Animalplan 2022 to 2027 Progress Report 1 November 2023

Acknowledgements

The authors thank stakeholders for their input into this progress report.

Acknowledgement 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.

Contents

Introduction

Animalplan 2022 to 2027 (Animalplan) is Australia's first national action plan to strengthen our production animal health system. It follows on from the success of AQUAPLAN, the national plan for aquatic animal industries.

Animalplan will strengthen Australia's arrangements for managing animal health in agriculture by increasing productivity and reducing production losses incurred as a result of agricultural pests and diseases.

Many government and industry organisations have already developed animal health strategic plans for a single industry, region or jurisdiction. Similarly, national strategies and plans also exist or are under development covering a range of areas, including both the Commonwealth Biosecurity 2030 roadmap and the National Biosecurity Strategy, and issue-specific strategies for surveillance, diagnostics, and antimicrobial resistance. Animalplan does not duplicate or supersede these plans. Rather, it references and links these in a single strategic action plan for terrestrial agricultural animal health.

Implementation of Animalplan activities is a shared responsibility between government and non-government organisations. The Animalplan Steering Committee, with representation from government and industry, is overseeing the implementation of Animalplan activities.

In this report there is some project activity occurring that is not currently able to be reported on, as information becomes available it will be reported on in future reports.

This report provides an overview of the progress of each Animalplan objective and activity.

Project compendium.

Table 1 Project numbers, names and contacts as referred to under objectives below.

Project number	Project name	Activity alignment	Contact
1	Australian Biosecurity Genomic Database for notifiable terrestrial animal viruses	2.1, 2.2	Peter.Mee@agriculture.vic.gov.au
2	Evaluation of antibody-detecting immunoassays for LSD in cattle and buffalo	2.1, 2.2	animalhealthlaboratories@aff.gov.au
3	Developing lumpy skin disease and African horse sickness whole genome sequencing workflows	2.1, 2.2	animalhealthlaboratories@aff.gov.au
4	Establishing networked serological testing capability for African Swine Fever	2.1	animalhealthlaboratories@aff.gov.au
5	Sample Tracking and Reporting System (STARS) enhancement	2.1	animalhealthlaboratories@aff.gov.au
6	Northern Australia biosecurity sequencing (NABSeq): High Throughput Sequencing (HTS) network and facility to enhance northern Australian biosecurity	2.1	Mark.Sistrom@nt.gov.au
7	Lumpy skin disease testing capacity building in the LEADDR network	2.1	animalhealthlaboratories@aff.gov.au
8	Development & evaluation of a POC test network for emergency animal disease diagnosis	2.1, 2.2	Animalhealthlaboratories@aff.gov.au
9	MicroRNA biomarkers for improved detection of animal diseases in a Johne's disease model	2.1, 2.2	Cameron.Stewart@csiro.au
10	Developing immunohistochemistry test for Lumpy Skin Disease	2.1, 2.2	animalhealthlaboratories@aff.gov.au
11	Consultancy for policies, strategies and operating guidelines for point of care (POC) testing for infectious disease	2.2	animalhealthlaboratories@aff.gov.au
12	Smallholder risk and communication research	3.3	adpr@aff.gov.au
13	Antimicrobial resistance survey in the pig industry	4.1	raymond.chia@australianpork.com.au
14	*This project has not supplied public-facing information to date*	1.2	animalplan@aff.gov.au
15	Carcass Disposal - Destroy and Let Lie	1.4	Robyn.Grob@daf.qld.gov.au
16	*This project has not supplied public-facing information to date*	1.5	animalplan@aff.gov.au
17	Feral pig modelling	1.4	Robyn.Grob@daf.qld.gov.au
18	National laboratory simulation exercise planning	2.1	animalhealthlaboratories@aff.gov.au
19	*This project has not supplied public-facing information to date*	2.1	animalplan@aff.gov.au

