

Chapter 6

Post-border biosecurity –
eradicating new plant pests





Post-border biosecurity – managing plant biosecurity emergencies

Even with a highly effective biosecurity system, including strong border controls, there is still a risk that new plant pests will enter the country. Passenger arrivals and commodity imports are increasing and, together with natural means of entry such as wind and water currents, the risk of exotic pest incursions is ever present.

Australia has post-border mechanisms to rapidly and effectively respond to plant pests to minimise negative impacts. These include nationally collaborative and coordinated means to:

- report suspect plant pests of concern through the Exotic Plant Pest Hotline 1800 084 881
- manage plant biosecurity incidents on the ground through the all hazards approach identified under the Biosecurity Incident Management System (BIMS)
- determine the national response and associated shared funding to plant biosecurity incidents under the Emergency Plant Pest Response Deed (EPPRD)
- prepare for potential plant biosecurity incidents through training and awareness activities.

This chapter uses the EPPRD definition of a plant pest, which is: *any species, biotype or strain of invertebrate pest or pathogen injurious to Plant Health, Unprocessed Plant Products, Bees or Fungi provided that it is discrete, identifiable and genetically stable, but excludes Genetically Modified Organisms.* This definition does not include weeds.

Other defined terms from the EPPRD appearing in this chapter are identified through capitalisation, with the current version of the EPPRD available at planthealthaustralia.com.au/epprd

National plant biosecurity response arrangements

In cases where a new pest is detected that warrants further action, operational responsibility for responding to the incident resides with the relevant jurisdiction. There are, however, national arrangements and agreements that support government and industry collaboration when responding to a biosecurity incident.

Serious exotic plant pests that would affect agricultural industries are dealt with under the provisions of the EPPRD, the focus of this chapter.

EMERGENCY PLANT PEST RESPONSE DEED

The EPPRD is a formal, legally binding agreement between PHA, the Australian Government, all state and territory governments, and 37 plant industry peak bodies (as at 31 December 2019). It supports the rapid and effective response to the detection of an Emergency Plant Pest (EPP) by providing prior agreement on the governance (decision making) and funding of a national response.

PHA is the custodian of the EPPRD which came into effect in October 2005. The company has the dual roles of helping to ensure that responses are carried out in accordance with the provisions of the agreement and progressive improvement to meet the needs of signatories.

Plant industry cropping sectors

The vast majority of Australia's plant cropping sectors – extending across broadacre, horticulture, nursery production, forestry, edible fungi and honeybees – are represented by a peak industry body under the EPPRD.

During 2019 no new cropping sectors signed up to the EPPRD, though changes to the representative peak industry body occurred for the wine grape cropping sector (now Australian Grape and Wine) and nursery crop producers (now Greenlife Industry Australia).

Emergency Plant Pests

For a plant pest to be covered by the EPPRD, it must be an Emergency Plant Pest (EPP) as defined in the agreement.

In brief, a plant pest may be considered an EPP if it could have an adverse economic impact regionally and nationally if it were to establish in Australia, and meets one of the following:

- a known exotic plant pest not yet present in Australia
- a variant from of a plant pest that is established in Australia but can be distinguished by appropriate investigative methods
- a serious plant pest of unknown or uncertain origin which may be an entirely new plant pest
- an established plant pest that is restricted to a defined area of Australia through the use of regulatory measures, that is not native to Australia, has been detected outside the defined area, and is likely to have an adverse economic impact such that an emergency response is required to prevent an incident of regional and national importance.

Signatories have already agreed that some high priority plant pests (see page 46) are EPPs, and they are documented in schedule 13 of the agreement.

Decision making under the EPPRD

The EPPRD specifies government and industry roles and responsibilities in the decision making and operational processes of responding to an EPP, including how the cost of responding will be shared, based on the relative public and private benefit of eradication.

The terms of the EPPRD identify two key committees to support effective decision making when responding to an EPP. Only those parties that are signatories to the EPPRD have membership rights, with both committees comprising representatives from the Australian Government, all state and territory governments, industry parties affected by the EPP, and PHA. This composition reflects the partnership approach embedded throughout the EPPRD.

The National Management Group (NMG) makes the key policy and financial decisions about a response under the EPPRD. The NMG approves response plans, including all funding requirements, if it is agreed that eradication of the EPP is technically feasible and cost-beneficial.

The NMG is advised on technical matters related to the response by a Consultative Committee on Emergency Plant Pests (CCEPP). A scientific advisory panel may also be convened by the CCEPP, as required, to advise on specific matters.

