

Victoria's Fruit Fly Strategy 2021-2025



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ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the traditional Aboriginal owners of country throughout Victoria, their ongoing connection to this land and we pay our respects to their culture and their Elders past, present and future.

INTRODUCTION

Victoria's Fruit Fly Strategy 2021-2025 (the Strategy) spans a four-year period from 2021-2025. It is based on best practice biosecurity principles and studies. This Strategy does not replicate, but rather, complements existing national strategies including the *National Fruit Fly Strategy 2020-2025*.

The Strategy also aligns with key themes detailed in Victoria's Agriculture Strategy: Strong, Innovative, Sustainable: A New Strategy for Agriculture in Victoria (2020). This includes focussing on protecting and enhancing the future of agriculture by ensuring it is well-placed to respond to a range of threats including pest species.

The management of risks and impacts of fruit fly is critical for a thriving horticulture industry. How Victoria manages fruit fly has implications not just for Victoria but for other jurisdictions and for Australia's horticulture exports more generally. While Victorian industries and communities work locally in the three key horticultural regions of Sunraysia, Goulburn Murray Valley and Yarra Valley, Victoria is part of a national system that collectively supports domestic and international market access opportunities.

Victoria is party to and supports a range of initiatives that address fruit fly issues of national importance, including research, development, and extension activities.

This Strategy emphasises shared responsibility for the management of fruit fly with government investing in, and leading work on exotic species, providing the regulatory tools to support market access opportunities for trade impacted by fruit fly and supporting industry and communities in the area-wide management of fruit fly.

FRUIT FLY

Fruit fly is a horticultural pest

Fruit flies cause damage to produce when a female fly 'stings' a piece of fruit in order to lay her eggs. Larvae feeding on the fruit weaken the fruit structure which promotes rotting and dropping. The original sting site may also allow the introduction of bacteria and other pests, which can further damage the fruit.

Fruit fly species

There are more than 50 exotic and established species of fruit fly that are of potential economic significance or quarantine concern to Victoria¹. However, the most significant species are Mediterranean fruit fly (Medfly) and Queensland fruit fly (QFF). At present Victoria remains free of Medfly despite its presence elsewhere in Australia. QFF is an established pest in Victoria.

Fruit fly host plants

Fruit flies have the potential to impact a broad range of horticultural crops. Individual species may be host specific or have multiple hosts. This broad host range, which includes some native species, makes management challenging. The key horticultural crops affected by fruit fly in Victoria include stonefruit (e.g. apricots, peaches, and cherries), pomefruit (e.g. apples, pears), citrus (e.g. oranges, mandarins), grapes, berries and tomatoes.

¹ Agriculture Victoria generally considers established species to be those that are widespread and beyond eradication, as is the case with Queensland fruit fly.

HORTICULTURE IN VICTORIA

There are approximately 5,000 horticulture producers in Victoria, employing around 11,000 people. The horticulture industry in Victoria is worth over \$3 billion and exports are worth \$1.6 billion per year. At least \$1 billion of these export crops are fruits and vegetables that are susceptible to fruit fly.

The *Victorian Food and Fibre Export Performance Report 2019-20* stated that the 2019-20 Victorian horticulture season to be its most valuable year. A summary is provided in Table 1. Key achievements include:

- Fruit exports increased by \$84 million (10 per cent) to be valued at \$904 million in 2019-20. China was the major market for Victorian horticultural exports with a total value of \$646 million.
- Table grapes recorded the largest growth in export value, increasing by \$59 million (12 per cent) to a record \$562 million. Export volumes increased by four (4) per cent.
- The value of citrus and stone fruit exports increased by nine (9) per cent and four (4) per cent respectively.

Table 1. Victorian horticulture exports since 2015-16²

Produce	2015-16		2016-17		2017-18		2018-19		2019-20	
	\$ million	'000 tonnes	\$ million	'000 tonnes	\$ million	'000 tonnes	\$ million	'000 tonnes	\$ million	'000 tonnes
Table grapes	340	110	349	109	351	110	504	145	562	152
Dried grapes	16	4	16	4	18	5	24	5	29	5
Citrus	105	84	120	89	147	104	162	104	177	118
Stone fruit	53	14	46	12	68	17	102	23	106	22
Pome fruit	24	14	15	9	24	16	22	13	21	13
Other fruit	8	3	9	3	8	3	6	2	9	2
Processed fruit	4	1	4	1	10	2	11	2	8	2

THREAT OF EXOTIC FRUIT FLY TO VICTORIA

Exotic fruit fly being introduced and becoming established in Victoria would have a detrimental impact on horticultural production and market access, affecting produce quality, and leading to increased production costs.