Project number	Project name	Activity alignment	Contact
20	Building EAD preparedness in domestic abattoirs	3.3	adpr@aff.gov.au
21	*This project has not supplied public-facing information to date*	1.1	animalplan@aff.gov.au
22	Risk assessment for the introduction of Lumpy skin disease (LSD) into Australia through non-regulated pathways	1.4	adpr@aff.gov.au
23	Australian Agriculture Sustainability Framework (AASF)	6.1	NFF
24	Mitigating on-farm antimicrobial resistance risks for livestock industries	4.1	peter@coombeconsulting.com.au
25	Virtual Reality to support FMD training (phase 2)	1.5	vrfmd@aff.gov.au
26	IFEADWG: Enhancing decision making on EAD operations	1.1, 1.3	aha@animalhealthaustralia.com.au
27	IFEADWG: EAD Crisis Management Planning	1.1, 1.3	aha@animalhealthaustralia.com.au
28	*This project has not supplied public-facing information to date*	1.5, 2.1, 3.2	animalplan@aff.gov.au
29	*This project has not supplied public-facing information to date*	1.1, 1.5, 1.6, 7.1, 7.2, 7.3	animalplan@aff.gov.au
30	*This project has not supplied public-facing information to date*	1.1, 1.2, 1.5	animalplan@aff.gov.au
31	*This project has not supplied public-facing information to date*	1.1, 1.3	animalplan@aff.gov.au
32	Disposal priority project focusing on pyrolysis and composting as methods for large animal disposal	1.3	Animal.biosecurity@dpi.nsw.gov.au
33	Independent expert review of the veterinary science education capability of Australia and New Zealand	1.5	VSANZ
34	Agricultural Traceability Enhancement: Australian Government contribution	7.2, 7.3	nationaltraceabilitysummit@aff.gov.au.
35	*This project has not supplied public-facing information to date*	1.5	animalplan@aff.gov.au
36	National laboratory simulation exercise (Exercise Waterhole)	2.1	animalhealthlaboratories@aff.gov.au
37	Enhancement of One Biosecurity System	3.1, 3.2	PIRSA
38	AUSVETPLAN Response strategy: Lumpy skin disease	1.1	aha@animalhealthaustralia.com.au
39	Exercise Milky Way	1.1	aha@animalhealthaustralia.com.au
40	Exercise Paratus	1.1	DAFF

Project number	Project name	Activity alignment	Contact
41	An augmented reality app to demonstrate the signs of four sheep EADs	1.5	aha@animalhealthaustralia.com.au
42	AUSVETPLAN Management manual: Laboratory preparedness	2.1	aha@animalhealthaustralia.com.au
43	National Biosecurity Manual	3.4	aha@animalhealthaustralia.com.au
44	Australia's Animal Sector Antimicrobial Resistance Action Plan 2022 to 2027	4.1	DAFF
45	Alpaca NLIS	7.1	aha@animalhealthaustralia.com.au
46	Deer Traceability	7.1	Agrifutures Australia
47	The National Agricultural Traceability Strategy 2023 to 2033	7.2	DAFF
48	National mandatory individual electronic identification (eID) for sheep and goats	7.2	DAFF
49	NLIS Database Uplift project	7.2	DAFF
50	MyFeedback data	7.2	Integrity Systems Company

Objective 1: Improve Australia's preparedness and ability to respond to emergency animal diseases.

Table 2 Activities to improve Australia's preparedness and ability to respond to emergency animal diseases.

Activity	Lead and key collaborators	Desired outcome by 2027	Status	Progress update	Next steps
1.1. Continue to implement recommendations from emergency responses including EAD incursions, COVID-19, previous EAD simulation exercises and recent natural disasters	**Lead** Animal Health Australia (AHA) (to facilitate engagement across governments and industries); government agencies and peak industry organisations (to lead implementation of recommendations) **Collaborators** None identified	Recommendations from emergency responses are actioned to reduce emergency scenario risks to production animal industries	Yet to commence (some) In progress (some)	• **Enhancing decision making on emergency animal disease (EAD) operations (project 26):** The AHA Industry Forum EAD Working Group (IFEADWG) have developed a proposal that looks at building critical awareness around EAD issues, the impacts that could occur and developing resources and training to aid decision making and planning on a national cross-sectoral basis. • **EAD Crisis Management planning (project 27):** The proposal aims to conduct a stocktake of existing resources and to form a collaborative approach between government and industry (across a range of species) to develop new templates and resources that holistically address the actions and events that may take place in an EAD crisis. Resources developed will be made accessible to other industries. Some industries have since developed their own plans and are sharing them as part of the initial CMP project stocktake. • **AUSVETPLAN** *Response strategy: Lumpy skin disease* **(project 38):** The AUSVETPLAN *Response strategy: Lumpy skin disease (LSD)* was published on the AHA website following incorporation of relevant comments from Exercise LSD2. Items identified by exercise participants considered out of scope of AUSVETPLAN have been referred to relevant stakeholders for further consideration and action. Further updates on progress against such actions will be provided in a later report. • **Exercise Milky Way (project 39) (AHA):** Exercise participants identified a need for further guidance on risk-based decision making. Consideration is being given to how this guidance may be provided to stakeholders. Further updates on progress will be provided in a later report. • **Exercise Paratus (project 40):** The Department of Agriculture, Fisheries and Forestry (DAFF) is delivering Exercise Paratus; a multi-year exercise program that aims to enhance Australia's capability to respond to current and emerging biosecurity threats. The most	• **EAD Crisis Management planning (project 27):** Resources developed will be made accessible to industry and government to provide ongoing training and exercise support. • **Exercise Paratus (project 40):** The lessons from the midpoint review will inform the next phase of the Exercise Paratus program, together with relevant recommendations of the taskforce report. It is intended the three remaining activities will escalate in scale and complexity and be delivered by mid-2024.

