education and training initiatives to improve knowledge about, and develop, resources that promote and support, traceability standards and policies.	December 2026	–	–	–
	d) Design tailored education campaigns that clearly and simply communicate traceability benefits to each part of the supply chain.	December 2026	–	–	–
	e) Promote regulation as an asset for agricultural trade and traceability.	December 2026	–	–	–
	f) Monitor and evaluate the effectiveness of a communication and education strategy.	January 2028	–	–	–



Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
9) Establish a flexible and responsive agricultural traceability research and development agenda.	a) Investigate opportunities to increase support for national traceability research and development priorities.	December 2024	—	—	—
	b) Support innovative research design for translation into practical solutions.	July 2025	—	—	—
	c) Strengthen and expand forums to share research and development e.g. an industry-government biennial national traceability summit.	March 2026	—	—	—
	d) Identify pathways to translate research findings into the most appropriate measures.	June 2027	—	—	—
	e) Leverage international relationships to collaborate and coordinate on research and development and improve national best practices.	November 2028	—	—	—
	f) Regularly review research and development priorities and impacts.	July 2028	—	—	—
10) Establish governance mechanisms for the Australian agricultural traceability ecosystem.	a) Establish and support an ongoing governance framework for the Australian Agricultural Traceability Alliance.	February 2023 – ongoing	—	—	—
	b) Identify and agree on needs and priorities through the governance mechanisms.	Ongoing	—	—	—
	c) Share information and expand linkages and opportunities between stakeholders across all sectors to provide a nationally coordinated approach to enhancing traceability.	Ongoing	—	—	—
	d) Share knowledge (such as the development of benchmarks) between industries to update industry sustainability frameworks and plans and reduce animal health and welfare risks.	Ongoing	—	—	—

Priority areas for action	Key activity	Timeframe for completion	Status <date> e.g. May 2024	Status last reporting period <date> e.g. November 2023	Key risks and mitigation measures
11) Promote the importance of agricultural traceability to reach mutually beneficial outcomes with Asia Pacific partners and other countries.	a) Contribute to the current knowledge and understanding of traceability initiatives in Asia-Pacific partnerships.	June 2025	—	—	—
	b) Assist in the development of strategies, tools, and resources to support traceability initiatives in the Asia-Pacific region.	June 2026	—	—	—
	c) Support cross-border capacity to track and trace internationally.	June 2025	—	—	—
	d) Participate in international organisations and other high-level and technical international forums to enhance global traceability policies and initiatives.	Ongoing	—	—	—
	e) Leverage international relationships to collaborate and coordinate on research and development and improve national best practices.	Ongoing	—	—	—

Appendix C: Operational measures

The operational measures will be measured by survey to grant recipients and industry participants, with the exception of the measure of government spending on agricultural traceability. While survey response has a cost to participants, entire supply chains are able to benefit from greater awareness of the benefits of agricultural traceability by building on the historic comparative advantage Australia has experienced with regard to traceability to encourage continued investment and world leading traceability outcomes. The co-ownership of the strategy by industry and government allows for a unique opportunity for industry experience to be fed into the benefits framework.

Surveys will be issued annually. While data may be incomplete in the early stages, it is expected that the quality and quantity of data will increase and improve over time.

Survey questions may need to be adjusted over time, to ensure that the benefits are being captured in the survey. Example survey questions to correspond to the operational measures are shown in the table below.

Example survey questions to correspond to the operational measures

Operational measures		Proposed collection frequency	Example survey questions
Agriculture	Price per KG	Annual	Over the last 6 months, did your KG price increase as a result of traceability?
	Export value		Was the overall export value of your product enhanced by traceability?
	Uptake	Annual	Is your product traceable from end to end? For example, from paddock to purchase by the end consumer?
	Cost of Intellectual Property (IP) theft	Annual	What qualitative or quantifiable impact has traceability had on the cost of IP theft for your product?
	First Nations export value	Annual	Was there a premium in terms of price added to your product as a result of being able to fully trace and claim First Nations provenance?
Regulation and compliance	Regulation and compliance costs	Annual	How many hours are spent per week complying with regulatory requirements for traceability?
Biosecurity and food safety	Case studies of biosecurity and food safety outbreaks	Annual	Have you been financially impacted by a biosecurity or food safety outbreak in the last reporting period? By what financial amount?
Support initiatives	Research and commercialisation success	Annual	Have you been able to commercialise research undertaken relevant to traceability to achieve a measurable financial gain?
	Industry adoption and investment in interoperability	Annual	What is the value of your investment into interoperable systems for traceability for the past 6 months? Are you aware of your return on this investment over the past 6 months?
	Total government funding for traceability	Annual	(Excluded from grant/industry survey – to be completed by governments)

Appendix D: Strategic measures

Strategic measures	Proposed collection frequency	Stage 1 method 2024 to 2025	Stage 2 method 2026 to 2028	Stage 3 method 2029 onwards
Net Additional Value of Exports due to Traceability.	Annual	Total Growth in Exports adjusted by willingness to pay (WTP) and uptake %.	Moving towards using a 5-year rolling average of export value to remove variability in commodity prices. Uptake data will improve and help refine calculation further.	Average price per KG of traceable products compared with average price per KG of nontraceable products.
Return on investment (ROI) for industry.	Annual	Case studies with ROI of traceability investment.	Improved breadth of information.	Average ROI of traceability investment.
Reduction in regulatory cost to industry.	Annual	<ul style="list-style-type: none"> Baseline calculation of hours spent meeting traceability requirements x average salary for farm hand per hour (note not all production originates on farms) Reduction in costs and levies over time Number of regulations reviewed/reformed by states per year. 	Greater reliance on survey responses for better information on hours spent meeting requirements.	Analysis of survey responses for better information on hours spent meeting requirements over time.
Increase in trading partners that adopt Australian traceability approaches.	Annual	<ul style="list-style-type: none"> Number of international discussions attended on traceability and outcomes Export education sessions operated Examples of Australian standards being adopted and considered compliant. 	<ul style="list-style-type: none"> Number of international discussions attended on traceability and outcomes Export education sessions operated Examples of Australian standards being adopted and considered compliant. 	<ul style="list-style-type: none"> Adoption of Traceability in Asia Pacific Region (%) Australian industry traceability accepted as compliant for export markets.