Categorisation of EPPs

Investment in a response plan by governments and industries is guided by the relative public and private benefit of eradication. This is known as ‘categorisation’ of the EPP, with four categories and the process for categorisation described in the EPPRD.

If the NMG agrees to implement and fund a response plan for an EPP which has not been categorised, then costs will be shared 50 per cent by government parties and 50 per cent by industry parties until categorisation has occurred.

Transition to management

Following the implementation of a response plan, the NMG (on the advice of the CCEPP) may conclude that it is no longer feasible to eradicate the EPP. In such incidents the NMG may agree to proceed with a short (maximum 12 months) ‘transition to management’ phase. During this phase, certain activities may be agreed upon and funded to support transition from the ‘emergency response’ phase to ongoing management outside of EPPRD processes.

The objectives and activities undertaken in the transition to management phase are considered on a case-by-case basis and depend on the biology of the pest and the circumstances relating to the stage of the response. Activities might include development of control options and tools to support pest management, research to improve knowledge of the pest, or communication, engagement and training activities.

Owner Reimbursement Costs

Following a response under the EPPRD, growers impacted by the response plan actions and who are covered by the provisions of the EPPRD, may be eligible to receive reimbursement of specific costs or losses. These are referred to as Owner Reimbursement Costs (ORCs) and are funded by both government and industry through the EPPRD arrangements.

Review and evaluation

To maintain the ongoing relevance and integrity of the EPPRD, the implementation of the agreement is subject to continual review and improvement. This encompasses a formal review of the agreement every five years (next review to occur in 2020), an annual review of PLANTPLAN, individual incident debriefs (for completed or current responses), and findings arising from training activities.

PHA manages the continual improvement to the EPPRD and PLANTPLAN on behalf of the signatories. No significant amendments to the EPPRD were made during 2019.

A new version of PLANTPLAN was issued in December 2019, with focused improvements identified through debriefs undertaken between 2017 and 2019.

PLANTPLAN

PLANTPLAN provides nationally consistent guidelines for response procedures, outlining the phases of an incursion (investigation and alert, operational, stand down and transition to management) and key roles and responsibilities of industry and government participants during each of these phases. It incorporates best practice in EPP responses and is consistent with the Biosecurity Incident Management System (BIMS; see page 185). PLANTPLAN is part of schedule 5 of the EPPRD and is endorsed by all EPPRD signatories.

PLANTPLAN is supported by several documents that provide further detail and guidance on specific topics as required. In 2019, parties endorsed a number of new and revised supporting documents, all of which are available at planthealthaustralia.com.au/plantplan

NATIONAL ENVIRONMENTAL BIOSECURITY RESPONSE AGREEMENT

If a new pest is considered to primarily impact the environment or social amenity and is not able to be dealt with under the EPPRD, then the National Environmental Biosecurity Response Agreement (NEBRA) may be activated. The NEBRA is a non-legally binding arrangement signed by all Australian governments, which came into effect in January 2012.

During 2019 the governments continued with their review of the agreement, including public consultation, and a new version is expected to be available in 2020.

Preparing for plant biosecurity incidents

A range of preparedness activities are undertaken by industry, government and PHA to maintain and improve response capability and capacity. The following section describes some of the key systems and training activities to prepare for emergency responses.

REPORTING A PLANT PEST OR DISEASE

The state and territory governments collectively maintain a national hotline to facilitate reporting of potential new plant pests or diseases in Australia. It is referred to as the Exotic Plant Pest Hotline (1800 084 881), with callers directed to the relevant state or territory department of agriculture.

**IF YOU SEE ANYTHING UNUSUAL,
CALL THE EXOTIC PLANT PEST HOTLINE**

1800 084 881

A report through the hotline triggers investigations by the receiving jurisdiction to identify the potential pest or the cause of unusual plant symptoms. Each call is treated seriously and confidentially. Information on Australia's diagnostic system is described in Chapter 5.

BIOSECURITY INCIDENT MANAGEMENT SYSTEM

Across all sectors, biosecurity incidents are managed in accordance with the Biosecurity Incident Management System (BIMS).

The system is an 'all hazards' approach, which:

- co-exists with and complements current, sector specific and jurisdictional response arrangements
- can be applied to all biosecurity incidents, irrespective of sector or scale of response
- provides a guide for personnel working within operations centres established at national, state, territory, local and field levels.