Activity	Lead and key collaborators	Desired outcome by 2027	Status	Progress update	Next steps
				recent exercise activity was delivered in June 2023, which used a foot-and-mouth disease (FMD) scenario to validate DAFF's response protocols and the Crisis Communications Response Guide ('playbook') – which was developed as a recommendation of the Joint Interagency Taskforce: Exotic Animal Disease Preparedness. A midpoint review has been undertaken to assess outcomes of Exercise Paratus activities delivered to date to inform future elements of the program. It has identified a number of lessons across the five key areas, comprising: o policy, processes and capability needs o national coordination, leadership and decision-making o operating supports (systems/infrastructure) o communication and situational awareness o exercise administration and delivery. • Projects 21, 29 and 31 have not supplied public information to date but align with activity 1.1.	
1.2. Continue to undertake simulation exercises for a variety of EAD scenarios, including identifying and addressing trade ramifications	**Lead** AHA **Collaborators** Jurisdictions and peak industry organisations	Simulation exercises are completed to reduce industry risks in a variety of emergency scenarios	In progress	• **Exercise Milky Way (project 39):** AHA developed and led Exercise Milky Way, an industry and government exercise to test the raw milk movement controls from the updated AUSVETPLAN response strategy for FMD. Exercise participants confirmed that the raw milk movement controls in the FMD AUSVETPLAN response strategy are functional and fit-for-purpose, and several suggestions were made to improve the practicality of implementing the movement controls during an outbreak. • Project 14 has not supplied public information to date but aligns with activity 1.2.	

Activity	Lead and key collaborators	Desired outcome by 2027	Status	Progress update	Next steps
1.3. Operationalise AUSVETPLAN manuals and documents across industry supply chains and structures	**Lead** AHA **Collaborators** Jurisdictions and peak industry organisations	Agreed AUSVETPLAN manuals and documents are applied to reduce vulnerabilities in industry supply chains and structure	In progress	• **Disposal priority project focusing on pyrolysis and composting as methods for large animal disposal (project 32):** Composting provides an alternative to burning and deep burial that is a biosecure and environmentally sound method of disposal. Further evaluation of this method is required to ensure it is practical and operational in a large animal disease response. Composting: A field trial has been successfully completed at the Rivalea piggery in Corowa (New South Wales (NSW)), providing important preliminary data on process performance and insight into how grinding and composting could be implemented effectively in an EAD outbreak. Pyrolysis: This project found that pyrolysis can be used as a method for pig carcass disposal as it effectively treated the carcasses at temperatures that would eliminate significant pig pathogens. • **Enhancing decision making on EAD operations (project 26):** IFEADWG – mentioned under 1.1. • **EAD Crisis Management planning (project 27):** IFEADWG – mentioned under 1.1. • Project 31 has been mentioned under activity 1.1 but also aligns with activity 1.3.	

