

A vibrant display of various fresh fruits including peaches, grapes, avocados, strawberries, and plums. The fruits are arranged in baskets and on a table, creating a colorful and appetizing scene. A diagonal white line runs across the image from the top right to the bottom left, separating the text area from the fruit display.

# NATIONAL FRUIT FLY STRATEGY 2020-25

## Acknowledgements

The National Fruit Fly Council is funded by Commonwealth and state governments, and by Hort Innovation through the Hort Frontiers Fruit Fly Fund.



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Image: Department of Agriculture, Water and the Environment



Image: Rod Turner



Image: Ingrid Roth



Image: Ross Abberfield





## Chair's message

When fruit fly is mentioned in horticultural circles, it evokes a wide variety of responses. For some it is just another pest they have to manage, for others it is a relatively new pest that they are adjusting to, and for some it is an absent pest but acknowledged as an important and significant risk to industries. From each of these viewpoints the overriding goal is to ensure that fruit fly does not prevent access to markets. Achieving this requires us to carefully balance differing needs within Australia so that a cohesive, sustainable and robust national fruit fly system can be maintained.

This strategy provides a framework for stakeholders to work within as we manage and enhance the national fruit fly system. Importantly it provides a blueprint for national cooperation as we seek to both prevent and minimise the impacts of fruit fly, as well as to maintain and advance access to domestic and international markets. The issue of sustainable funding is a key challenge going forward and will need serious consideration by governments and industry as they contemplate future-proofing our fruit fly system.

The National Fruit Fly Council is tasked with overseeing the implementation of the strategy however our strength lies in the contribution that every individual and every organisation makes to combating fruit fly in Australia. To this end, I commend the use of this strategic framework in your own planning and execution of fruit fly management, and ongoing engagement with other stakeholders who work in this space.



### Lloyd Klumpp

Chair – National Fruit Fly Council  
General Manager, Biosecurity Tasmania  
Department of Primary Industries, Parks, Water and Environment



# Overview

Fruit flies (Family Tephritidae) are major economic pests globally, damaging a wide range of fruit and vegetable crops. They are a key barrier to market access for fruit fly affected industries, which make up about half of Australia's \$13 billion horticulture sector.

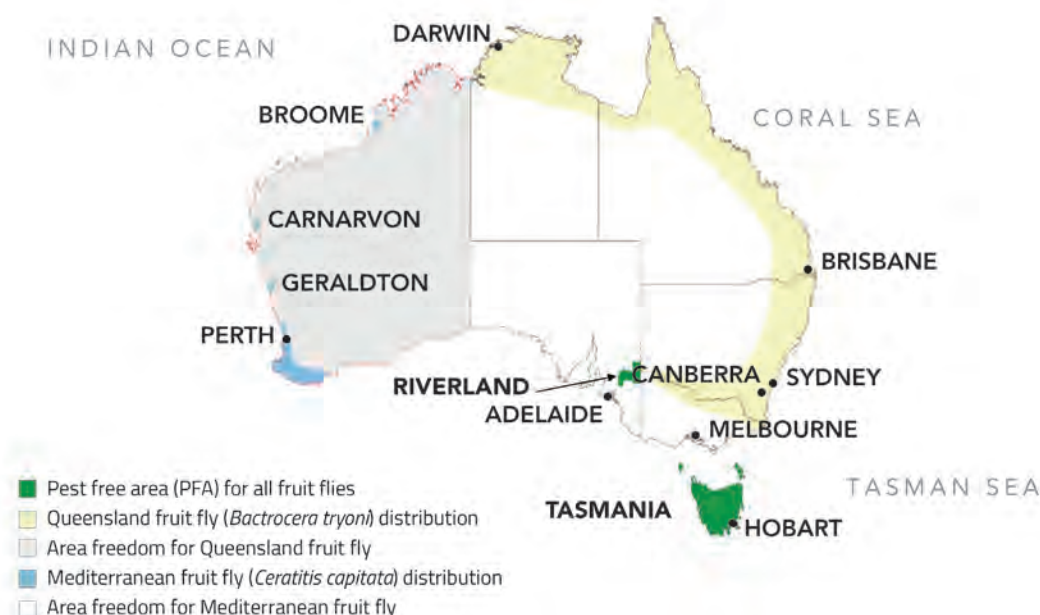
There are two economically significant fruit fly species present in Australia – Queensland fruit fly (*Bactrocera tryoni*) (Qfly) and Mediterranean fruit fly (*Ceratitidis capitata*) (Medfly) – as well as a few minor pest species and a range of non-pest native fruit fly species. A distribution map for Qfly and Medfly in Australia is shown in Figure 1.

