NATIONAL FRUIT FLY STRATEGY

Implementation Report

2024-25

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Funding Statement

The project National Fruit Fly Council Phase 4 is funded through Hort Innovation Frontiers with co-investment from state governments, fruit fly affected industry research and development levies, Plant Health Australia and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

Acknowledgement of Country

PHA acknowledges the Australian Aboriginal and Torres Strait Islander peoples as the traditional custodians of the lands where we work, live, and learn.

Copyright Statement

Attribution

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Contents

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Glossary of Terms

Acronym	Term
ABC	Australian Broadcasting Corporation
AFFTAC	Australian Fruit Fly Technical Advisory Committee (a Subcommittee of Plant Health Committee)
AGSOC	Agricultural Senior Officials Committee
ALA	Atlas of Living Australia
CA	Compliance Arrangement
DAFF	Department of Agriculture, Fisheries and Forestry
EPP	Emergency Plant Pest
FASTA	Fresh and Secure Trade Alliance
GSPFA	Greater Sunraysia Pest Free Area
ICA	Interstate Certification Assurance
ICT	Information and Communications Technology
LAMP	Loop-Mediated Isothermal Amplification
Medfly	Mediterranean Fruit Fly
NAQS	Northern Australia Quarantine Strategy
NFFC	National Fruit Fly Council
NPHSP	National Plant Health Surveillance Program
NRE Tas	Department of Natural Resources & Environment Tasmania
NSW DPIRD	New South Wales Department of Primary Industries and Regional Development
WA DPIRD	Western Australia Department of Primary Industries and Regional Development
OoS	Out of Session
PBRI	Plant Biosecurity Research Initiative
PEPPI	Priority Exotic Plant Pest Investigation
PFA	Pest Free Area
PHC	Plant Health Committee
PIRSA	Department Of Primary Industries and Regions, South Australia
(the) Protocol	Australia's National Fruit Fly Management Protocol
Qfly	Queensland Fruit Fly
QDPI	Department of Primary Industries, Queensland
SIT	Sterile Insect Technology
SMART	The Subcommittee for Market Access, Risk and Trade
SOP	Standard Operating Procedure
WI	Work Instruction

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About this Report

The 2024–25 Implementation Report summarises progress and achievements from 1 July 2024 to 30 June 2025. Progress in each of the eight key result areas from the National Fruit Fly Strategic (NFFS) 2020-25 is tracked against the strategic framework and objectives within the NFFS.

The Implementation Report is finalised in June of the previous financial year and published along with the next financial year's Implementation Plan.

A colour code is used to report on performance, as shown below.

Performance reporting key

	Activity is completed
	Activity is on schedule
	Activity is behind schedule or has been modified
	Activity will not be met

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Strategic Framework 2020-25

Vision

Australia has a robust fruit fly management system that supports growth in horticultural production, market access and trade.

Goal

Australia will have a contemporary, viable, cost-effective, and coordinated national approach to fruit fly management, with stakeholders committed to the national strategy.

Strategic objectives and key performance indicators

1. Maintain Australia's freedom from exotic fruit fly

Maintaining freedom from exotic fruit flies is essential to the sustainability of Australia's horticultural industries.

Key Performance Indicator: *Incursion(s) of exotic fruit flies in Australia are detected early and eradicated.*

2. Minimise the incidence and spread of fruit fly

Improving the management and suppression of established fruit fly species and preventing their further spread will help support productivity, reduce management costs, and enable trade and market access opportunities through low pest prevalence and pest-free areas.

Key Performance Indicator: *Domestic and international recognition of fruit fly pest free areas is retained or increased.*

3. Implement national systems that support market access

Providing markets (domestic and international) confidence in our fruit fly system will ensure Australian growers can capitalise on our reputation for high-quality produce.

Key Performance Indicator: *There is no critical non-conformance in the national fruit fly assurance system.*

4. Facilitate a cooperative and committed national approach to fruit fly management

The cooperation of governments, industries and communities that operate in different fruit fly management areas is vital to the success of the fruit fly system.

Key Performance Indicator: *Consistency between governments, industries, and communities' strategy and strategic fruit fly objectives.*

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Priority Areas

Eight different yet interdependent priority areas have been identified for the strategy.

1. Market access

Develop a framework of policy, legislation and operations that enables market access with the least trade restrictive measures and is legally enforceable and technically justified.

2. Management of established fruit fly

Build and promote efficient and effective methods to manage established fruit fly species, reduce the impact on production and facilitate access to sensitive markets.

3. Prevention, preparedness, and response

Continue to support the development and resourcing of prevention, preparedness and response measures for incursions or outbreaks.

4. Research

Maintain and enhance fruit fly research capability, capacity, and resources, pursuing research and extension that focus on nationally agreed priorities.

5. Surveillance

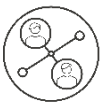
Ensure a nationally consistent surveillance framework that clarifies fruit fly distribution, prevalence, and control.

6. Diagnostics

Maintain and enhance rapid diagnostic capability and capacity to support responses to incursions or outbreaks and to confirm area freedom.

7. Communication and engagement

Adopt systems and mechanisms for the efficient and effective communication, training, extension, and uptake of fruit fly information by a broad range of audiences.



8. Cooperation

Maintain and enhance engagement processes that coordinate, progress, and improve fruit fly management systems.

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1. Market access

Develop a framework of policy, legislation and operations that enables market access with the least trade-restrictive measures and is legally enforceable and technically justified.