Activity	Lead and key collaborators	Desired outcome by 2027	Status	Progress update	Next steps
1.4. Undertake projects, including commissioning and undertaking research, to further develop economic analyses and epidemiological modelling tools supporting rapid decision making in EAD responses for priority diseases	**Lead** DAFF, government agencies **Collaborators** None identified	Existing and/or new decision support tools provide timely and appropriate information to effectively support EAD responses.	In progress	*In progress* • **Carcass Disposal - Destroy and Let Lie (project 15):** Biosecurity Queensland (QLD) - Stage 1 research has been completed. Stage 1 investigated if natural carcass decomposition processes (changes in tissue pH and temperature) could inactivate pathogens such as African swine fever virus (ASFV) in pigs, and FMD virus in cattle, pigs, sheep and goats under Australian conditions over the initial 48hrs post-death. An interpretive report has been prepared and a research manuscript is currently being prepared for publication in a scientific journal. Stage 2 research further investigating decomposition processes and potential ASFV inactivation in pigs over a longer time period has commenced. • **Feral pig modelling (project 17):** Biosecurity QLD's feral pig spatial modelling has improved understanding of feral pig distributions and their ecology which will enable cost-effective strategies for feral pig management. To date, three scientific papers have been published, one each in the _Australian Veterinary Journal_ (2022), _Wildlife Research_ (2023) and _Australian Mammalogy_ (2023). In addition to formal journal papers, the project has put together a comprehensive publicly available report on the effectiveness and efficiencies of feral pig control tools and an internal-only report on the capacity of QLD feral pig stakeholders to control feral pigs. *Completed* • **Risk assessment for the introduction of LSD into Australia through non-regulated pathways (project 22):** DAFF published the final report in November 2022 on the DAFF website: Improving our understanding of the risks of LSD incursions via non-regulated pathways. This work provides critical insights to further support national preparedness efforts. The modelling work will be used to inform surveillance strategies for LSD and support our continued efforts to assist Indonesia and neighbouring countries to manage its spread.	• **Carcass Disposal - Destroy and Let Lie (project 15):** Stage 2 field research has commenced. The project is due for completion in June 2024. • **Feral pig modelling (project 17):** Two additional research papers are under preparation. Ongoing feral pig spatial modelling includes analysing: ✓ movement data before, during and after aerial shooting activities to support refinement of control measure strategies. ✓ habitat use data from additional sites to validate habitat suitability maps and previously generated habitat preference findings to validate model applicability. ✓ Ongoing analysis of thermal imagery and camera trap data for comparison and interpretation to inform improved monitoring techniques. The project is due for completion in June 2024.

Activity	Lead and key collaborators	Desired outcome by 2027	Status	Progress update	Next steps
1.5. Implement innovative technologies and training to meet national EAD education and training needs	**Lead** AHA **Collaborators** Jurisdictions, Australian Veterinary Association (AVA), CSIRO Australian Centre for Disease Preparedness (ACDP) and Veterinary Schools Australia and New Zealand (VSANZ)	Innovative technologies and training methods are adopted and implemented to improve EAD education and training needs for animal health professionals and supply chain participants	In progress	***In progress*** • Projects 16, 28, 29 and 35 have not supplied public information to date but align with activity 1.5. ***Completed*** • **Virtual Reality (VR) to support FMD training (project 25):** DAFF has published this project on their website. The primary objective of the report is to describe how VR could be used to create cost-effective and expandable training applications for the animal handling and biosecurity sectors that can be rolled out to a larger section of the animal handling industry. It focusses on how the technology can be used for training in the early-stage detection and investigation of suspected FMD cases. The findings of the report are supported by a demonstration VR application. Phase 2 of this project is now complete, a report is being reviewed, and the results will be summarised and published on the DAFF website. • **Independent expert review of the veterinary science education capability of Australia and New Zealand (project 33):** VSANZ has published this review on their website. The report makes 25 recommendations, addressed variously at veterinary schools themselves, their universities, accrediting bodies, veterinary professional associations, and governments. • **An augmented reality app to demonstrate the signs of four sheep EADs (project 41):** AHA and PIRSA funded the development of an app that is available in the Apple, Android and Microsoft App Stores and can be used on mobile devices and the HoloLens by producers and other stakeholders to identify signs of FMD, bluetongue, scrapie and sheep pox.	
1.6. Investigate existing systems or trial new systems for national EAD data management in multi-jurisdictional responses	**Lead** DAFF **Collaborators** None identified	EAD data, including surveillance and traceability data, is captured, analysed, managed and shared across jurisdictions and utilised for decision making purposes	In progress	• Project 29 has been mentioned under activity 1.5 but also aligns with activity 1.6.	

Activity	Lead and key collaborators	Desired outcome by 2027	Status	Progress update	Next steps
1.7. Implement activities identified in the National LSD Action Plan	As identified in the National LSD Action Plan	Governments, industries and other relevant stakeholders undertake coordinated and effective actions to mitigate the risks of LSD	In progress	• Quarterly updates on the National LSD Action Plan are provided on the DAFF website.	• As indicated in the quarterly updates on the DAFF website.

Objective 2: Improve Australia's surveillance and diagnostic capacity for animal pests and diseases.

Table 3 Activities to improve Australia's surveillance and diagnostic capacity and capability for animal pests and diseases.