Importantly, BIMS is consistent with contemporary incident management systems employed by other emergency response agencies across Australia and in other countries, including Australasian Inter Services Incident Management System, Australia Emergency Coordination System and the New Zealand Critical Incident Management System. This ensures greater interoperability, with response capacity able to be boosted more easily.

Exercise Crown and Anchor

In March 2019 Exercise Crown and Anchor was run in Canberra to test the ability of the Commonwealth and adjoining jurisdictions to respond to a biosecurity incident originating in a 'Commonwealth Place'.

The simulation exercise was part of the annual program of professional development created for and run by the NBRT.

The exercise presented two fictional scenarios:

- a Varroa mite detection in Jervis Bay Territory
- a red imported fire ant detection on the grounds of Canberra International Airport.

The scenarios were used to investigate who would lead the response, what legislation would be applicable and how the different agencies could work together.

Exercise participants conducted activities which would be undertaken in a Local Control Centre during a response as well as undertaking field trips to experience the complexities of working in unfamiliar environments.



National Biosecurity Response Team members learn about the complexities of conducting surveillance on beehives during Exercise Crown and Anchor, March 2019. Image courtesy of Plant Health Australia

NATIONAL BIOSECURITY RESPONSE TEAM

The National Biosecurity Response Team (NBRT) is a group of trained and experienced personnel, drawn from biosecurity agencies across Australia, who can be deployed to a jurisdiction to boost capacity temporarily to assist in a response to a biosecurity incident. Deployment might be in response to an animal, plant, aquatic or environmental biosecurity incident.

Members are government officers with knowledge, experience and training in emergency management, incident management or more specifically, responding to biosecurity incidents. They may be deployed in a State Coordination Centre or Local Control Centre to perform functions including incident management, liaison, public information, planning, operations and logistics.

The NBRT has two cohorts of members: a group of personnel with experience in a functional response and another of highly experienced mentors. The NBRT program is managed by an advisory group, with standing members from the Australian Government Department of Agriculture, Animal Health Australia and PHA. Animal Health Australia manages the administration of the NBRT.

Members of the NBRT participate in professional development opportunities and maintain their skills in exercises and responses through workshops organised by the advisory group. They can also apply for sponsorship from the NBRT to attend external workshops and conferences that will benefit their NBRT roles.



When numerous live, adult brown marmorated stink bugs hitchhiked their way to Australia in a shipping container packed with electrical components, Hager Electro's warehouse manager Sione (John) Matakaiongo (pictured) immediately raised the alarm. In 2019, Hager Electro were joint winners with Greater Sydney Local Land Services of an Australian Biosecurity Award. Image courtesy of the Department of Agriculture

NATIONAL COMMUNICATION ARRANGEMENTS

During an EPP response, the relevant state or territory government takes the lead in ensuring that the public and stakeholders are kept informed of activities. Effective communication and engagement with those impacted by a biosecurity incident is vital. It aids response activities by informing growers of what they can do to prevent the pest or disease affecting their property, and how to comply with movement and other quarantine restrictions. It also helps the wider community to understand their role in biosecurity.

National Biosecurity Communication and Engagement Network

The National Biosecurity Communication and Engagement Network (NBCEN) advances preparedness and prevention activities nationally that relate to communication and engagement during a response. The network consists of communication managers from the Australian Government, state and territory governments, and organisations including PHA and Animal Health Australia. Industry personnel receive network communications during a response that is relevant to them.

The NBCEN also has a key role in developing national talking points during a response, which allows for consistent national messaging.

Biosecurity Incident Public Information Manual

During a response, agricultural agencies and industry organisations refer to the Biosecurity Incident Public Information Manual (BIPIM), developed by the NBCEN. The BIPIM is in line with the Public Information function set out in BIMS.

The use of the BIPIM ensures that anyone performing a function in public information knows their role and how each of the jurisdictions work with industry to deliver consistent information to stakeholders and the public.

Having specific roles and job cards can help jurisdictions recruit additional personnel promptly, when they are needed in a long-term or widespread biosecurity incident. The BIPIM is available as an AUSVETPLAN resource document from the Animal Health Australia website animalhealthaustralia.com.au

TRAINING IN BIOSECURITY EMERGENCY RESPONSES

The effective delivery of EPP responses is supported by preferentially using trained and experienced personnel at all levels of the response. This includes representatives from industries and governments, covering roles on national decision-making committees through to being members of control centres and field-based officers.