Australia has strong domestic and international biosecurity systems vital for supporting market access for fruit fly affected industries. These systems must reflect internationally accepted standards and protocols, uphold risk management principles, and be transparent and scientifically robust to maintain confidence among domestic and international trading partners. It is essential that fruit fly policy, legislation, and operations continuously improve to meet market access needs.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Continue to build confidence in, acceptance, and capacity in the use of phytosanitary irradiation for market access through involvement in the building capacity in irradiation pathways for export project.		Agriculture Victoria	Irradiation capacity was increased at Steritech through the installation of a second dual x-ray irradiator. Review of irradiation arrangements under the ICA system with updates to the protocol were endorsed and the final report on the project was delivered in April 2025.
Continue to contribute to the development, and periodic review of domestic trading protocols used to support trade of host produce across jurisdictional borders with varying fruit fly status. This includes working with DAFF to achieve an elevated level of consistency in the use of Methyl Bromide fumigation and irradiation/microwave technology as measures to enable domestic and international market access.		Agriculture Victoria	ICA-04 operational procedure amended to remove treatment of plums and mangoes for Queensland fruit fly (Qfly). Additional amendments made to allow for the treatment of host materials impacted by Mediterranean fruit fly (Medfly) under contingency arrangements.

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Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Lapse of the Greater Sunraysia Pest Free Area (GSPFA) Orders (May and July 2024) and remove infrastructure (e.g. signage and quarantine bins).		Agriculture Victoria	The Final Order lapsed in July 2024. Bins and signs were removed in early 2025.
Maintenance of Australia's National Fruit Fly Management Protocol.		DAFF/ States & Territories	Continued presence with jurisdictional and DAFF related activities and meetings. Contribution to Australian Fruit Fly Technical Advisory Committee (AFFTAC) outputs. Several Delivery Guidelines have been endorsed by Plant Health Committee (PHC) and many more are in progress.
Securing Our Borders initiative pre-treatment inspection of high-risk fruit fly produce during high-risk season, increased inspection regime on-shore Tasmania of high-risk produce, and review and monitoring of bilateral arrangements with Victoria.		NRE Tas	SOB initiative on track and highly successful and subsequently planned to be extended.
Contributing to the project 'Modernising phytosanitary risk management to biosecurity and safe trade' (AM21002) with focus on 2-4 significant standards, guidelines, processes, tools or templates addressing priority areas of horticulture trade-related biosecurity regulation developed and agreed for national adoption.		WA DPIRD	Trapping and fruit inspection data sets to support negotiation of improved market access for strawberry and blueberry based on better estimation of prior risk and contribution of best practice pest management programs to risk reduction; Strengthened data sets quantifying host status for medfly in blueberry
Australian Horticultural Market Access Research Partnership (AM22000). This includes development of data packages; Harmonised phytosanitary methods; building capacity; applying physiological understanding to integrated pest management; updated in-field management guidelines; identifying and testing alternative chemicals; molecular markers; population dynamics model; systematic reduction of fly pressure.		WA DPIRD	Development of data packages for blueberry and strawberry; testing new lures/toxicants for Medfly; host range of *B. aquilonis*
Continue development of new and amend existing Interstate Certification Assurance (ICA) and CA to meet market access needs for NSW growers. Exploring systems approaches to increase and support market access.		NSW DPIRD	Ongoing ICA review work in collaboration with other jurisdictions through AFFTAC and the National ICA Audit Program (NIAP).
Undertake risk analysis to support proposed market access tools proposed by other jurisdictions.		States & Territories	Pending

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Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Collaborate in the development of a framework for assessing systems approaches for fruit fly control.		PHC, States & Territories and DAFF	Pending
Ongoing monitoring of national fruit fly system assurance activities that underpin international market access, including obligations to demonstrate pest status.		DAFF/ States & Territories	Maintaining compliance and auditing of ICA arrangements in place. Monitoring and reporting against ANFFMP. Second series of fruit fly management system audits have been completed successfully. All jurisdictions have been actively engaged with DAFF related activities and meetings.
Investigate and rectify areas of non-compliance identified in the national system that underpin market access.		DAFF/ States & Territories	All relevant jurisdictions involved in the second series of system audits participated as planned ensuring they met the ANFFMP guidelines. Maintenance and increase of staff employment where necessary to monitor, investigate and rectify non-compliance.
Continue to explore and develop systems approaches to fill the void left by chemical losses.		DAFF/ States & Territories/ Industry	CA30, CA32, CA33 developed, refined and applied particularly in relation to outbreaks. Numerous completed through the Fresh and Secure Trade Alliance (FASTA).
Safe Trade Project (Hort Innovation): modernising how trade-related biosecurity risks are assessed and managed both domestically and internationally. NB. Not just focussed on fruit flies, although they are important. Western Australia Department of Primary Industries and Regional Development (WA DPIRD) is leading case studies on calibrating entry requirements to risk and demonstrating site-based low pest prevalence/pest freedom that includes Medfly.		CSIRO	WA DPIRD - Trapping and fruit inspection data sets to support negotiation of improved market access for strawberry and blueberry based on better estimation of prior risk and contribution of best practice pest management programs to risk reduction; Strengthened data sets quantifying host status for medfly in blueberry.
Non-destructive detection of fruit fly using near infrared imaging (NIR).		CSIRO	Technology using NIR to detect oviposition damage in fruit. High rates of accuracy with prototype optical detection system developed and tested on fruit including cherries, blueberries, apricots, peaches, apples and mangoes. Designed to allow removal of infested fruit in packhouses using commercial grading technologies.
Non-destructive detection of fruit fly using X-ray.		CSIRO	As above