As well as managing these established fruit flies, Australia also focuses on ensuring exotic species, including Oriental fruit fly (*Bactrocera dorsalis*) and spotted wing drosophila (*Drosophila suzukii*), do not enter Australia.

Effective management of fruit flies is essential to gaining and maintaining access to premium markets for Australia's horticultural products and relies on cooperation at all levels of government,

and between industry bodies, research institutions, regional groups, growers, and community and home gardeners. Given the size of Australia, a one size fits all approach to management will not be effective. Instead, national coordination is required which considers the differing statuses of fruit fly in growing regions, and the diversity of affected crops.

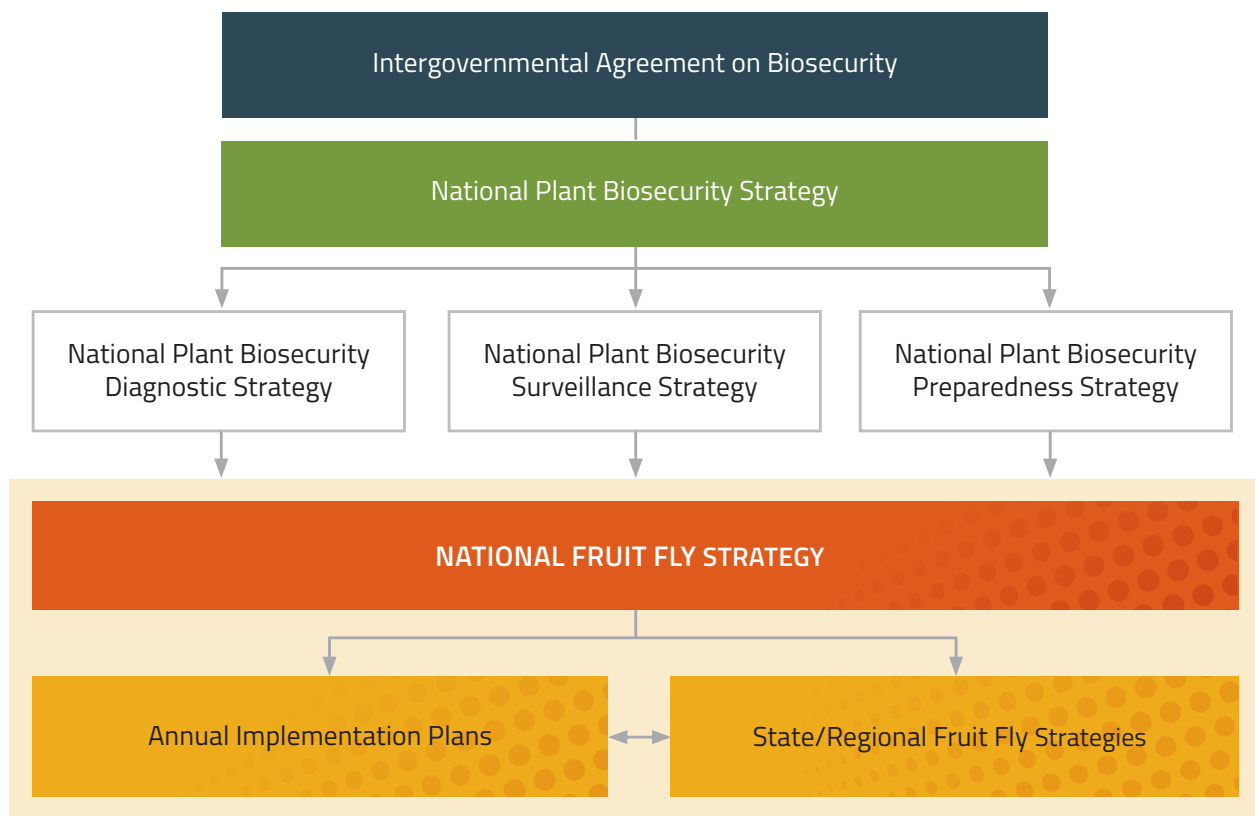
National coordination of fruit fly management is aligned with the broad strategic framework for plant biosecurity, spearheaded by the Intergovernmental Agreement on Biosecurity which cascades into a range of plant specific national strategic plans. These strategies include the National Plant Biosecurity Strategy, National Plant Biosecurity Diagnostic Strategy and the National Plant Biosecurity Surveillance Strategy, and are shown in Figure 2.