This training is provided by state and territory governments, the Australian Government, PHA and peak plant industry bodies. It is offered in a variety of forms, from short presentations and e-learning courses, through to formal educational qualifications. Joint training may also be delivered with Animal Health Australia.

Parties also undertake simulation exercises on a regular basis, where responders are put through their paces under a simulated incursion scenario. This provides practice in EPP responses and improves preparedness by identifying aspects of the system that need improvement.

In addition to emergency response training, a range of related skills-based training is offered to members of the plant biosecurity system. For example, plant pest taxonomic identification and technique-based training is available to members of the National Plant Biosecurity Diagnostic Network to address gaps in skills or capacity (see Chapter 5).

Qualifications for biosecurity emergency responses

Updated biosecurity emergency response qualifications as part of the Public Safety Training Package were released in July 2019. These align with the emergency response role training delivered by jurisdictions, allowing people to achieve formal qualifications based on their work experience and training.

Achieving these qualifications puts biosecurity response personnel on the same footing as those in other emergency response areas, such as police and firefighters. The system ensures that biosecurity emergency response training across the country meets the desired standard.

Qualifications available are:

- PUA30919 – Certificate III in Public Safety (Biosecurity Emergency Response Operations)
- PUA40419 – Certificate IV in Public Safety (Biosecurity Emergency Response Leadership)
- PUA50219 – Diploma of Public Safety (Biosecurity Emergency Response Management).

Some Australian universities offer graduate and post-graduate qualifications in biosecurity. These university courses increase awareness in the biosecurity system and provide students with a good grounding for entering the biosecurity workforce.

Examples of the university courses are:

- Graduate Certificate in Plant Biosecurity (Murdoch University)
- Master of Biosecurity (Murdoch University)
- Graduate course in Biosecurity (Advanced) (Australian National University)
- Bachelor of Biosecurity Science (Box Hill Institute).

Exercise Blueprint for the cotton industry

The enthusiasm of the participants at Exercise Blueprint, held in Toowoomba in August 2019, highlighted the desire of the cotton industry to be ready for a real-life exotic pest incursion.

Exercise Blueprint used a fictional detection of cotton blue disease on a cotton farm near Dalby, Queensland, in a range of discussions and activities to find out how the industry would respond to an incursion of this exotic pest.

The main aims of the exercise were to identify:

- how industry will be engaged in a response
- the communication channels industry use to ensure the right messages reach their stakeholders.

Attendees came from a wide range of cotton industry sectors including Cotton Australia, CottonInfo, Cotton Research Development Corporation (CRDC), growers, agronomists, gin operators, researchers, extension officers, the Australian Government Department of Agriculture, Queensland Department of Agriculture and Fisheries and NSW Department of Primary Industries.

The exercise was funded by CRDC to improve the biosecurity preparedness of the cotton industry.



Exercise Blueprint participants attempt to identify cotton blue disease in a crop. Image courtesy of Plant Health Australia

Workshop Sugar Rush tests industry's preparedness

In May 2019, PHA ran a biosecurity workshop for the sugar industry in Townsville. The workshop was funded by Sugar Research Australia with the aim of assessing and improving the biosecurity preparedness of the industry.

Through a series of activities, the participants at the workshop investigated how the sugar industry would respond to an incursion of Ramu shoot borer (*Sesamia griseascens*) in the Burdekin growing region in Queensland.

The sugar industry has a wide range of stakeholders: the workshop was attended by cane growers, millers, productivity boards, peak bodies, researchers and staff from the Queensland Government.

On the day, participants worked through exercises to learn:

- what their role would be in an emergency plant pest response
- what information they would want to know and how best to communicate it
- how a response plan is put together and what information needs to go into it.

The workshop provided an introduction to biosecurity for many of the attendees, and scope to apply what they had learnt to other cane growing regions.



A Sugar Rush participant tries to determine whether a sugarcane pest is an EPP. Image courtesy of Plant Health Australia.

National EPP Training Program

PHA conducts the National EPP Training Program on behalf of its members, delivering training to industry and government representatives, growers and other biosecurity stakeholders. The aim is to ensure that members can effectively fulfil their roles and obligations under the EPPRD.

Simulation exercises

Practical training in emergency response via simulation exercises is an important component of the National EPP Training Program. These exercises support the other forms of training delivered and test specific aspects of member's biosecurity emergency preparedness. Simulation exercises are run from a national perspective by PHA working with states and industry groups, and also on a state basis. During 2019 the cotton and sugarcane industries participated in Exercise Blueprint (see page 187) and Workshop Sugar Rush (see page 188).