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Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Develop a Biosecurity Risk Calculator to estimate fruit fly infestation rates through production and the supply chain.		CSIRO	Ongoing refinement and development including exploring broader set of costs and benefits into the calculator.
Quantify the effect of commercial cold storage and refrigerated transport on fruit fly survival and how that is affected by life stage, host, pest species, temperature, and storage duration.		CSIRO	
Develop a publicly available "Menu of Measures Resource" with DAFF that describes all the measures (categorised according to how they reduce risk), what evidence is required to support them, how they have been used, and how to have confidence that they are being applied correctly. This is not limited to fruit flies.		CSIRO	Menu of Measures online tool originally developed through the CSIRO Trusted Agrifood Exports Mission in collaboration with Hort Innovation. The tool is now live (an interactive MoM) and being developed further in consultation with industry and the broader biosecurity network.
Automate trade compliance for Australian Agrifood. Pilot work is being undertaken to digitise compliance requirements (commodities as a first step, for example) to determine how compliance processes could be streamlined and automated. Compliance requirements are being digitised in relation to domestic and export biosecurity requirements which include fruit flies, food safety, food quality and sustainability. This builds on more advanced work on meat exports.		CSIRO	Co-design process utilised in initial development of key design criteria including: • Develop in digital format • Maintain consistency with ISPMs; DAFF process and state's existing PRA tools • Start with qualitative tools and progress to quantitative as able • Mechanism for industry engagement • Initial application for emergency response (domestic) • Remove duplication in system Alpha version developed February 2025. Ongoing testing and refinement (beta trialling) with the aim for adoption / transition to online tool model by SMART / all jurisdictions.

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Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Development and ongoing updating as required of a comprehensive Phytosanitary Database to assist in prioritisation of future trade related data needs leading to enhanced trade outcomes for industry.		FASTA	To maximise the long-term value and usability of both new and historical research data, templates were developed to standardise the recording of historical datasets, allowing historical and current data to be stored in a consistent format. This has enabled integration of both data streams into a centralised data lake, a flexible cloud storage system that preserves raw data from multiple sources and makes it searchable, accessible, and ready for analysis. While only a limited number of historical datasets have been cleaned and transferred into the data lake so far, this foundational work has established the pipeline and processes required for ongoing integration. Data cleaning and formatting will continue throughout the duration of the project.
Development of Phytosanitary Register through identifying, collecting and collating all the Australian phytosanitary datasets for use in formal validation of host status and associated phytosanitary measures.		FASTA	The phytosanitary data register was developed in the fist year of the project. This provides a searchable spreadsheet holding summary data for all phytosanitary datasets During this reporting period an additional 153 data sets have been entered into the Phytosanitary data register which now totalling 567. All known and available historical data has now been entered. All new data packages generated in this project and any additional historical datasets located will be added in subsequent years.
Undertaking agreed phytosanitary data collation and analysis as part of the ongoing gap analysis and subsequent agreed biennial workplan.		FASTA	The phytosanitary protocol register containing information on all exising international export protocols and pathways for 31 key fruit fly host commodities has been developed. Analysis against the phytosantiry data register was conducted to determine data gaps. New protocols will be added as new pathways are negotiated.

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Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Collaborative development of a prioritised list of phytosanitary research requirements for ongoing research and data collation.		FASTA	During the Industry Roundtables the Peak Industry Bodies (PIBs) provided their export aspirations and commercial realities, and the project team identified gaps in existing data for current and target export markets. Information derived from discussions during the roundtables was used to develop tailored Industry Required Research Lists, which were collated into a whole of Horticulture Required Research list was then scored against the prioritisation framework criteria developed during whole of sector meetings and workshops within this research activity involving Industry representatives, FASTA Industry Advisory Committee (IAC), DAFF, NFFC, Hort Innovation. The Whole of Horticulture Required Research list and the criteria for prioritisation was then endorsed by the IAC in March 2025 and endorsed by Governance Committee in August 2025.
Development and ongoing updating of a comprehensive host records database.		FASTA	A digital system has been developed which integrates real-time host record data with historical datasets, in a unified database resulting in a dynamic, centralised and searchable platform that supports data continuity and facilitates cross-comparison of host records from diverse sources. Data from historical datasets created during the Central Burnett Area Wide Management program has been uploaded.
Collaborating across the fruit fly management system (i.e. different laboratories) to work towards harmonisation of domestic and international phytosanitary methods and standards.		FASTA	Reviewing relevant international and regional standards/guidelines to identify high priority research areas that could help harmonise research guidelines and potentially reduce the cost of trials is continuing. The first completed review is entitled “Guideline requirements for management of a disinfestation research colony”, and it found the guideline recommendations on colony establishment and refreshment was missing a clear and supportive scientific basis for their requirements. Research looking into genetic diversity in domesticated flies to address that issue has been endorsed for addition to the biennial workplan.