**Figure 1.** Queensland and Mediterranean fruit fly distribution in Australia.

Image courtesy of Australian Government Department of Agriculture, Water and the Environment





**Figure 2.** The National Fruit Fly Strategy sits within a broader strategic framework for plant biosecurity which is underpinned by the Intergovernmental Agreement on Biosecurity. This framework provides decision-makers with a blueprint for delivering nationally consistent and coordinated fruit fly activities in Australia.







# The 2020–25 National Fruit Fly Strategy

In 2008 the draft National Fruit Fly Strategy was released and for the first time brought together a national approach to fruit fly management in one document. The original objectives of the 2008 strategy remain relevant today: reducing the risk of exotic fruit fly incursion, effective and efficient management of established fruit fly species, and a robust national system to manage risk and underpin market access.

Considerable progress has been made against these objectives since 2008, such as:

- the Emergency Plant Pest Response Deed being used to manage responses to pest incursions and national cost-sharing for the Exotic Fruit Fly in Torres Strait Response Program
- increased volume, integrity and sharing of surveillance data through platforms such as AUSPestCheck™
- development of a new Qfly Sterile Insect Technique (SIT) production facility in South Australia and Hort Innovation funding to conduct a research program to improve the technology
- release of a revised Australian Handbook for the Identification of Fruit Flies and establishment of the Fruit Fly ID Australia website [fruitflyidentification.org.au](http://fruitflyidentification.org.au)
- establishment of the Australian Research Council funded Centre for Fruit Fly Biosecurity Innovation
- support for emerging market access options such as irradiation and systems approaches
- improved access to information on international and domestic market access requirements through the Manual of Importing Country Requirements (MICOR) database and the Australian Interstate Quarantine website [interstatequarantine.org.au](http://interstatequarantine.org.au).

At the same time there have been clear challenges to the fruit fly system. This includes ongoing deregistration of chemicals used for in-field and post-harvest treatments, increased demands from trading partners for evidence to support area freedom claims, changing fruit fly distribution patterns, changes to regulation of fruit fly controls in New South Wales and Victoria, and recent outbreaks in pest free areas.

In response to these challenges the Australian Government announced a \$16.9 million Smart Fruit Fly Management measure in 2018 for initiatives to improve national harmonisation and coordination. A key component is a fruit fly research and development program that is co-funded by states and territory governments, providing a total of \$13 million to address current gaps in research related to market access.

Industry and governments also continue to invest in fruit fly programs, such as the Exotic Fruit Fly in Torres Strait Response Plan, and in other research and development activities, such as Hort Innovation funded area wide management and post-harvest disinfestation research.

A renewed national approach to fruit fly management will help progress:

- the maintenance of resource capability and capacity to manage fruit fly
- an increase in the availability and development of management tools
- the maintenance of existing markets and development of new markets.

The revision of the National Fruit Fly Strategy has been the result of a collaborative effort by Australia's horticultural industries, state and territory governments, the Australian Government, Hort Innovation and various research institutions. Plant Health Australia (PHA) has facilitated and supported its development.



# Implementation of the 2020–25 National Fruit Fly Strategy

The purpose of the strategy is to provide a national framework for governments, industry and research funders to advance fruit fly management in Australia. Importantly it is hoped the strategy can help to strengthen coordination of regional or commodity-specific fruit fly plans and their contribution to the national system.