Activity	Lead and key collaborators	Desired outcome	Status	Progress update	Next steps
2.1. Implement actions under National Animal Health Surveillance Business Plan (NAHSBP) and National Animal Health Diagnostic Business Plan (NAHDBP)	As identified in the NAHSBP and NAHDBP	National surveillance and diagnostic capability and capacity for animal diseases adequately manage biosecurity risks and support early detection	In progress	***In progress*** • **Australian Biosecurity Genomic Database for notifiable terrestrial animal viruses (project 1):** This project is developing a genomic database of notifiable terrestrial animal disease viruses in Australia to facilitate a more robust and efficient application of High Throughput Sequencing (HTS) for Australian biosecurity surveillance and disease detection. • **Evaluation of antibody-detecting immunoassays for LSD in cattle and buffalo (project 2):** This project is evaluating the suitability of 3 antibody detection Enzyme Linked Immunosorbent Assays (ELISA) for LSD surveillance, and proof of freedom testing, in cattle and buffalo in Australia. • **Establishing networked serological testing capability for ASF (project 4):** This project is establishing an improved serological testing capability for ASF in Australia by harmonising quality assurance processes and antibody-detection ELISA capability via the Laboratories EAD Diagnosis and Response (LEADDR) network. • **Sample Tracking and Reporting System (STARS) enhancement (project 5):** This project will redevelop the CSIRO-STARS network for enhanced biosecurity and laboratory management system interoperability at both national and jurisdictional levels. The expansion of software capability and improved performance to facilitate integration of a wider group of users to the network will improve Australia's ability to respond to EAD outbreaks. • **Northern Australia biosecurity sequencing (NABSeq): High Throughput Sequencing (HTS) network and facility to enhance northern Australian biosecurity (project 6):** This project is aiming to improve northern Australia's ability to identify and respond to future biosecurity challenges and provide more effective biosecurity risk management through modernisation of disease detection resources and surveillance in the region. • **LSD testing capacity building in the LEADDR network (project 7):** This project will reinforce and extend Australia's LSD testing capability by strengthening the capability of ACDP to participate in international proficiency testing and facilitating a robust and quality-assured national capability through implementation of proficiency testing and Network Quality Control (NQC) monitoring for the disease via the LEADDR Network. • **Development & evaluation of a Point of Care (POC) test network for EAD diagnosis (project 8):** This project will develop a suite of tests on a portable, battery-operated	• **Evaluation of antibody-detecting immunoassays for LSD in cattle and buffalo (project 2):** The ELISA kits will be made available for use by Australian laboratories via the LEADDR network.

Activity	Lead and key collaborators	Desired outcome	Status	Progress update	Next steps
				multiplexing Quantitative Polymerase Chain Reaction (qPCR) platform for the detection of major emergency diseases of cattle and pigs and establish a proof-of-concept for multiplexing qPCR assays for EAD pathogens suitable for use under field conditions. • **MicroRNA biomarkers for improved detection of animal diseases in a Johne's disease model (project 9):** CSIRO-ACDP will evaluate the use of host microRNA for Johne's disease in cattle and provide a proof of concept for the potential extension of this approach to other exotic and EADs. • **Developing immunohistochemistry test for LSD (project 10):** This project will develop and characterise an immunohistochemical (IHC) test for the diagnosis and investigation of LSD virus. • **National laboratory simulation exercise (Exercise Waterhole) (project 36):** Exercise Waterhole is a series of workshops and exercises that will test and evaluate Australia's national laboratory preparedness for a major EAD incursion across the spectrum of laboratory services in Australia. Exercise Waterhole will include a scenario in which there is a primary outbreak of LSD affecting cattle in the Northern Territory and Far North QLD followed by a second concurrent outbreak of highly pathogenic avian influenza (HPAI) in the southern states. The objectives of the exercise are to: Practice the application and assess the potential impact of regulations and legislation pertinent to animal health laboratory services in the event of an EAD incursion across Australia, Confirm that Australia has sufficient laboratory capacity and capability to manage the demands of multiple concurrent high impact EADs, Assess the effectiveness of communication and information management arrangements within and between Australian animal health laboratories, and Identify resource and logistical constraints that may impact on Australia's animal health laboratories, when responding to multiple concurrent high impact EADs. The exercise will include three workshops and conclude with a full-scale exercise in early November 2023. • **AUSVETPLAN *Management manual: Laboratory preparedness* (project 42)**: The AUSVETPLAN *Management manual: Laboratory preparedness* has been updated by an expert AUSVETPLAN writing group to support laboratory contingency plan development. The manual is currently being progressed through the approvals process prior to publication. ***Completed*** • **Developing LSD and African horse sickness whole genome sequencing workflows (project 3):** CSIRO-ACDP have developed a robust whole genome sequencing procedures for both LSD and African horse sickness virus to mitigate the consequences of their outbreaks in	