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Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
ICA working group.		FASTA	A Domestic Protocols Working Group (DPWG) has been established, comprising representatives from all state governments except Victoria (due to availability constraints). The group has convened five times to date and serves as a forum for ongoing dialogue between market access researchers and policy makers. These meetings have facilitated the sharing of information on current and completed initiatives relevant to domestic market access.
Convening multiple Industry roundtables to assists in the identification and development of priority phytosanitary data research and collation.		FASTA	Fourteen roundtables were conducted with the Peak Industry bodies covering 31 commodities during July – December 2024. These round tables utilised the matrices developed from the gap analysis conducted during the previous year.
Sector wide roundtable convened leading to viable commercial outcomes across horticulture trade.		FASTA	Sector wide roundtable was replaced with two meetings of the FASTA Industry Advisory Committee and FASTA researchers in January and March 2025 where the list was presented as discussed. The list was endorsed by the IAC in March 2025 and provided to FASTA Governance committee who endorsed it in August 2025. The GC also agreed that The Whole of Horticulture Prioritised Research List will remain confidential at this time.
Support ongoing engagement with Tephritid Workers of Asia, Australia, and Oceania (TAAO).		FASTA	FASTA researchers have continued engagement with TAAO
Facilitate trading partner audits of Australia's fruit fly management system to maintain and enhance international market access.		FASTA	Pending

2. Management of established fruit fly

Build and promote efficient and effective methods to manage established fruit fly species, reduce the impact on production, and facilitate access to sensitive markets.

A better understanding of established fruit flies helps to improve the effectiveness of control methods and tools. Growers must have management and disinfestation options to control fruit flies and maintain or gain market access. These options must be economical and underpinned by evidence and confidence in supporting assurance systems.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Target unresolved hot spots to support landholders to act to manage fruit fly.		Regional grantees and Agriculture Victoria	Each region has a program to target hotspots and work with local landholders. It concluded on 30 June 2025.
Embed fruit fly knowledge and information that has been created in regional fruit fly programs into local community and industry organisations to use after the program ends.		Regional grantees and Agriculture Victoria	Significant activities undertaken during the final 12 months of the respective regional grantee programs to embed the likes of 'legacy resources'
Provide up to date management advice on both the NSW DPI and LLS websites regarding best practice management of fruit flies and associated pests.		NSW DPIRD	Ongoing activities delivered at state and regional level.
Advise industry in a timely manner of any relevant advancements in management practices.		States & Territories	Consultation in industry and regional groups undertaken as required (e.g. Riverland Fruit Fly Committee and Metropolitan and Greater Region FF Advisory Committee).
Prepare a new benefit cost analysis of the QFF SIT program outcomes undertaken in the Cobram SITplus research trial to inform development of a national SIT strategy.		Macquarie University / Hort Innovation / NFFC	Updated benefit cost analysis completed and presented
Develop terms of reference for an updated risk analysis of available chemistry across pre-harvest management of fruit flies including impact analysis of fruit fly affected horticultural crops.		NFFC	Project deferred until Economic Analysis and NFFS 2026-35 has been completed.
Undertake research and development activities leading to the development and implementation of an effective biocontrol program incorporating parasitoids.		FASTA	Valuable information for the potential development of a parasitoid biocontrol program in southern parts of Australia as part of AWM of pest fruit flies is being generated. Continued monitoring of previous releases, and the population that has established itself naturally at Rutherglen, has provided concrete evidence of establishment over several years. The development of tools useful for more rapid and

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Key Stakeholder Activities			
			efficient future monitoring of parasitoid presence, has made progress on a *D. kraussii* LAMP assay.
Continue research exploring biopesticide and biocontrol options that could be commercialised for use in Australia.		FASTA	Experimental work is ongoing to assess the efficacy of entomopathogenic fungi (EPF) against Queensland fruit fly under different conditions and with different application methods. Experimental work on entomopathogenic nematodes (EPN) and fruit fly control is ongoing, with one article already published reporting experiments which tested virulence of 12 Australian EPN isolates in Qfly adults, EPN effect on flight ability and the potential for the development of attract-and-kill and autodissemination of EPNs in fruit fly control.
Develop a commercialisation plan to guide the pipeline of research and attract agribusiness interest.		FASTA	Data on the effectiveness of new EPF isolates on Qfly and other insect pests has been drafted into a patent submission. The activity is at present too early to begin a commercialisation plan, but considerations such as formulation and application have been built into the research activity as these will be essential datasets to progress towards commercial outcomes.
Review of alternative pesticides both currently available as well as potential alternatives (e.g. pre-treatment of mangoes).		FASTA	A review literature on registered chemistries and alternatives has been completed and alternate toxicants identified for use in fruit fly surveillance, monitoring and management have been identified. Semi-field trials testing new chemistries for trapping are in progress.
Develop regionally appropriate trapping across the national system.		FASTA	A comprehensive review (A comprehensive review of trapping density, lure efficacy, trap performance, and insecticidal components for Medfly surveillance) identifying knowledge gap has been completed. Field trials have commenced
Updating the economic framework to improve the design, prioritisation and management of fruit fly investments in Australia.		FASTA	Pending

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3. Prevention, preparedness, and response

Continue to support the development and resourcing of prevention, preparedness and response measures for incursions or outbreaks.

Australia works hard to maintain freedom from exotic fruit flies and minimise the spread of established fruit flies into pest-free areas. Understanding fruit fly characteristics and risk pathways can help in the design of detection and control measures to manage incursions and prevent fruit fly spread.