Victoria's trade of fruit fly hosts is based on freedom from several fruit fly species which although present in Australia, are not present in the state of Victoria. These species include:

- Mediterranean fruit fly (*Ceratitidis capitata*)
- North-Australian fruit fly (*Bactrocera aquilonis*)
- Jarvis fruit fly (*Bactrocera jarvisii*)
- Lesser Queensland fruit fly (*Bactrocera neohumeralis*)

True 'exotic' species from a national perspective which Victoria maintains freedom from include:

- Oriental fruit fly (*Bactrocera dorsalis*)
- Carambola fruit fly (*Bactrocera carambolae*)
- Mexican fruit fly (*Anastrepha ludens*).
- Spotted wing drosophila (*Drosophila suzukii*)

There are a number of ways that exotic fruit flies arrive in Australia. The most likely scenario is via transport in imported fruits or vegetables. To address this risk of introduction into Australia, the Department of Agriculture, Water and the Environment (DAWE) assesses risks and regulates pathways and commodities for the importation of fruit fly hosts. Approved treatments are applied if required. In addition, public awareness campaigns, passenger declarations and border inspections for international travellers address the risk of individuals bringing fruit fly infested fruits and vegetables into Victoria.

² Extract from the *Victorian Food and Fibre Export Performance Report 2019-20*

Domestically, Victoria also has preparedness strategies in place to ensure that Medfly and other species exotic to Victoria are not introduced into the state from other jurisdictions. From a Victorian perspective and for the purpose of this Strategy, Medfly which is established in Western Australia, and under eradication in South Australia is considered an exotic species.

QUEENSLAND FRUIT FLY IN VICTORIA

Queensland fruit fly is a sub-tropical species which is native to Queensland that has established across New South Wales and Victoria. There have also been increasing detections of QFF in South Australia.

Prior to 2013, QFF work was focused on eradication efforts. As a result of ongoing and increasing outbreaks of QFF in Victoria, on 1 July 2013, in consultation with industry bodies, the Victoria Government deregulated the movement of QFF host material into and within the state, with the exception of the Greater Sunraysia Pest Free Area (GSPFA). This change was implemented in recognition of the high cost of eradication, the associated impact of regulation for horticulturalists and recognition that QFF could not be eradicated from Victoria and was therefore considered to be established.

Since 2013 Victoria has been transitioning from government-led regulation and eradication efforts to a shared responsibility model. Under this model industry and community work in partnership with government to manage the impacts of fruit fly in their local region. Resources have been provided to support industry in the delivery of area-wide management programs to improve market access and reduce management costs to growers.

Beyond the horticulture industry, fruit fly also impacts home and community gardens, limiting the ability of individuals to enjoy some home-grown horticultural produce. Equally, urban host plants / trees that are not effectively managed can be a source of fruit fly populations that impact neighbouring horticultural areas. Management of QFF across all properties, including backyards, remains a significant and important challenge for some local communities.

POLICY POSITION

Agriculture Victoria's current policy is based on best practice biosecurity principles and has been informed by a range of analyses. To establish the policy position Agriculture Victoria considered key factors including:

- existing national strategies and intergovernmental agreements
- the status of fruit fly in Victoria and across Australia
- the threat of exotic fruit fly
- the impacts of fruit fly as a horticultural pest, including on-farm and impacts on trade and market access
- co-investment with industries in research and development for the management of QFF
- the benefits and beneficiaries of regional area-wide management
- industry and government's ability / capacity to respond to fruit fly incursions.

Fundamental principles

- Management of fruit fly in Victoria is a shared responsibility between the Victorian government, fruit fly impacted industries and the broader community.
- Agriculture Victoria's priority responsibilities are leading responses to exotic species (i.e. prevention, preparedness, surveillance for early detection, containment, and eradication) and facilitating domestic and international market access. This aligns with the *National Framework for the Management of Established Pests and Diseases of National Significance*.
- Management of established pests, such as QFF, is primarily the responsibility of land managers. Established pest management is most effective where industry and community work collectively; government may invest where a commitment to collective action is demonstrated.
- Delivery of on-farm and community actions for established fruit fly species is best led by fruit fly impacted industries, local councils, and community stakeholders.
- Agriculture Victoria has a responsibility to contribute to the national fruit fly system.
- The priorities for the Victorian government's fruit fly trapping network are early detection of exotic species and support for area freedom claims.
- An effective state-wide fruit fly management system requires contributions (including activity delivery) from all stakeholders in a coordinated manner so there is minimal duplication and all efforts are recognised.
- Government funding decisions must consider return on investment, risk creators and beneficiaries.