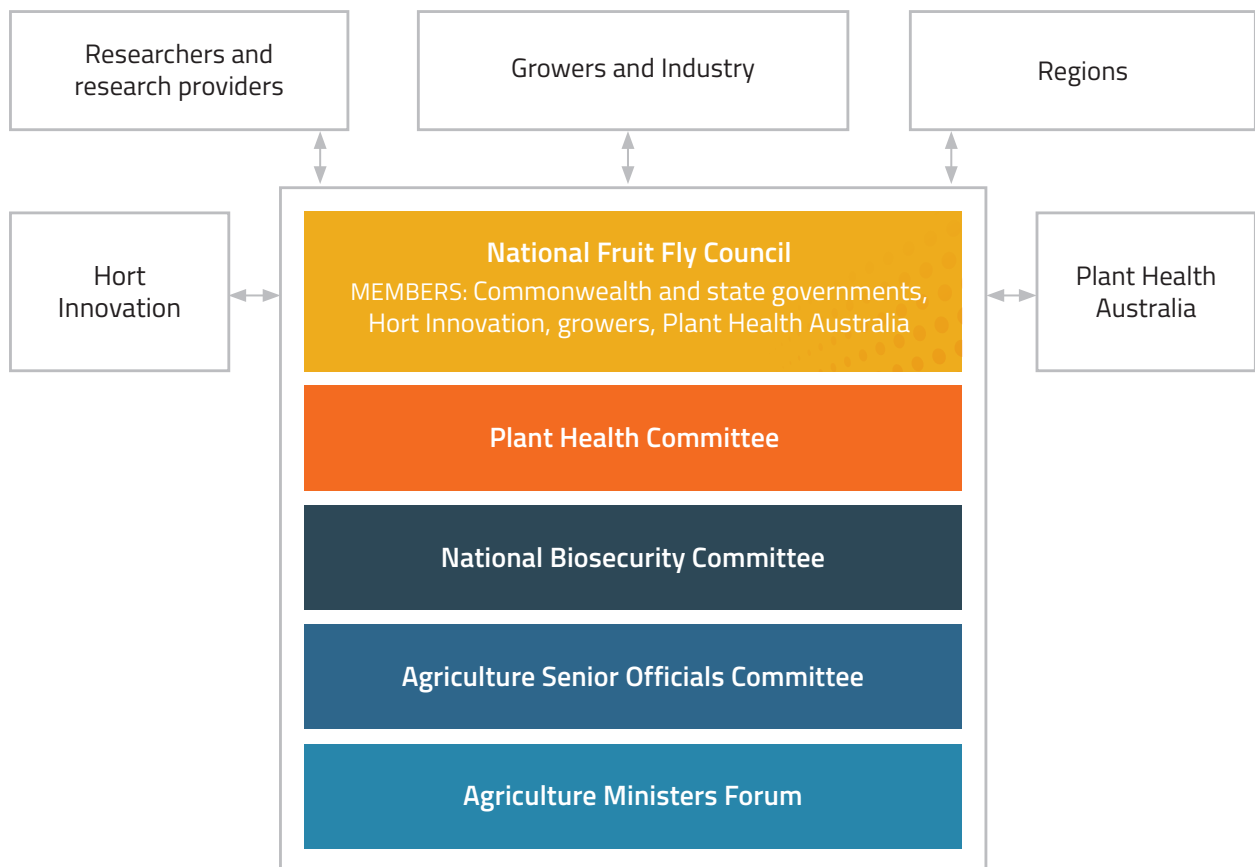
The National Fruit Fly Council is tasked with overseeing the implementation of the National Fruit Fly Strategy 2020–25, while recognising the importance of aligning strategic priorities and coordinating stakeholder input in building a strong national fruit fly system. The National Fruit Fly Council provides strategic advice and leadership on fruit fly policy and RD&E issues to stakeholders including the National Biosecurity Committee, Plant Health Committee, Hort Innovation, industry and the broader community.

While no new funding has been provided for the strategy, annual implementation plans will be used to identify and monitor key activities. These plans will acknowledge the considerable and ongoing contribution by many different stakeholders to fruit fly management in Australia. Regular reporting on progress will also provide an opportunity for the Council to consider potential gaps to be addressed in the national system. Importantly this will be accompanied by an exploration of options to create sustainable funding into the future.



Members of the National Fruit Fly Council outside the Sterile Insect Technology Facility in Port Augusta





**Figure 3.** The National Fruit Fly Council is Australia’s peak advisory body for fruit fly in Australia. It promotes leadership and coordination of national fruit fly issues through its relationships and communication with stakeholders across the biosecurity spectrum.





Image: APAL flickr

# The strategic framework

## 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



### MAINTAIN AUSTRALIA'S FREEDOM FROM EXOTIC FRUIT FLY

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

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



### 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.*



### IMPLEMENT NATIONAL SYSTEMS THAT SUPPORT MARKET ACCESS

Being able to provide 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:** *No critical non-conformance in the national fruit fly assurance system.*



### FACILITATE A COOPERATIVE AND COMMITTED NATIONAL APPROACH TO FRUIT FLY MANAGEMENT

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

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



# 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, 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, to 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 focuses on nationally agreed priorities.

5



## Surveillance

Ensure a nationally consistent surveillance framework that provides clarity around 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 across a broad range of audiences.

8



## Cooperation

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



## Market access

1



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

Australia has strong domestic and international biosecurity systems that are vital for supporting market access for fruit fly affected industries. These systems need to reflect internationally accepted standards and protocols, uphold risk management principles, and be transparent and scientifically robust in order to maintain confidence among domestic and international trading partners. To achieve this, it is important that fruit fly policy, legislation and operations meet market access needs and are continuously improved.

This priority area will be achieved through activities that include:

1. Championing approaches that underpin market access, such as alignment with international standards and adherence to phytosanitary regimes along the supply chain.
2. Focusing research and development to deliver market access goals that are technically justified.
3. Negotiating international market access protocols that recognise the range of Australia's differing fruit fly statuses and provide different, workable and economical options to producers.
4. Monitoring the integrity of the fruit fly system to provide national assurance of the effectiveness of management measures.
5. Harmonising and refining interstate measures, regulations and certification systems, consistent with Australia's international trade requirements.