Activity	Lead and key collaborators	Desired outcome	Status	Progress update	Next steps
				Australia. The genomic sequencing probes and procedures, now available at the ACDP, will be an invaluable resource in the event of an LSD outbreak in Australia. • **National laboratory simulation exercise planning (project 18):** The Subcommittee on Animal Health Laboratory Standards (SCAHLS), through leadership of DAFF and an expert consultant, have completed the process of finalising a business plan to guide the roadmap for a national laboratory-focused simulation exercise. This exercise will assist in the identification of opportunities for training and means by which the surge capacity of Australian animal health laboratory networks in response to major EAD outbreaks can be improved. The progress towards developing the Exercise Program based on the business plan's report and recommendations is now underway. • Project 19 has not supplied public information to date but align with activity 2.1. • Project 28 has been mentioned under activity 1.5 but also aligns with activity 2.1.	
2.2. Develop and implement novel technologies, such as POC animal testing and genomics, to address gaps in diagnostic capacity	**Lead** SCAHLS, Peak industry organisations, Rural Research and Development Corporations (RDCs) **Collaborators** None identified	A number of novel technologies are adopted and implemented that improve Australia's surveillance and diagnostic capacity Australia has a well-developed policy and legislation on the use of POC diagnostic tests in notifiable diseases	In progress	*In progress* • **Australian Biosecurity Genomic Database for notifiable terrestrial animal viruses (project 1):** mentioned under 2.1. • **Evaluation of antibody-detecting immunoassays for LSD in cattle and buffalo (project 2):** mentioned under 2.1. • **Development & evaluation of a Point of Care (POC) test network for EAD diagnosis (project 8):** mentioned under 2.1. • **MicroRNA biomarkers for improved detection of animal diseases in a Johne's disease model (project 9):** mentioned under 2.1. • **Developing immunohistochemistry test for LSD (project 10):** mentioned under 2.1. *Completed* • **Consultancy for policies, strategies and operating guidelines for POC testing for infectious disease (project 11):** This project will support the development of a nationally consistent management approach towards the use of POC tests specific for national notifiable and reportable diseases in terrestrial and aquatic animals in Australia. • **Developing LSD and African horse sickness whole genome sequencing workflows (project 3):** mentioned under 2.1.	

Activity	Lead and key collaborators	Desired outcome	Status	Progress update	Next steps
2.3. Conduct an audit of current and future export and import market access requirements for animals and animal products to guide national surveillance planning	**Lead** DAFF **Collaborators** None identified	Surveillance requirements are identified, understood, and implemented to improve market access and support Australia's disease status claims	Yet to commence		

Objective 3: Improve the adoption and implementation of biosecurity practices throughout the terrestrial animal industry supply chain.

Table 4 Activities to improve the adoption and implementation of biosecurity practices throughout the terrestrial animal industry supply chain.

Activity	Lead and key collaborators	Desired outcome	Status	Priority progress update	Next steps
3.1. Investigate the benefits and consider developing a national dashboard platform for government and industry biosecurity information systems, such as South Australia's One Biosecurity program	**Lead** Peak Industry Organisations **Collaborators** Jurisdictions, AHA	A national 'one-stop-shop' dashboard platform is investigated and scoped, which will collate biosecurity data across existing biosecurity information systems and help deliver targeted biosecurity interventions across producer supply chains	In progress	• **Enhancement of One Biosecurity System: (project 37)** work on the Enhancement of the South Australian One Biosecurity program to include a pig module initiated.	• **Enhancement of One Biosecurity System: (project 37)** scoping and development of detailed specifications for a pig One Biosecurity module.
3.2. Share knowledge across animal industries and jurisdictions to strengthen quality assurance programs, on-farm biosecurity systems, biosecurity extension programs and regulatory activities	**Lead** AHA, Peak Industry Organisations **Collaborators** None identified	Strengths and weaknesses from existing systems across terrestrial animal industries are assessed and actioned, to improve validation of biosecurity, quality assurance and traceability processes, and support maintenance of market access through compartmentalisation and zoning	In progress	• **Enhancement of One Biosecurity System: (project 37)** initial industry consultation on pig biosecurity assurance in SA undertaken. • Project 28 has been mentioned under activity 1.5 but also aligns with activity 3.2.	• **Enhancement of One Biosecurity System: (project 37)** further consultation with the pig industry to review and develop tools for verification of on-farm biosecurity practices.