Key assumptions

- The extensive host range of QFF, degree of host susceptibility and timing of harvests present unique management needs in different regions.
- Implementation of the *Managing Fruit Fly in Victoria Action Plan 2015-2020* has raised awareness and helped establish structures that support area-wide management of QFF off-farm in the broader community.
- The regionally specific action plans showed a significant, tangible benefit in the off-farm management of QFF.
- Fruit fly can be managed effectively on-farm and through pre- and post-harvest treatments, as demonstrated by increasing horticultural exports despite QFF being established in Victoria. It is noted that pest pressure levels can differ across seasons and can impact management options and outcomes.
- The utilisation of effective pre- and post-harvest treatment protocols has also enabled produce from the Greater Sunraysia region to continue to be traded successfully despite the GSPFA not being recognised by international export markets as a pest free area.
- Industry and other stakeholder surveillance for exotic and established species may be integrated with government data to support market access.

STRATEGIC OBJECTIVE AND ACTIVITY AREAS

Overview

This Strategy guides Victoria's approach to the management of fruit fly. It provides for Agriculture Victoria's focus on managing the risk of exotic incursions by prioritising preparedness and prevention activities and strengthening shared responsibility in the management of QFF. To develop the Strategy, Agriculture Victoria considered:

- the performance of the horticulture sector
- the threat posed by fruit fly species exotic to Victoria and Australia (including Medfly)
- the established status of QFF in Victoria
- principles of best practice biosecurity
- related national strategies and agreements
- information provided by studies and analyses
- the local, national, and international landscapes including biosecurity and market access expectations
- stakeholder relationships.

The Strategy strongly aligns with the *National Fruit Fly Strategy 2020-2025*. This is important because Victoria operates as part of a national system to support domestic and international trade and market access.

The strategic objective and activity areas are outlined in Figure 1.

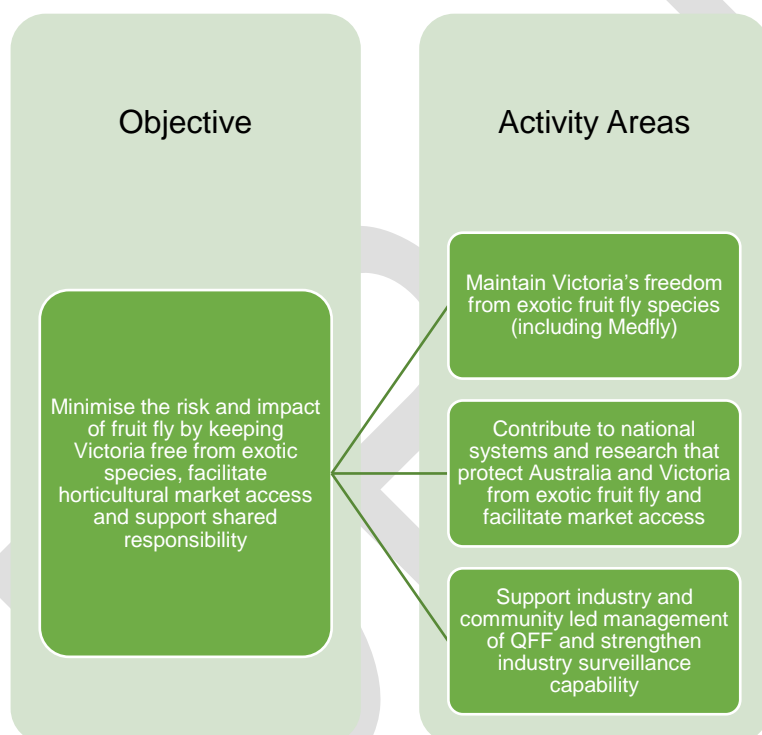


Figure 1. Outline of strategic objective and three activity areas

ACTIVITY AREA 1: MAINTAIN VICTORIA'S FREEDOM FROM EXOTIC FRUIT FLY SPECIES (INCLUDING MEDFLY)

The outcomes and activities under Activity Area 1 are led by government with support from stakeholders. It should be noted that Agriculture Victoria's core business includes a broad range of activities that will achieve the outcomes of Activity Area 1, which are already being delivered to minimise the risk and impact of fruit fly on Victorian horticulture. These activities along with new strategic projects will contribute to the overarching strategic objective.