Governments, industries, and communities also have a role to play in taking steps to prepare for potential risks, including planning for fruit fly eradication and for business continuity. There are high returns on investment for prevention and preparedness activities and these remain a priority for Australia's fruit fly management system.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Investigate public reports of exotic fruit fly where and if required.		States & Territories	Successfully undertaken where required.
Deliver the Exotic Fruit Fly in Torres Strait Response Plan to eradicate incursions of exotic fruit fly species from Torres Strait in response to detections from Northern Australia Quarantine Strategy (NAQS) surveillance.		QDAF	Successful eradication of seasonal detections of exotic fruit flies in the Torres Strait as required under the nationally cost shared response plan.
Develop a Medfly SIT facility.		PIRSA	Work on progressing updated design and on ground work continues.
Deliver fruit fly control responsibilities in the 'buffer' areas of Victoria adjacent to Riverland PFA.		PIRSA	Activities continue as part of PFA outbreak control measures.
Implement incursion and eradication procedures for exotic incursions on an as needs basis.		States & Territories, DAFF	Border roadblock / control activities and random roadblocks / control activities continued throughout the reporting period.
Implement incursion and eradication procedures in PFAs and areas of absence in accordance with Australia's National Fruit Fly Management Protocol.		States & Territories	Control activities continue in line with ANFFMP within SA in areas such as Ceduna and Adelaide
Update and implement incursion/ eradication responses in line with national protocols.		States & Territories	Reports provided as SIT reps to interstate and DAFF counterparts. Regular DAFF updates occur on a fortnightly interval
Develop and implement a NSW fruit fly action plan.		NSW DPIRD	Pending
Continue sentinel monitoring for Medfly around Dareton, NSW in Sunraysia and establish traps in Broken Hill, NSW.		NSW DPIRD	Ongoing

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Establish traps site in regional areas across NSW to monitor for Medfly and other fruit fly of concern for existing international trade protocols.		NSW DPIRD	Ongoing and compliant with DAFF / International requirements
Complete roll out of Preparedness Project exercises for oriental fruit fly incursions.		NSW DPIRD / PHA / PIRSA/ Macquarie University	Completed and submitted to Hort Innovation via project partners.
Update National Action Plan for Exotic Fruit Flies.		DAFF	Currently undertaking review and engagement through relevant government and industry stakeholders.
Continue delivery of the Building Resilience to Manage Fruit Fly Package to contracted stakeholders.		DAFF	Ongoing delivery through states.
Maintain and monitor market access requirements and pre-border and border mechanisms that serve to prevent the entry of exotic fruit flies.		States & Territories / DAFF	DAFF ensures import entry requirements are met to prevent entry of exotic fruit fly species.
Upscale national metabarcoding capacity to enhance efficiencies for identification of species in bulk trap samples.		FASTA	Standard operating procedures have been developed for metabarcoding, which allows high-throughput lab methods for processing of large trap samples. Metabarcoding can identify all insects in a sample simultaneously through bulk DNA extraction. This is a non-destructive method allowing morphological verification.
Development of generic treatments reports and reports based on historical data to cover exotic fruit flies.		FASTA	Development of a report for submission to the IPPCs Technical Panel on Phytosanitary treatments via DAFF to support a generic cold treatment for all Bactrocera species is in progress.
Undertake proof of concept and case study for genomic analysis for tracking and tracing origin of species with potential uses in future outbreak management and effective IPM approaches		FASTA	Research has been conducted which demonstrates that tephritid fruit flies can be classified into familial relatedness categories using genome-wide SNP data and identifies optimal combinations of genotyping and analytical strategies to accurately and cost-effectively achieve this. This validation provides a robust foundation for applying close-kin analysis methods the fine-scale genetic analysis of insect pest outbreaks, including for linking separate detection events, establishing whether local breeding is occurring, and determining the number of introduced individuals.

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4. Research

Maintain and enhance fruit fly research capability, capacity, and resources, pursuing research and extension that focus on nationally agreed priorities.

Research, development, and extension activities underpin all elements of fruit fly management, including operations, legislation, regulation, market access, biosecurity, and improvements in management practices. Research provides technically justifiable approaches and innovative solutions to enable market access and sustainable production. Capability and capacity must be maintained, and that research, development and extension are prioritised, coordinated, and strengthened through national and international research linkages.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Support the establishment of the Fresh and Secure Trade Alliance (FASTA) funded through Hort Innovation.		Hort Innovation / QDAF	Ongoing support post June 2023 signing of contract for the full 8 year program.
Support further development and extension of results from the DAFF-funded phenology, demography, and distribution of fruit flies project upon request.		States & Territories	SARDI staffing employed to provide further development and extension.
Develop specific molecular assays for a number of fruit fly targets through the High Priority Pest and Disease Diagnostics Project.		NSW DPIRD	Pending
Assess the viability of fumigation as an export pathway for Australian *Rubus.*		NSW DPIRD / Hort Innovation	Pending
Citrus post-harvest program researching and extending improved methods for decay control and sanitation whilst also maintaining fruit quality, particularly following any market access treatments.		NSW DPIRD / Citrus R&D	In 2025, the Citrus Postharvest Program completed a new season of trials assessing innovative coatings, improved storage practices and updated postharvest handling methods to maintain fruit quality through the supply chain. The program advanced multi year work on chilling injury reduction, combining packhouse surveys, storage studies and ongoing trial replications to build practical guidance for industry. Researchers also evaluated emerging tools for fruit quality measurement and continued testing approaches to support more consistent market out turns. Findings were shared widely through presentations at national industry events, regional forums and articles in Australian Citrus News, helping growers and packers apply the latest postharvest practices.
Promote long-term, coordinated investment in research that aligns with national strategic priorities.		QDAF / DAFF	Delivered through the FASTA research program model in consultation through governance structures and Hort Innovation.