Online training in plant biosecurity

PHA offers online training through the e-learning platform BOLT (Biosecurity Online Training). Courses available during 2019 included:

- **PHA Foundation Course** – provides a summary of the Australian biosecurity system and how emergency responses to plant pests are managed under the EPPRD.
- **National EPP Response Management** – introduces the purpose of the CCEPP and the NMG, the roles and responsibilities of the committees and their members, and the decision-making process in an incident.
- **Bee Biosecurity Awareness** – is a short awareness course that adds to the information in the Biosecurity Manual for Beekeepers. It provides an introduction to biosecurity best practice, hive inspections, surveillance, moving hives and how to report a suspect EPP.
- **Biosecurity for Beekeepers** – provides advice on keeping honey bees healthy using industry best practice. This course supports the Australian Honey Bee Industry Biosecurity Code of Practice.

Two tailored courses – called **Pest Reporting and Responses** – were released in 2019 to inform growers and researchers about reporting suspect EPPs.

In 2019, the BOLT courses were completed just over 1300 times, with the PHA Foundation Course being completed 423 times. Since their launch in mid and late 2019, the two new reporting courses were completed a combined total of 149 times. Since BOLT was launched in 2013, 5390 users had registered on the site in order to enrol in plant biosecurity courses.

BOLT courses are open to all plant biosecurity stakeholders and can be accessed through planthealthaustralia.com.au/bolt

Notifications and responses in 2019

This section highlights the notifications of plant pest incidents and the nationally coordinated responses that were managed under the EPPRD during 2019.

Information on national responses to pests or weeds that are not managed under the EPPRD but may have flow-on implications for Australia's plant industries (such as red imported fire ants or red witchweed) may be found on the Australian Government's Outbreak website outbreak.gov.au

NATIONAL RESPONSE PLANS

During 2019 two new response plans were implemented under the EPPRD in response to a new detection of *Varroa jacobsoni* in Queensland (unrelated to the 2016 incursion), and seasonal incursions of three exotic fruit flies onto the Torres Strait Islands (Queensland).

Area freedom from banana freckle was recognised nationally in February 2019 which – together with responses relating to brown marmorated stink bug, tomato potato psyllid and *Candidatus Liberibacter solanacearum* (haplotypes D and E) drawing to a close – saw the number of active response plans under the EPPRD decreasing to six as at 31 December 2019.

A short summary of national response plans in place during 2019, together with a description of key activities undertaken during the year, is in Table 54 on page 190.

OTHER PLANT PEST NOTIFICATIONS

A number of plant pests were reported during 2019 that did not proceed to a response plan in 2019. Some were assessed as requiring no further action: others were still under investigation in 2019 and further actions may be taken in 2020. These pest detections are listed in Table 55 (see page 192).

Banana freckle freedom declared

In February 2019 Australia was declared free of banana freckle (*Phyllosticta cavendishii*) after an eradication campaign that had been underway since the disease was first detected in the Northern Territory in 2013.

Australia's banana industry is worth some \$600 million annually. The action of the commercial banana growers, backyard growers and community in the NT, helped stop the disease from spreading to the broader industry in other states.

The disease was successfully eradicated through a multi-million-dollar program under the EPPRD.

The banana industry, through the Australian Banana Growers' Council, was one of the first cropping sectors in Australia to commit to the partnership approach to emergency responses by signing the EPPRD in 2004.

The national banana industry was the principle funder of the banana freckle response, investing half of the costs, with the Australian Government, state and territory governments, and the nursery and garden industry also contributing financially and in-kind to the response.



The disease banana freckle in the Cavendish strain of bananas makes the fruit unappealing to buyers. Image courtesy of Juliane Henderson.