Activity	Lead and key collaborators	Desired outcome	Status	Priority progress update	Next steps
3.3. Conduct more industry-government education and awareness communication activities to promote a biosecurity 'culture' and 'community of practice' across animal industries, including smallholders	**Lead** Peak Industry Organisations, AHA, DAFF **Collaborators** None identified	Producers and enterprises in the supply chain increase their understanding of the value of biosecurity, and increase adoption of farm and supply chain biosecurity practices	Completed	• **Smallholder risk and communication research (project 12):** The pilot project in NSW tested an efficient, data-driven approach to locating smallholders (including pig owners) and determining their biosecurity risk level and engagement needs. • **Building EAD preparedness in domestic abattoirs (project 20):** This project produced a suite of EAD preparedness training materials specific to abattoir personnel, including sample standard operating procedures and an online e-Learning course. This training package is designed to help prepare staff to provide field support to jurisdictions during an EAD response.	• **Smallholder risk and communication research (project 12):** The final report is being reviewed. • **Building EAD preparedness in domestic abattoirs (project 20):** ongoing promotion of the EAD preparedness training materials to encourage the development and implementation of EAD Response Plans in domestic abattoirs.
3.4. Continue developing biosecurity guidelines for the supply chains of novel small-scale industries	**Lead** AHA **Collaborators** AgriFutures, novel industries	Biosecurity guidelines are updated or developed for novel small-scale production animal industries and communicated effectively	In progress	• **National Biosecurity Manual (project 43):** AHA has developed the National Biosecurity Manual for the Ratite Industry, funded by AgriFutures and in collaboration with ratite industries.	

Objective 4: Manage the risk of antimicrobial resistance.

Table 5 Activity to manage the risk of antimicrobial resistance.

Activity	Lead and key collaborators	Desired outcome	Status	Priority progress update	Next steps
4.1. Implement AMR activities as identified in the One Health AMR Master Action Plan and Australia's Animal Sector Antimicrobial Resistance Action Plan 2022 to 2027 (under development)	**Lead** Governments, industries and other relevant stakeholders undertake coordinated and effective actions to mitigate the risks of AMR **Collaborators** None identified	Governments, industries and other relevant stakeholders undertake coordinated and effective actions to mitigate the risks of antimicrobial resistance (AMR)	In progress	• **Antimicrobial resistance survey in the pig industry (project 13): (Australian Pork)** A repeat AMR survey in the Australian pig industry is commencing and will provide data to compare to previous surveys for monitoring and quality assurance purposes. The final draft report of the pig's AMR survey has been submitted to DAFF for approval. • **Mitigating on-farm antimicrobial resistance risks for livestock industries (project 24): (Coombe Consulting)** This project aims to improve the understanding in Australia of the transmission pathways and biosecurity priorities for mitigating AMR risks in livestock enterprises. This project will provide livestock producers with a framework to assess the risk of AMR transmission into, within or out of their enterprises. It will allow them to make informed changes to reduce the risk of spread of AMR and improve biosecurity. To date a background review has been undertaken to identify the currently level of research and/or activities in this area so as to leverage available knowledge. This review was undertaken with a specific Australian focus. A framework by which an enterprise may identify potential transmission pathways has been developed, along with comprehensive instructions and workflow documents. Laboratories have been identified with the capacity to undertake both antimicrobial resistance and antimicrobial residue. Two laboratories were engaged noting that some of the testing requested had never been undertaken in Australia before. This was mainly due to the diverse nature of the samples being collected. The framework was developed in consultations with industry experts and under the supervision of a steering committee representing all funding stakeholders. The framework has been trailed on 4 of the 5 target industries to date with the final trial scheduled for completion in calendar year 2023. Preliminary results are under evaluation. • **Australia's Animal Sector Antimicrobial Resistance Action Plan 2022 to 2027 (project 44): (DAFF)** was published September 2023, launched via webinar in October and implementation has commenced.	• **Mitigating on-farm antimicrobial resistance risks for livestock industries (project 24):** Completion of final trial and detailed analysis of results. Final report due for publication in June 2024.

Objective 5: Improve animal welfare outcomes relevant to emergency scenarios.

Table 6 Activity to improve animal welfare outcomes relevant to emergency scenarios.

Activity	Lead and key collaborators	Desired outcome	Status	Priority progress update	Next steps
5.1. Address terrestrial production animal welfare risks in emergency scenarios and incorporate findings in relevant policy and crisis response documents	**Lead** AHA, in collaboration with jurisdictions and peak industry organisations **Collaborators** None identified	Emergency response plans for terrestrial production animal supply chains manage animal welfare risks	Yet to commence		

Objective 6: Implement industry sustainability frameworks and plans.

Table 7 Activity to implement sustainability frameworks and plans.