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Share applicable findings from the Strengthening Australia's Fruit Fly Management System Research Program.		DAFF	Delivered through other state and industry specific channels such as with the phenology project.
Conduct further research into insect stress physiology that optimise disinfestation and reduction of fruit fly pressure in orchards particularly as part of IPM approaches.		FASTA / CSIRO	A literature review has been completed focussing on insect cold physiology, cold tolerance vs cold death, cell death pathways from cold stress, other physiological mechanisms from cold stress, current knowledge gaps in insect cold physiology, overview of pest fruit flies, disinfestation measures, current limitations of cold treatment, current knowledge and knowledge gaps of fruit fly cold biology. Research trials have commenced. Lab-based host status testing of 180 citrus hybrids has been conducted to be included in molecular market research and to support breeding selections.
Development of phytosanitary end point data packages that enable the ongoing enhancement of horticultural trade.		FASTA	Research is in progress to develop end point data packages for cold disinfestation in blueberries and methyl bromide fumigation of strawberries.
Development of conditional non-host data packages to support market access, development and improvement across key horticultural crops.		FASTA	Due to re-prioritisation of industry market access requirements, no further research in this activity, has been removed from the current FASTA workplan. It will be added if shown to be a requirement for market access for any industry.
Identify opportunities to develop plant resistance physiology options for future planting.		FASTA	Lab-based host status testing of 180 citrus hybrids has been conducted to be included in molecular market research and to support breeding selections.
Undertake research to further explore the potential impact of tree architecture on fruit fly management tools and strategies.		FASTA	A literature review has been completed highlighting the preferred attributes of tree architecture to achieve high yield and the effects on pests. Further recommendations are provided for future work investigating the relationship between new orchard systems and the impact they will have on pest and beneficial insects. Research specifically focused on the evaluation of pest pressures in high density mango orchards will in later years further elucidate the precise nature of canopy effects on insects.
Deliver research to improve biocontrol (parasitoids and biopesticides) of QFF to support AWM and future non-chemical control options.		Agriculture Victoria (via FASTA)	Pending
Apply whole genome sequencing to better understand origins and dispersal of QFF and oriental fruit fly (OFF) populations.		Agriculture Victoria (via FASTA)	Pending
Data generation from field practices to strengthen market access.		FASTA	Small-scale trials to evaluate the efficacy of the newly developed protein bait options against Mediterranean fruit flies, comparing it with current industry standards. These trials concluded that the novel bait exhibited

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			promising attractancy and toxicity over time, showing advantages over existing standards.
Building capacity across existing national research expertise in both market access and in-field insect pest management through: • skills repository, PhD program, shared training and coordinated professional development support, • professional development and mentoring programs (e.g. pairing and shadowing), and • increased collaboration and networking opportunities (e.g. study tours / exchange visits).		FASTA	A protocol and knowledge sharing database and accompanying repository was developed in 2024. Capturing information to be added to the protocol and knowledge sharing database has now been incorporated into the activity reporting process within the new FASTA reporting tool and this information has been captured via the tool for the 2025 reporting period. This will allow for this to be easily updated yearly, in alignment with program reporting. Moving forward this activity will continue as a mechanism to capture shared knowledge, shared learning opportunities and collaboration across laboratories. The FASTA mentorship program has continued into this reporting period with mentor pairs continuing to build on the previous year.

5. Surveillance

Ensure a nationally consistent surveillance framework that clarifies fruit fly distribution, prevalence, and control.

Surveillance systems provide early detection of fruit flies, deliver information for risk analyses, and demonstrate the fruit fly status of an area. They are an integral part of fruit fly management and essential for rapid response and market access.

While surveillance must be done in accordance with agreed standards and protocols, it is also increasingly important that it is efficient, effective, and able to harness information from both specific (programs to formally demonstrate pest presence or absence) and general (drawn from various government or non-government) sources.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Maintain Tasmania's permanent fruit fly trapping grid with associated maintenance as required.		NRE Tas	Completed as per requirements.
Continue to support regional consultative mechanisms in SA to engage with industry and other stakeholders.		PIRSA	RFFC established with 12 meetings over 24/25
Maintain fruit fly awareness through regular media releases, media interviews and distribution of information through social media channels and website.		PIRSA	Ongoing media releases and interviews including social media occurred during 24/25
Continue preparedness/contingency planning workshops in the SA Riverland and other growing areas to prepare growers for the event that more outbreaks of fruit fly are detected.		PIRSA	RFFC engaged as part of ongoing planning as part of not only outbreak response but ongoing preparation work post outbreak - such as interaction via representatives on the NFFC. PIRSA participates and engages on a frequent basis to grower and industry meeting requests
Continue to maintain trapping grid for exotic fruit flies in metropolitan areas of Adelaide and in the SA Riverland as well as Medfly trapping in Ceduna, SA.		PIRSA	Achieved - Ongoing maintenance and checking of exotic Fruit Fly continues across SA regions
Continue to maintain a trapping grid of over 7,500 fruit fly traps statewide.		PIRSA	Achieved - monitoring and checking of Qfly, MedFly and Exotic.
Ensure surveillance meets national standards by updating operating procedures.		State & Territories	Being delivered through PHC sub-committee Action Plans.
Ensure continuation of effective support programs for surveillance, diagnostics and reporting including timely reporting of incursions.		NSW DPIRD	Completed as per DAFF requirements
Provide a regional and national overview of the fruit fly surveillance and pest status for government and industry		DAFF, States & Territories	Trapping data provided as part of FASTA program.