Table 54. Responses to plant pests under EPPRD arrangements*

Scientific name	Common name	Crops affected	Region	Past action	Situation as of 31 December 2019
<i>Bactrocera dorsalis</i>	Oriental fruit fly	Various fruits and vegetables	Torres Strait	<p>Exotic fruit flies are sporadically detected in the Torres Strait and eradicated to protect mainland Australia.</p> <p>In November 2015 the National Management Group (NMG) endorsed the Exotic Fruit Flies in the Torres Strait Response Plan for the period July 2015 to June 2018. Surveillance and eradication activities occur on an annual basis.</p>	<p>Surveillance and eradication activities in the Torres Strait were ongoing in response to sporadic fruit fly detections. The NMG agreed that annual incursions of <i>Bactrocera dorsalis</i>, <i>B. trivialis</i> and <i>Zeugodacus cucurbitae</i> in the Torres Strait between 1 July 2015 and 30 June 2018 have been eradicated from Australia following successful implementation of the Response Plan. A new Response Plan was endorsed by the NMG for the period July 2018 to June 2021.</p>
<i>Bactrocera trivialis</i>	New Guinea fruit fly				
<i>Zeugodacus cucurbitae</i>	Melon fly				
<i>Bactericera cockerelli</i>	Tomato potato psyllid	Tomatoes, vegetables, production nurseries	WA	<p>Detected in Perth in February 2017. NMG endorsed a Response Plan for eradication, however subsequently agreed that it was not feasible to eradicate tomato potato psyllid.</p> <p>A Response Plan incorporating Transition to Management activities was approved by the NMG and implemented. Extensive testing of psyllids and host plants did not detect the potential vectored pathogen <i>Candidatus Liberibacter solanacearum</i> (haplotypes A and B).</p>	<p>In 2019 the NMG agreed that Transition to Management under the Response Plan had been completed, bringing the response under the EPPRD to an end.</p>
<i>Candidatus Liberibacter solanacearum</i> haplotypes D and E	Vegetative disorder, yellows decline	Vegetables, production nurseries	NSW	<p>Haplotypes D and E detected in July 2017 in imported parsley seed. Tracing of imported seed and surveillance undertaken.</p> <p>The bacterium has only been detected in unsown imported seeds and not within any host crops being grown in Australia.</p>	<p>In 2019 the NMG agreed that <i>Candidatus Liberibacter solanacearum</i> haplotypes D and E had been eradicated from Australia following successful completion of the Response Plan.</p>
<i>Cryphonectria parasitica</i>	Chestnut blight	Chestnuts	Victoria	<p>First detected in September 2010. Response Plan endorsed by the NMG in November 2010 and eradication activities undertaken.</p> <p>Following extensive surveillance activities sporadic detections occurred in 2014, 2016 and 2017.</p> <p>Infected trees and surrounding host trees were destroyed.</p> <p>Response Plan subsequently revised and implemented.</p> <p>Containment measures in place and surveillance activities ongoing in 2018.</p>	<p>In 2019 the NMG agreed that it was no longer feasible to eradicate chestnut blight and endorsed a revised Response Plan for Transition to Management.</p>

Table 54. Responses to plant pests under EPPRD arrangements* (continued)

Scientific name	Common name	Crops affected	Region	Past action	Situation as of 31 December 2019
<i>Halyomorpha halys</i>	Brown marmorated stink bug (BMSB)	Various fruits and vegetables, hazelnuts, cotton, grains, production nurseries	WA	BMSB were detected in Perth in February 2018 in a consignment of electrical goods from Italy. A Response Plan was approved by NMG. Treatment and surveillance activities were undertaken. No further BMSB have since been detected.	In 2019 the NMG agreed that BMSB had been eradicated following successful completion of the Response Plan.
<i>Phyllosticta cavendishii</i>	Banana freckle	Bananas, production nurseries	NT	Detected in July 2013. NMG endorsed a Response Plan in October 2013 and eradication activities were undertaken. Destruction of host material continued and host free period commenced May 2015. Sentinel planting phase commenced May 2016 with the controlled reintroduction of banana plants and ongoing surveillance activities.	In 2019 the NMG agreed that banana freckle had been eradicated from Australia following successful completion of the Response Plan.
<i>Varroa jacobsoni</i> (2016 Incident)	Varroa mite	Honey and various pollination-reliant crops	Queensland	Detected on Asian honey bee (<i>Apis cerana</i>) in Queensland in June 2016. Response Plan endorsed by the NMG in September 2016 and eradication activities undertaken. Proof of freedom surveillance activities ongoing.	There were no further detections of Asian honey bee or <i>V. jacobsoni</i> related to this incursion. Proof of freedom surveillance activities were ongoing in 2019.
<i>Varroa jacobsoni</i> (2019 Incident)	Varroa mite	Honey and various pollination-reliant crops	Queensland	New incursion in 2019.	Detected on Asian honey bee (<i>Apis cerana</i>) in Queensland in May 2019. The detection was a new entry into Australia and not related to the 2016 incursion. A Response Plan was endorsed by the NMG in July 2019. The Asian honey bee nest and mites were destroyed. Surveillance activities are ongoing with no further detections of Varroa mite.
<i>Xanthomonas citri</i> subsp. <i>citri</i>	Citrus canker	Citrus, production nurseries	NT, WA	Initially detected in Darwin, NT, in April 2018 with tracing activities identifying additional infected plants in northern WA. The Incident is restricted to potted plants in the home and garden sector. NMG endorsed a Response Plan in May 2018. Eradication activities ongoing, including containment, surveillance and tracing, destruction of infected plants and surrounding host plants, and community engagement and awareness activities.	The response remained on track to achieve eradication. Activities were ongoing in the NT with host plant destruction in Restricted Areas nearing completion and surveillance activities ongoing. WA completed destruction and proof of freedom surveillance activities, and the NMG agreed that citrus canker had been eradicated from WA. In 2019 the NMG endorsed a revised Response Plan which included activities to successfully achieve eradication by 2020. No natural spread of the disease has been observed and there have been no detections in commercial citrus orchards.