Activity	Lead and key collaborators	Desired outcome	Status	Priority progress update	Next steps
6.1. Share knowledge (such as the development of benchmarks) between industries to implement industry sustainability frameworks and plans	**Lead** Peak industry organisations **Collaborators** DAFF	This activity will develop a comprehensive and sustained LSD communication plan to raise awareness and understanding of the disease, risk and preparedness activities.	In progress	• **Australian Agriculture Sustainability Framework (AASF) (project 23): (NFF)** The purpose of AASF is to communicate the sustainability status and goals of the Australian agricultural sector to markets and the community. It will provide the whole-of-Australian agriculture narrative about sustainability to assist in market access and it will provide a translation layer to assist supply chain companies, finance and investors to better understand and report on Australian agricultural sustainability. Implementation of Stage 2 of this project is progressing.	

Objective 7: Improve the integrity of animal health systems.

Table 8 Activities to improve the integrity of animal health systems.

Activity	Lead and key collaborators	Desired outcome	Status	Priority progress update	Next steps
7.1. Develop cost-effective national traceability registers or systems for agreed animal industries that do not have one	**Lead** Peak industry bodies, AHA, SAFEMEAT **Collaborators** None identified	Cost-effective national traceability registers or systems are developed for agreed animal industries	In progress	• Project 29 has been mentioned under activity 1.1 but also aligns with activity 7.1. • **Alpaca NLIS (project 45):** Australian Alpaca Association, with assistance from AHA, has launched a voluntary National Livestock Identification System (NLIS) for alpacas. • **Deer Traceability (project 46):** AgriFutures Australia funded a consultancy to investigate traceability options for the deer industry. This is currently under consideration by the industry.	

Activity	Lead and key collaborators	Desired outcome	Status	Priority progress update	Next steps
7.2. Implement mechanisms to streamline or automate animal and animal product traceability data across agreed industries and make this accessible to all supply chain participants	**Lead** Integrity Systems Company (ISC), in collaboration with peak industry organisations **Collaborators** DAFF	Existing or new mechanisms are implemented with high adoption rates from supply chain participants to improve collation of traceability data across information systems	In progress	• **Agricultural Traceability Enhancement: Australian Government contribution (project 34):** Agricultural traceability is a shared responsibility between industry, governments and the broader agricultural supply-chain participants. The Australian Government has committed over $100 million to enhancing agricultural traceability. Activities will support action to meet the objectives of the National Agricultural Traceability Strategy 2023-2033. • **The National Agricultural Traceability Strategy 2023 to 2033 (project 47): (DAFF)** The National Agricultural Traceability Strategy 2023 to 2033 (the strategy) was launched on 13 July 2023 by Australian Agriculture Ministers to provide a nationally coordinated approach to enhancing traceability for biosecurity, trade, food safety and other outcomes. The strategy was co-designed by Australian government and industry stakeholders and will support modernising and further strengthening Australia's tracking and tracing capabilities. • **National mandatory individual electronic identification (eID) for sheep and goats (project 48): (DAFF)** Government and industry are working together to implement national mandatory individual electronic identification (eID) for sheep and goats, working towards 1 January 2025. This will improve the accuracy and efficiency of our already robust systems. The updated National Implementation Plan was released on 27 September 2023. • **NLIS Database Uplift project (project 49): (DAFF)** Work is underway to uplift the National Livestock Identification System database and its supporting systems, which will help modernise Australia's data capture, storage, and distribution system for tracking livestock and their movements. The project is being delivered by Integrity Systems Company (ISC) in consultation with Australian government and industry stakeholders. The first stage commenced on 1 July 2023 with project establishment and scope definition. • Project 29 has been mentioned under activity 1.1 but also aligns with activity 7.2.	• **The National Agricultural Traceability Strategy 2023 to 2033 (project 47):** The draft implementation plan will undergo another round of public consultation from 18 January to 29 February 2024, prior to being finalised by mid-2024.
7.3. Use traceability systems to provide feedback to supply chain participants on animal health outcomes	**Lead** AHA, ISC **Collaborators** None identified	Existing or strengthened traceability systems provide improved feedback to supply chain participants on animal health outcomes occurring at relevant points of supply chains	In progress	• **Agricultural Traceability Enhancement: Australian Government contribution (project 34):** mentioned under 7.2. • **MyFeedback data (project 50):** Integrity Systems Company (ISC) has recently launched 'myFeedback', which includes data from AHA's National Sheep Health Monitoring Project and health data from five beef abattoirs. • Project 29 has been mentioned under activity 1.1 but also aligns with activity 7.3.	