NATIONAL FRUIT FLY COUNCIL

stakeholders by collating integrating and presenting trapping data in AUS**Pest***Check*®.			Regular reports of surveillance activities completed under the National Plant Health Surveillance Program and jurisdictional trapping network are provided to AUSPest*Check*® as required.
Facilitate and support integrated fruit fly surveillance programs for government and industry stakeholders using AUS**Pest***Check*®.		DAFF, States & Territories	Staff employed and trained in use of AUSPest*Check*® to provide ongoing facilitation. QDPI - Fruit fly surveillance activities are integrated under the National Plant Health Surveillance Program, the mainland trapping network, the National Exotic Fruit in the Torres Strait Eradication Program Response Plan 2021-2026, and the Northern Australia Quarantine Strategy (NAQS)
Undertake surveillance of high-risk pathways for exotic fruit flies, including ports of entry surveillance conducted by States and Territories and the Torres Strait surveillance conducted by NAQS.		DAFF, State & Territories	Regular border checks and messaging continue surveillance pathways of concern. Surveillance activities were undertaken as planned under the National Plant Health Surveillance Program at high-risk ports of entry and in the mainland trapping array on high-risk pathways.
Innovative approaches for fruit fly surveillance using eDNA (PhD project funded by ARC Training Centre in Plant Biosecurity).		CSIRO	Pending
Proof of concept and case study for genomic analysis of fruit flies.		FASTA	A proof of concept and case study was completed to determine the feasibility of metabarcoding implementation and adoption for surveillance. The work produced an equation that can be used in changing circumstances (sample volumes, staff and consumable costs) and can determine the best method for diagnosis based on these inputs.

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NATIONAL FRUIT FLY COUNCIL

6. Diagnostics

Maintain and enhance rapid diagnostic capability and capacity to support responses to incursions or outbreaks and to confirm area freedom.

Accurate and rapid fruit fly identification underpins responsiveness to potential incursions or outbreaks and increases the chance of successful eradication. Tools and materials that enhance the ease and throughput of identification of species complexes are of particular value. Confidence in diagnostic capability across a range of established and exotic fruit fly species is fundamental to providing national assurance of area freedom.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
ALA Data Mobilisation Strategy - grant 2023.		QDAF	Work commenced. Resourcing complete. In excess of 24,500 fruit fly occurrence records made available on the ALA database.
Increase efficiencies in diagnostics and reporting with finalised trap base.		NSW DPI	Ongoing operations.
Ensure diagnostic and reporting is in line with national protocols including updating procedures.		States & Territories	Undertaken in line with requirements.
Maintain diagnostic capacity for rapid diagnosis of fruit fly. This includes dedicated specialist diagnostic expertise.		DAFF, States & Territories	Resourced and undertaken.
Upscaling national metabarcoding capacity to improve efficiency of species ID		FASTA	Development of the SOPs has increased the capacity of jurisdictions in the use of high-throughput technologies for processing large insect trap catches. Insect trap designs have been developed and tested and methods for bulk processing of samples for identification is being investigated. Training in this area is building capacity across laboratories, with trained staff able to be deployed to apply these technologies to other systems of market access concern. High throughput methodologies are reliant on comprehensive and taxonomically validated reference databases which are being developed and curated.
Ongoing work in relation to development of a career pathway for diagnosticians including through the National Professional Development Program.		DAFF	
Identification – SIT or wild		FASTA	Research has continued in investigating the ability of Near Infra Red (NIR) spectroscopy to classify between SIT and wild flies. Results so far indicate that NIR spectroscopy achieves high classification [illegible] irradiated and non-irradiated SIT Qfly. Outputs included

NATIONAL FRUIT FLY COUNCIL

			recommendation to develop models using SIT Qfly that have been fed prior to release as well as pupal release. An initial preliminary calibration model classifying wild and SIT flies had excellent calibration model accuracy of 100% and independent validation of 95.8%.
Establish project to update Fruit Fly ID Australia Handbook		DAFF	Being delivered through project with QDAF out of the EcoScience Precinct and in consultation with AFFTAC, PHA and other relevant agencies and experts.

7. Communication and engagement

Adopt systems and mechanisms for efficient and effective communication, training, extension, and uptake of fruit fly information by a broad range of audiences.

A cohesive fruit fly management system relies on effective sharing and adoption of relevant information. It improves the quality of decision-making and ensures stakeholders at all levels are better equipped to manage fruit fly challenges. Reliable and up-to-date information is also instrumental in maintaining or enhancing industry competitiveness. Improved communication and engagement across fruit fly management systems will help increase innovation uptake and create shared outcomes.

It is essential that information reaches those who benefit from fruit fly management systems, including consumers, wholesalers, retailers, exporters, importers, transport operators and treatment providers.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Agriculture Victoria to review and implement the 'State-wide communication and media plan' including a seasonal calendar of media, social media and direct contact with relevant organisations.		Agriculture Victoria	This activity was developed during 2023 with delivery now completed.
Implementation of region specific awareness and communication plans focusing on local messaging to embed information in the region prior to end of the current program in 2025.		Agriculture Victoria / Regional grantees	Completed in consultation with each regional grantee management group prior to conclusion of the program on 30 June 2025.
Agriculture Victoria to create forward communications plan to deliver fruit fly communications after the current Victoria's Fruit Fly Strategy grants end in 2025.		Agriculture Victoria	Further activities developed for medium term implementation through regional groups.
Launch the QFF e-learning resource including webinar through the NFFC webinar series in February 2025		Yarra Valley Regional Group	The e-Learn resource was completed by Agribusiness Yarra Valley in consultation with Greater Sunraysia and Goulburn Valley and was launched during a NFFC webinar in February 2025.
Develop eLearning training modules to train new staff in nurseries and agrichemical organisations so they have the knowledge to support communities.		Yarra Valley Regional Group	Developed online educational video and online resources and completed training with local nurseries.
Distribute printed and online versions of the Fruit fly Management for Vegetable Growers booklet that has been updated for growers in the key Victorian Horticultural industries.		Agriculture Victoria / Regional grantees	The Fruit fly management booklet for fruit and vegetable growers was updated in 2023-24 for distribution of printed and online versions in 2024/2025.