Mangoes being packed  
Image: Matt Weinert, QDAF



## Management of established fruit fly

# 2



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

Better understanding of established fruit flies helps to improve the effectiveness of control methods and tools. It is important that growers have a range of management and disinfestation options to control fruit fly and maintain or gain access to markets. These options must be economical and be underpinned by evidence and confidence in supporting assurance systems.

This priority area will be achieved through activities that include:

1. Improving understanding of the physiological, behavioural and ecological processes relating to a wide range of fruit fly species, particularly for Qfly and Medfly.
2. Establishing in-field control measures that reduce abundance of fruit fly and improve crop protection, whether based on existing chemicals, new chemicals, or alternative strategies such as SIT.
3. Supporting initiatives that seek to improve area wide management of fruit fly.
4. Assessing the feasibility, practicality and cost-effectiveness of eradicating Medfly from Australia.
5. Implementing changes to current or future fruit fly control measures to help manage the impact of climate change on the potential distribution and abundance of fruit fly species in Australia.



Mediterranean fruit fly, *Ceratitis capitata*





## Prevention, preparedness and response

# 3



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 to 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.

This priority area will be achieved through activities that include:

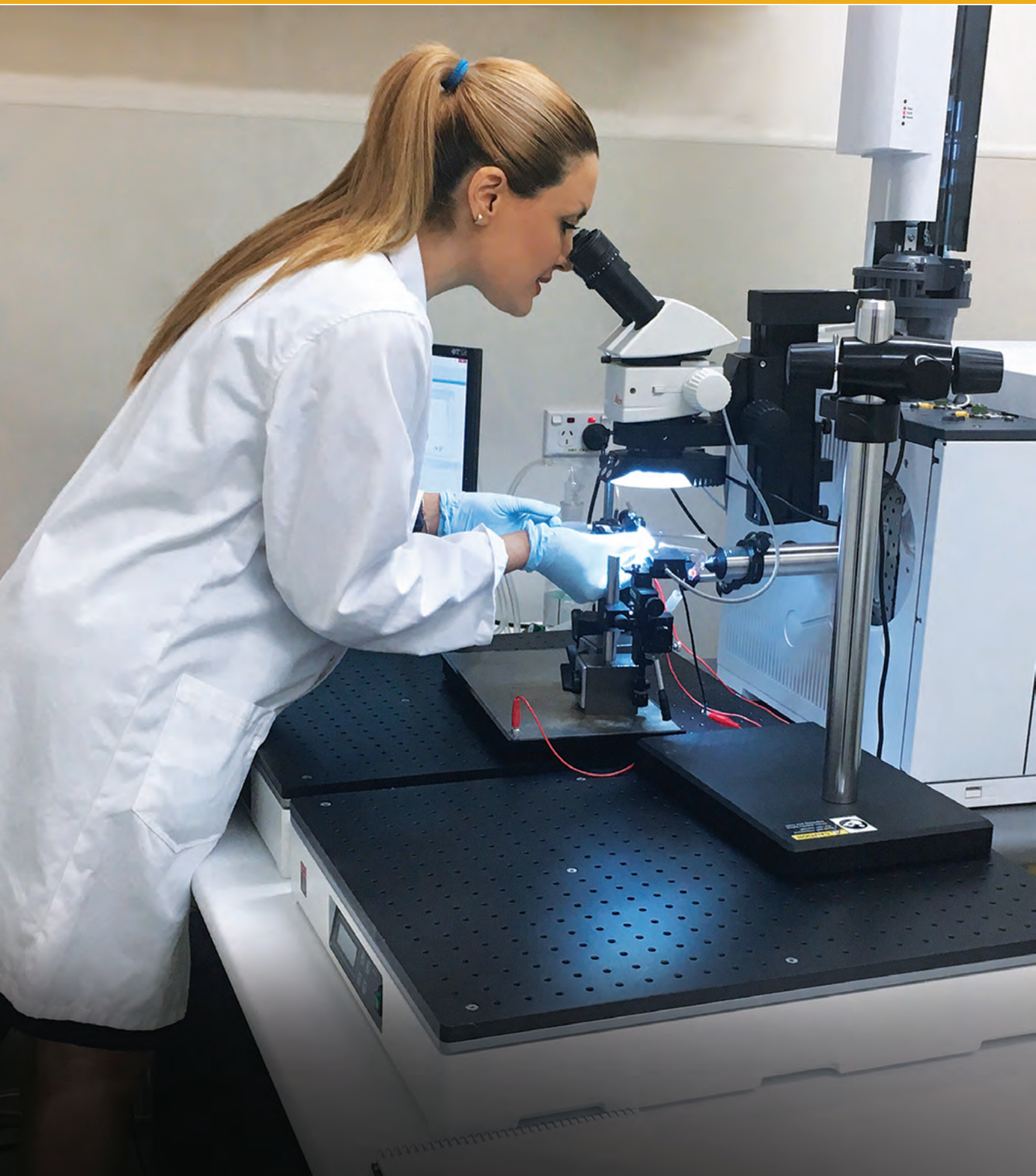
1. Maintaining and monitoring market access requirements and pre-border and border mechanisms that serve to prevent the entry of exotic fruit flies.
2. Supporting efforts to reduce the overall occurrence of, and prevent the spread of, established fruit flies into pest free areas in Australia.
3. Promoting intelligence collection and analysis to help inform fruit fly management, prevention and preparedness activities.
4. Supporting contingency planning as a vehicle for linking industry preparedness with national fruit fly management and response strategies.
5. Promoting the responsibilities of communities and industries, along the whole supply chain, in preventing fruit fly spread and preparing for fruit fly incursions or outbreaks.
6. Ensuring enough capacity and capability is available to deliver timely, effective and coordinated controls for emergency responses to exotic incursions and outbreaks of established fruit flies in pest free areas.