Strategic measures	Proposed collection frequency	Stage 1 method 2024 to 2025	Stage 2 method 2026 to 2028	Stage 3 method 2029 onwards
End-to-End Traceability Adopted (%)	Annual	<ul style="list-style-type: none"> An approximation of adoption over timeframe of the strategy using an estimate for those industries where participation is a regulatory requirement and for others an adoption curve: <ul style="list-style-type: none"> stage 1: innovators (2.5%) + early adopters (13.5%) stage 2: early majority (34%) stage 3: late majority (34%) and laggards (16%) 	Better data increasingly available to measure uptake by sector, moving away from adoption curve estimation	% of producers using end-to-end traceability using verified (e.g. Commonwealth Government) data.
Tracking case studies of biosecurity and food safety outbreaks	As available in early stages, moving to annually	<ul style="list-style-type: none"> Report on the outcomes of the biosecurity/ food safety emergency preparedness and outbreak response Food safety incident costs (case studies) from outbreaks over time Economic benefit of traceability for biosecurity/food safety incidents (case studies) 	Moving towards traceback timeframes measured annually	Average traceback timeframes per sector for high-risk sectors
Employment attributable	Annual	<ul style="list-style-type: none"> ABARES data shows cropping wages account for 6.5% of total production value Using estimated increase in Net Exports (above) estimate the equivalent FTEs, using estimate of wages as a portion, converted to FTEs using average farmhand wage 	<ul style="list-style-type: none"> Updated ABARES and wage data over time Case study examples of traceability causing decisions to invest in more agriculture jobs in Australia 	<ul style="list-style-type: none"> Updated ABARES and wage data over time Further collation of relevant case studies

Glossary

Agribusiness

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

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.

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.

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.

GS1

An international, not-for-profit, supply chain standards organisation. It is an official issuing agency of globally unique identification codes (ISO/IEC 15459) and is recognised by the United Nations. It develops and maintains global standards for the identification, capture, sharing and use of information relating to goods moving through international and domestic supply chains – best known for its use of barcodes, RFID and other non-proprietary data carriers.

Interoperable

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

Premium pricing

A marketing tool to set higher prices for certain goods in the hopes that the higher price will give the impression the good is of a higher quality

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 chain).

Sector

In this plan, '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 22005:2007). In agriculture, traceability typically refers to the tools, systems and processes that enable tracing of agricultural production, food-producing animals and products, back and forward 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.

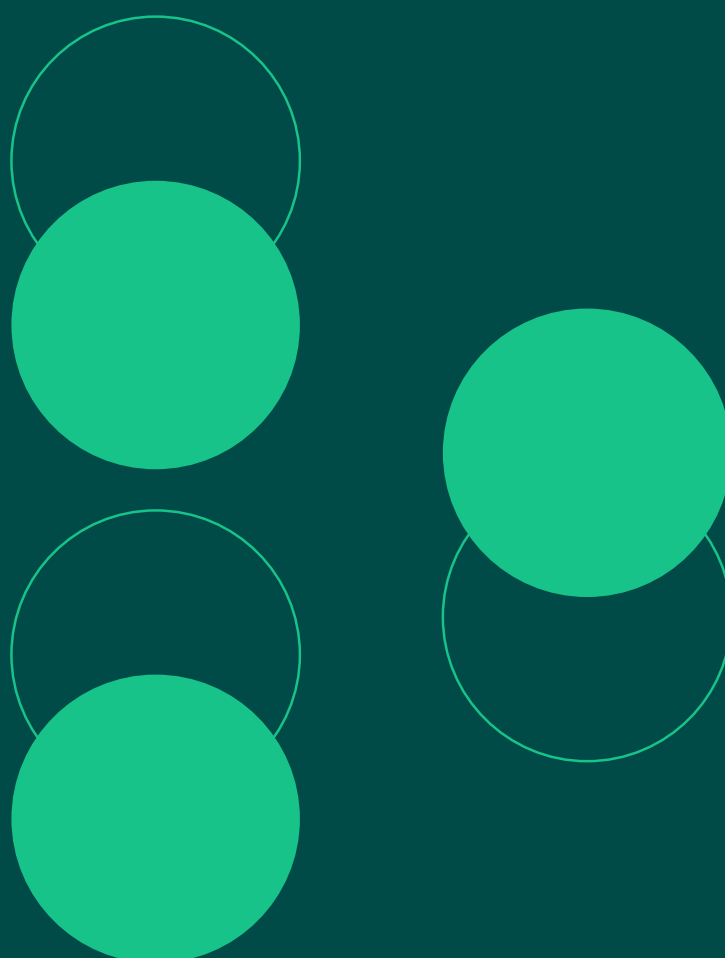




Image: Alex Block