* This table may not reflect all Cost Shared responses in 2019.

Table 55. Plant Pest detections notified under the EPPRD in 2019

Scientific name	Common name	State
New detections		
<i>Colletotrichum liriopes</i>	Anthraxnose of <i>Liriope</i> spp.	Qld
<i>Dickeya fangzhongdai</i>	Soft rot	Vic
<i>Dinoderus ocellaris</i>	Bamboo beetle	Qld
<i>Epiphyllum badnavirus 1</i> (Badnavirus)	Epiphyllum badnavirus 1	Vic
<i>Epiphyllum carlavirus 1</i> (Carlavirus)	Epiphyllum carlavirus 1	Vic
<i>Ernocladius</i> sp.	Pygmy borer	NT
<i>Fusarium phylophilum</i>	No common name	Vic
<i>Grapevine rupestris vein feathering virus</i> (Marafivirus)	Grapevine rupestris vein feathering virus	SA, WA
<i>Grosmannia radiaticola</i>	Blue stain fungus	SA
<i>Halyomorpha halys</i>	Brown marmorated stink bug	NSW (Banksmeadow), Vic (Dandenong South, Port Melbourne), WA (Bibra Lake, Fremantle Wharf)
<i>Nisotra basselae</i>	Sliperi beetle	Qld
<i>Diaporthe</i> sp. on rockmelon	No common name	Qld
<i>Pectobacterium parmentieri</i>	Black leg of potato	SA, Tas, Vic
<i>Pectobacterium polaris</i>	No common name	Vic
<i>Phytophthora</i> sp. on <i>Tristaniopsis laurina</i>	No common name	Qld
<i>Phytophthora chamaeaphon</i>	No common name	NSW
<i>Pitaya virus X</i> (Potexvirus)	Pitaya virus X	Vic
<i>Pseudocercospora platanigena</i>	Stigmata leaf spot	NSW
<i>Pseudoidium</i> sp.	Powdery mildew	Qld
<i>Pseudomonas savastanoi</i> pv. <i>nerii</i>	No common name	WA
<i>Puccinia striiformis</i> f. sp. <i>tritici</i> pathotype 198 E16 A+ J+ T+	Wheat stripe rust	NSW, Tas, Vic
<i>Puccinia vincae</i>	Periwinkle rust	SA
<i>Ralstonia</i> sp.	No common name	ACT
<i>Rattail cactus necrosis associated virus</i> (Tobamovirus)	Rattail cactus necrosis associated virus	Vic
<i>Schlumbergera badnavirus 1</i> (Badnavirus)	Schlumbergera badnavirus 1	WA