A NAQS ranger checks a trap for exotic fruit flies. Early detection through the Response Plan for Exotic Fruit Fly in Torres Strait is vital to the prevention of incursions in mainland Australia.

Image: Department of Agriculture, Water and the Environment





Student Saeedeh Noushini analysing samples in a gas chromatograph. This technique is used to investigate the volatile gases produced by Queensland fruit flies; these volatiles are key for reproduction.  
Image courtesy of ARC Centre for Fruit Fly Biosecurity Innovation

## Research

### 4

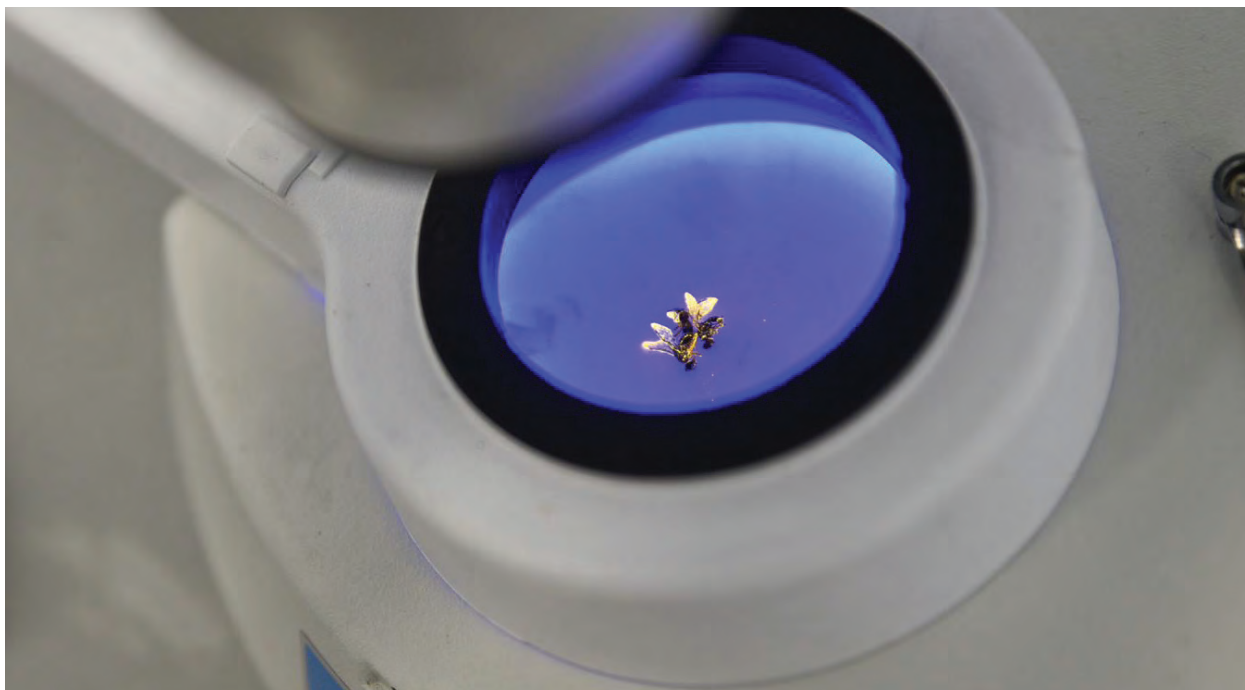


Maintain and enhance fruit fly research capability, capacity and resources, pursuing research and extension that focus on nationally agreed priorities.