These activities align with the NFFS Priority Areas 1, 3, 5, 6 and 7 (Appendix 1).

Preparedness and Response

Outcome: Victoria is able to effectively respond to exotic fruit flies and maintain market access

Diagnostic Services	Victoria's technical expertise and equipment capability is maintained and improved.
Reference Collections	Victoria's insect collection maintains relevant specimens to facilitate diagnosis and support market access requirements.
Simulation Exercises	Victoria's response systems and people are 'mission ready' and regularly tested and practiced through functional activities.
Contingency Plans	Appropriate contingency plans are in place for all significant fruit fly species for Victoria to ensure a consistent and effective response.
Medfly Planning	Victoria has an agreed response strategy in place and resources determined to enable an effective response to a Medfly detection.
Torres Strait Exotic Fruit Fly Eradication	Victoria provides financial and technical contributions to the national eradication of exotic fruit flies from the Torres Strait to protect Australian industries.

Surveillance

Outcome: Early detection of exotic species facilitates effective response and claims of pest status are validated

Trapping Network	Victoria's trapping network provides confidence for early detection of exotic species and supports pest status claims for market access.
Investigating Public Reports	Reports of suspect exotic fruit flies are encouraged, and Agriculture Victoria effectively and rapidly undertakes appropriate investigations.
National Plant Health Surveillance (NPHS)	The Victorian component of the NPHS program (targeted to ports of entry / high risk sites) is effectively delivered.
Urban Plant Health Network	Biosecurity awareness in urban environments is enhanced to facilitate increased reporting of suspect pests, including fruit fly.

Strategic Project - Future of the Greater Sunraysia Pest Free Area (GSPFA)

Outcome: Victoria is able to make an informed decision about the future of the GSPFA

The GSPFA was established in 2007. By 2013 there were a significant number of outbreaks in the area, resulting in the suspension of area freedom status by trading partners. Eradication is highly unlikely now that QFF is established and it is no longer the best use of resources for maintaining market access. Industries in the region trade under non-PFA protocols. Resources should be directed to managing fruit fly and its impacts to ensure market access is supported.

Note: Agriculture Victoria is leading a collaborative project with the New South Wales Department of Primary Industries, DAVE, and industry to determine the regulatory future of the GSPFA.

Strategic Project - Optimising the Victorian Fruit Fly Trapping Network

Outcome: Victoria is able to make informed decisions to optimise the trapping network to strengthen surveillance for exotic species

The current trapping network in Victoria has evolved to meet changing levels of risk, needs of stakeholders and status of pest freedom across regions and meets the requirements of the NPHS program.

Agriculture Victoria is undertaking a review of the fruit fly trapping network. The review was initiated in the interests of best practice and continuous improvement. The objective is to ensure that Victoria's trapping network is fit for purpose and provides the best outcomes for Victoria.

Any re-design of the trapping network will continue to be primarily focussed upon achieving early detection of exotic fruit flies, including the increasing threat of Medfly, as well as providing data to assist in the management of established fruit fly species. The requirements of the NPHS will be maintained under any re-design of Victoria's trapping network.

Note: This review is due to be completed during 2021 and is subject to consultation with stakeholders.

ACTIVITY AREA 2: CONTRIBUTE TO NATIONAL SYSTEMS AND RESEARCH THAT PROTECTS AUSTRALIA AND VICTORIA FROM EXOTIC FRUIT FLY AND FACILITATE MARKET ACCESS

The outcomes and activities under Activity Area 2 will be predominantly led by government with participation from stakeholders, particularly for the domestic quarantine and market access outcomes. It should be noted that Agriculture Victoria's core business includes a broad range of activities that will achieve the outcomes of Activity Area 2, which are already being delivered to minimise the risk and impact of fruit fly on Victorian horticulture. These activities along with research projects already underway and new strategic projects will contribute to the overarching strategic objective.

These activities align with the NFFS Priority Areas 1, 3, 4, 5, 6, 7, 8 (Appendix 1).

Domestic Quarantine and Market Access

Outcome: Treatment and movement of plant and plant products into, out of and within Victoria is effectively regulated

Domestic Market Access	Victoria delivers an effective and efficient market access program including Interstate Certificate Assurance; administration of the online Plant Quarantine Manual and industry notification processes.
Proof of Freedom	Victoria delivers an area freedom program for Medfly covering market access requirements, awareness, surveillance, and corrective action.
Regulatory Framework	Agriculture Victoria maintains a regulatory framework supporting the market access program.