Scientific name	Common name	State
New detections		
<i>Schlumbergera begomovirus 1</i> (Begomovirus)	Schlumbergera begomovirus 1	WA
<i>Schlumbergera tobamovirus 1</i> (Tobamovirus)	Schlumbergera tobamovirus 1	Vic
<i>Schlumbergera virus X</i> (Potexvirus)	Schlumbergera virus X	Vic
<i>Stemphylium astragali</i>	No common name	Vic
<i>Stemphylium beticola</i>	No common name	Vic, WA
<i>Stemphylium eturmiunum</i>	No common name	NSW, Qld, SA, Vic
<i>Tarsonemus</i> sp.	Tarsonemid mite	Qld
<i>Tetranychus piercei</i>	Banana spider mite	Cocos (Keeling) Island (external territory)
<i>Tomato necrotic spot virus</i> (Ilarivirus)	Tomato necrotic spot virus	WA
<i>Urocystis cepulae</i>	Onion smut	SA
<i>Velataspis dentata</i>	Dentate scale	Qld
<i>Vryburgia trionymoides</i>	Exotic mealybug	Qld
<i>Watermelon crinkle leaf associated virus 1</i> (unassigned Phenuiviridae)	Watermelon crinkle leaf associated virus 1	NSW
<i>Xanthomonas gardneri</i>	Bacterial leaf spot	NT
<i>Xanthomonas</i> sp. on <i>Musa</i> sp.	No common name	Qld
<i>Zygocactus virus X</i> (Potexvirus)	Zygocactus virus X	WA
Extensions of geographic and/or host range		
<i>Amphorophora rubi</i>	Large blackberry aphid	Tas
<i>Cactus virus X</i> (Potexvirus)	Cactus virus X	Vic, WA
<i>Candidatus Phytoplasma aurantifolia</i>	Phytoplasma	NT
<i>Diaporthe masirevicii</i>	No common name	Qld
<i>Dickeya dianthicola</i>	Blackleg of potato	Tas
<i>Endive necrotic mosaic virus</i> (Potyvirus)	Endive necrotic mosaic virus	WA
<i>Exserohilum rostratum</i>	No common name	NT
<i>Fusarium foetens</i>	No common name	Vic
<i>Fusarium oxysporum</i> f.sp. <i>cucumerinum</i>	Fusarium wilt of cucumber	NT
<i>Fusarium pseudograminearum</i>	No common name	Vic

Table 55. Plant Pest detections notified under the EPPRD in 2019 (continued)

Scientific name	Common name	State
Extensions of geographic and/or host range		
<i>Fusarium sambucinum</i>	No common name	Tas
<i>Fusarium subglutinans</i>	No common name	Tas, Vic
<i>Fusarium tricinctum</i>	No common name	Vic
<i>Heliococcus summervillei</i>	No common name	Qld
<i>Marchalina hellenica</i>	Giant pine scale	SA
<i>Megaspidiotus fimbriatus</i>	No common name	Vic
<i>Neofusicoccum parvum</i>	No common name	Vic
<i>Neopestalotiopsis rosae</i>	No common name	Vic, WA
<i>Ozognathus cornutus</i>	Ptinid beetle	WA
<i>Pectobacterium carotovorum</i> subsp. <i>brasilense</i>	Black leg	SA, Tas, Vic, WA
<i>Ranunculus white mottle virus</i> (Ophiovirus)	Ranunculus white mottle virus	NSW
<i>Rotylenchulus reniformis</i>	Reniform nematode	Qld
<i>Tetranychus evansi</i>	Tomato red spider mite	SA
<i>Tobacco rattle virus</i> (Tobravirus)	Tobacco rattle virus	WA
<i>Tomato leaf curl virus</i> (Begomovirus)	Tomato leaf curl virus	WA

Ledgend subsp. subspecies
 f.sp. forma specialis sp. species
 pv. pathovar spp. multiple species



Sampling plants for citrus canker. Image courtesy of WA DPIRD

Western Australia regains freedom from citrus canker

Citrus canker (*Xanthomonas citri* subsp. *citri*) is a tropical disease affecting commercial citrus species such as oranges, limes, lemons and mandarins. Affected plants develop lesions on the leaves, fruit and stems, and drop fruit before it has a chance to ripen, decreasing fruit yields and damaging trees.

Citrus canker was detected in a plant wholesaler in the NT in April 2018, and subsequently found on three properties in northern Western Australia in May 2018. Prior to this outbreak, Australia had been free of citrus canker since 2009, following a successful five year eradication program in Queensland.

The Department of Primary Industries and Regional Development in WA declared an emergency response on 26 April 2018 and immediately began delimiting surveys and tracing surveillance in the state, covering an area of 360,000 km² from the NT border to Exmouth in the south.

During the emergency response, 682 properties were inspected with seven positive samples found on three infected premises in WA. To eradicate the disease, more than 1,500 plants were destroyed, and three restricted areas were declared to minimise its spread.

After the initial response phase, follow up surveillance was conducted for a period of 12 months. During this time over 5,000 properties were inspected with no new citrus canker found.

In November 2019, WA was officially declared to be free of citrus canker and restrictions on the movement of citrus both intrastate and interstate were lifted. Surveillance for citrus canker and other pests of concern will continue.

All jurisdictions except the NT have now demonstrated that they are free from citrus canker. On-the-ground response teams remain in place in the NT and are well positioned to finish eradication activities and demonstrate proof of freedom by the end of 2020.