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. It is essential that capability and capacity is maintained, and that research, development and extension is prioritised, coordinated and strengthened through national and international research linkages.

This priority area will be achieved through activities that include:

1. Promoting long-term, coordinated investment in research that aligns with national strategic priorities.
2. Fostering strong partnerships between regulators, research funders, researchers, industry and end-users to identify and support both immediate and anticipated research needs.
3. Encouraging exchanges, linkages and cooperation among different research sectors to minimise research duplication and maximise the benefits of a collaboration.
4. Fostering scientific and technical skills, expertise and knowledge available for research and development.
5. Sharing research and development outputs with end-users and integrating learnings into government and industry practices.



Queensland fruit fly under a UV light showing the fluorescent dye used to help differentiate trapped farmed (sterile) flies from wild flies in the field.

Image: Primary Industries and Regions South Australia





Irymple Girl Guides delivering fruit fly traps as part of a mass trap distribution program within the Sunraysia region of Victoria  
Image courtesy of Narelle Beattie, Regional Coordinator, Greater Sunraysia Pest Free Area

## Surveillance

# 5



Ensure a nationally consistent surveillance framework that provides clarity around 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 responses and access to markets. 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.

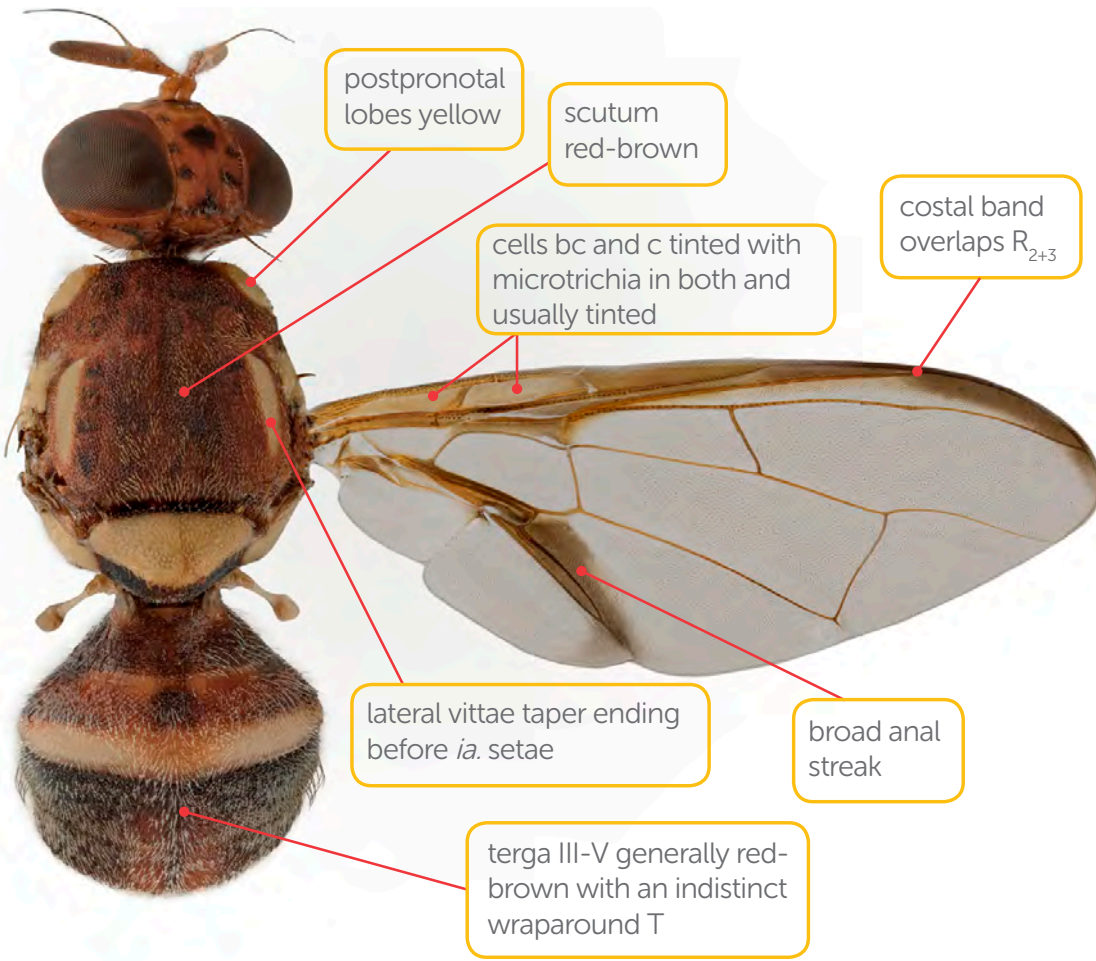
This priority area will be achieved through activities that include:

1. Facilitating a national approach to fruit fly surveillance systems that is based on science, risk analysis, international standards and world's best practice.
2. Regularly reviewing and improving methodologies to maximise the ability to detect exotic species whilst ensuring surveillance systems are managed in a cost-effective manner.
3. Minimising the risk of establishment of exotic fruit flies through contingency planning for eradication.
4. Formalising commitment to the national exotic fruit fly detection system through long-term funding agreements.
5. Developing and promoting the use of sampling and survey data collection methods that are technically justified, and enable information to be collated, analysed and reported.
6. Identifying ways to capture data from the general surveillance network to improve detection capacity.



This is a Lynfield dry trap, which is used by NSW DPI for capturing males of various fruit fly species, including Queensland fruit fly.





Abdominal variation



Lateral thorax



Head



Fore, mid, hind legs

Features of Queensland fruit fly (*Bactrocera tryoni*) morphology used by diagnosticians to identify the pest. Image reproduced from the Australian Handbook for the Identification of Fruit Fly



## Diagnostics

# 6



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.

This priority area will be achieved through activities that include:

1. Facilitating a national approach to diagnostic capacity and capability through networks, training, formally recognised protocols and reference materials.
2. Continuing to develop diagnostic platforms and tools that streamline and facilitate identification of fruit flies.
3. Resolving taxonomically problematic species complexes.
4. Developing diagnostic methods to understand genetic relationships and geographic origins of invasive populations to enable identification of high-risk pathways.
5. Promoting the value of diagnostic services to stakeholders, to gain a higher level of investment in essential infrastructure, expertise, and research.



A fruit fly identification workshop was held to ensure that the scientific capacity and capability exists within Australia to identify exotic species of fruit fly, should they make it to Australia.

Image: Plant Health Australia





Stakeholders at the National Fruit Fly Symposium held in Melbourne in 2018.  
Image: Plant Health Australia



## Communication and engagement

# 7



Adopt systems and mechanisms for the 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 the uptake of innovation and creation of shared outcomes. It is also important that information reaches all those who contribute to or benefit from fruit fly management systems, including consumers, wholesalers, retailers, exporters, importers, transport operators and treatment providers.

This priority area will be achieved through activities that include:

1. Developing a communication and engagement strategy for the National Fruit Fly Strategy 2020–25, including roles and responsibilities of stakeholders.
2. Raising awareness of the various processes and components of the national fruit fly system that serve to maintain and gain market access.
3. Promoting the roles and responsibilities of all stakeholders in upholding the integrity of the national fruit fly system.
4. Utilising existing systems to exchange up-to-date information on fruit fly management issues between governments, industries, regions and communities.
5. Encouraging adoption of area wide management approaches, including through applying relevant social research outcomes.



A Mediterranean fruit fly display at the Carnarvon Library in Western Australia, providing information for the community on fruit fly biology, behaviour and homemade control solutions.

Image: WA Department of Primary Industries and Regional Development.



## Cooperation

# 8



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

A coordinated national system requires cooperation across disciplines and geographic boundaries towards achieving agreed common goals. Industry, government, researcher and community forums all play a role in raising awareness of fruit fly issues, determining priorities, directing and providing resources and monitoring progress. Collectively these forums represent the national system and are fundamental sources of information and influence which must be connected to one another and be able to serve the national interest.

This priority area will be achieved through activities that include:

1. Strengthening the partnership between the National Fruit Fly Council and regulatory and research decision-makers, including Plant Health Committee, Hort Innovation, peak industry groups and other relevant stakeholders.
2. Improving the two-way flow of information and engagement between governments, industries, researchers and communities to better identify and address fruit fly challenges and opportunities.
3. Building sustainable funding models to support fruit fly management activities that are critical to the national system.
4. Collaborating with stakeholders to prioritise activities and monitor progress against the strategy.
5. Adequately resourcing and empowering the National Fruit Fly Council to monitor and drive implementation of the strategy.



Meeting of local, regional, state and national fruit fly representatives at the Goulburn Murray Valley Fruit Fly Governance Group meeting in Cobram, Victoria, to discuss opportunities to further enhance the coordinated management of the pest.  
Image: Plant Health Australia





Image: Ian Bally



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