International Market Access

Outcome: International market access is actively facilitated by Agriculture Victoria

Manage Relationships	Victoria builds and maintains relationships with DAWE, peak industry bodies, and trading partners.
Facilitate Trade	Victoria supports DAWE in making technical assessments to facilitate trade.
National Partnerships	Victoria works collaboratively with the Commonwealth and State and Territory governments, industry, and community stakeholders.

Research Projects - Projects underway at Agriculture Victoria Research

Outcome: Surveillance, diagnostics and management are improved through development and application of new technologies and practices

A national biocontrol program to manage pest fruit flies in Australia

Parasitoids for the management of fruit flies in Australia

Queensland fruit fly trapping in table grapes

New Integrated Pest Management tools for insect pests of biosecurity significance

Phenology, demography, and distribution of fruit flies (Metabarcoding and LAMP)

Post factory pilot for SITPlus

Boosting diagnostics for plant production industries (Spotted Wing Drosophila)

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ACTIVITY AREA 3: SUPPORT INDUSTRY AND COMMUNITY LED MANAGEMENT OF QUEENSLAND FRUIT FLY AND STRENGTHEN INDUSTRY SURVEILLANCE CAPABILITY

The outcomes and activities under Activity Area 3 will be most appropriately led by industry, community, and local government with support from the state government. These activities along with proposed strategic projects may contribute to addressing regional and local priorities and the overarching strategic objective.

These activities align with the NFFS Priority Areas 2, 3, 5, 7 and 8 (Appendix 1).

Government Funding

The Victorian Government is providing funding over the life of the Strategy for Regional Coordinators and area-wide management programs in the three key horticultural areas of the Goulburn Murray Valley, the Yarra Valley and the Greater Sunraysia region. Agriculture Victoria will work with the Regional Coordinators and Governance Groups of these regions to develop implementation plans to ensure funding is utilised effectively and efficiently to meet agreed outcomes specified in the Strategy Implementation Plan.

Sustainable Funding

A key outcome of the implementation plan to be developed in consultation with industry is the investigation of sustainable funding mechanisms available for industries to secure funds for biosecurity activities. Agriculture Victoria will work with industry to explore sustainable future funding opportunities.

Regional Programs

Outcome: Industry and community have ownership of area-wide management priorities and have capability to deliver regional programs

Area-wide Management	Support regional stakeholders to continue best practice area-wide management programs.
Sustainable Funding	Facilitate access to a sustainable funding model for regional priorities.

Community Awareness

Outcome: Increase community awareness of fruit fly risks, impacts and management

Statewide Awareness Campaign	Develop and promote education materials for off-farm and private garden management.
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Strategic Project - Sustainable Funding for Regional Programs

Outcome: The horticulture industry in Victoria has a sustainable funding model that provides for shared contribution to area-wide management of QFF across the three key horticulture regions of Greater Sunraysia, Goulburn Murray Valley and Yarra Valley

In response to the Managing Fruit Fly in Victoria Action Plan 2015-2020 Evaluation Report and the Transition Plans provided by the Governance Groups of the three key horticultural areas around the value of regional area-wide management programs, Agriculture Victoria is committed to supporting industry and local government to establish a sustainable funding model. The model may include both financial and in-kind resources that support area-wide management objectives for the regions.

Note: This project is subject to consultation with stakeholders.

Strategic Project - Industry Surveillance Model

Outcome: The horticulture industry has a surveillance system that increases the identification and reporting of fruit fly (and other plant pests) by horticulturalist and primary producers to deliver a biosecurity service that protects the horticulture industry

In response to findings from independent analyses, Agriculture Victoria is proposing to develop an industry surveillance model for horticulture. The independent analyses highlighted the importance of a trapping network that covers production areas to help support management decisions, and the inherent value of strengthening exotic surveillance.

The program would be delivered by Agriculture Victoria, in collaboration with major horticultural companies, a network of private consultants and primary producers. The program would build upon existing methods of reporting including the biosecurity hotline.

Note: This project is subject to a feasibility study and consultation with stakeholders. Development would likely commence in 2022.

REFERENCES

National Fruit Fly Strategy 2020-25, National Fruit Fly Council (2020), Plant Health Australia

Victorian Food and Fibre Export Performance Report 2019-20 (2020), State Government of Victoria

Strong, Innovative, Sustainable: A New Strategy for Agriculture in Victoria (2020), State Government of Victoria

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APPENDIX 1: NATIONAL FRUIT FLY STRATEGY PRIORITY AREAS

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.