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NATIONAL FRUIT FLY COUNCIL

Fruit fly continues to feature as a high-profile pest of concern in all of Biosecurity Tasmania's communications. These will include timely reminders to the public regarding import requirements and the importance of not introducing fruit flies to Tasmania.		NRE Tas	Delivered successfully in close consultation with the Tasmanian Fruit Fly Committee and supporting the Secure Our Border (SOB) program
Provide public information through media and personally through Industry Development Officers, LLS Biosecurity and Compliance staff.		States & Territories	Each jurisdiction delivers key information for the public in relation to fruit fly management via their respective communications networks and in close consultation with industry and regional fruit fly bodies (e.g. RFFC)
Undertake community engagement through events including stalls to target backyard growers and at research centres.		States & Territories	Jurisdiction deliver tailored community engagement in relation to fruit fly management via their relevant networks and in close consultation with industry and regional fruit fly bodies (e.g. RFFC)
Provide support to grower groups in managing hot spots and increasing public awareness of fruit fly and its control.		States & Territories	Undertaken effectively as per requirements (e.g. through 3 regional fruit fly governance groups in Victoria and RFFC and impacted industry groups in the Riverland).
Undertake national engagement and extension activities to strengthen fruit fly management in Australia.		PHA	Ongoing activities delivered mainly through the NFFC as well as in consultation with Hort Innovation and Industry through a dedicated network of biosecurity management projects.
FASTA Annual Symposium.		FASTA	FASTA held its third whole of program meeting on 16 and 17 September 2025 in Brisbane. The teams from all the nine partners from all the nine partners: DPI (QLD), DEECA (VIC), DPIRD (WA), DPIRSA (SA), DAF (NT) DNRE (TAS), QUT, JCU and WSU, presented key outcomes of research. Day 1 was closed to FASTA participants, the second day was open to all and was well attended by industry in person and online.
Sector roundtables - updates on market access research.		FASTA	Fourteen roundtables were conducted with the Peak Industry bodies covering 31 commodities during July – December 2024. These round tables utilized the matrices developed from the gap analysis conducted during the previous year. Peak Industry Bodies (PIBs) provided their export aspirations and commercial realities, and the project team identified gaps in existing data for current and target export markets. Information derived from discussions during the roundtables was used to develop tailored Industry Required Research Lists.

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NATIONAL FRUIT FLY COUNCIL

8. Cooperation

Maintain and enhance engagement processes that coordinate, progress, and improve fruit fly management systems.

A coordinated national system requires cooperation across disciplines and geographic boundaries toward achieving agreed common goals. Industry, government, research, and community forums all raise awareness of fruit fly issues, determine priorities, direct, and provide resources, and monitor progress. Collectively, these forums represent the national system and are fundamental sources of information and influence that must be connected and serve the national interest.

Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
The Victorian Government will support the three key horticultural areas of the Goulburn Murray Valley, the Yarra Valley and the Greater Sunraysia region to transition to industry and community leadership of Queensland fruit fly related activities.		Agriculture Victoria	Funding was provided and this project formally concluding on 30 June 2025. Consultation continues in relation to ongoing activities in the regions.
Support governance structures that serve to support fruit fly management, including the PHC, AFFTAC and the NFFC.		DAFF	Ongoing support and investment for the operation of the various fruit fly management
Contribute to national discussion on fruit fly management through forums such as NFFC activities.		DAFF, States & Territories and Industry	Attendance at all NFFC and related meetings in 24/25.
Coordinate fruit fly management within each jurisdiction, including provision of information to stakeholders.		States & Territories	Maintained attendance and input at PHC and AFFTAC as key priorities on fruit fly management.
Develop and amend market access protocols in collaboration with other states and territories.		States & Territories with DAFF support	Liaised with various jurisdictions on the development of Market Access CA. Provided representatives on SMART committee.
Provide expert advice on AFFTAC and related research projects.		DAFF, States & Territories	Key staff employed to attend AFFTAC and PHC meetings providing input on related projects.
Participation and input to associated bodies/committees relating to horticulture trade		FASTA	FASTA researchers have continued to participate in and provide input to associated bodies/committees relating to horticulture trade
Deepen linkages with existing fruit fly/IPM/trade-related research programs.		FASTA	FASTA researchers have continued to maintain linkages with existing fruit fly/IPM/trade-related research programs.

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Key Stakeholder Activities			
Activity	**Status**	**Delivery Lead**	**Update**
Provide expert advice on AFFTAC and related research projects.		DAFF, States & Territories	AFFTAC members provide ongoing scientific and technical advice to the subcommittee. State and Territory members also provide advice on the Technical Review Working Group, Delivery Guideline Working Group, and the Market Access Working Group. Other staff employed to support specific fruit fly related research (eg. through FASTA research program)
Develop and amend market access protocols in collaboration with other states and territories.		DAFF, States & Territories	State and Territory members ongoing- Subcommittee for Market Access, Risk and Trade (SMART) membership.

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