



**AUSTRALIAN
MANGOES**

MANGO ORCHARD BIOSECURITY PLAN

FOR AUSTRALIAN MANGO GROWERS



YOUR ORCHARD YOUR BUSINESS

Your orchard is the core of your business, and maintaining its health and productivity is essential. Before allowing people, machinery, equipment, or plant material into your orchard, carefully assess any potential biosecurity risks to your orchard and business.

Never allow mango fruit or mango plant material (including budwood, plants, or plant waste) to enter your orchard - whether intentionally or unintentionally - unless you know its origin and are confident of its pest and disease-free status.

Always ensure that all people, machinery, and equipment are clean and pest-free before entering your orchard.

PROPERTY/ORCHARD:

OWNERS/MANAGERS:

DATE CREATED:

DATE REVIEWED:

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This Orchard Biosecurity Plan template has been developed to include some key information that should be recorded as a minimum requirement in a biosecurity framework. The plan can be tailored to suit your own business needs. If you already have a Biosecurity Plan in place, the included checklist can be used to assist with periodic reviews of your plan.

This plan has been developed based on the previous Orchard Biosecurity Manual for the Mango Industry (2011).

Acknowledgment

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www.industry.mangoes.net.au

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MANGOES**

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INTRODUCTION

This manual is designed to help mango growers protect their properties and the wider industry from new and invasive pests. Implementing recommended biosecurity practices in your day-to-day operations reduces production losses, avoids unnecessary costs, and strengthens regional biosecurity.

WHAT IS BIOSECURITY?

Biosecurity is the protection of livelihoods, businesses, and the natural environment from harmful pests and diseases. Australia's geographic isolation has helped keep many serious plant pests out of the country, providing a significant advantage for the profitability, sustainability, and market access of Australian horticulture industries. Effective biosecurity supports existing trade and helps secure new export opportunities.



THE EMERGENCY PLANT PEST RESPONSE DEED (EPPRD)

The Emergency Plant Pest Response Deed (EPPRD) is a legally binding agreement between Plant Health Australia (PHA), governments, and plant industry signatories. As a signatory, the Australian Mango Industry Association (AMIA) contributes to decision-making and funding arrangements when an approved Response Plan is required to eradicate an Emergency Plant Pest (EPP).

Under the EPPRD, the mango industry has a responsibility to report suspect pests. Early detection and reporting significantly increase the likelihood of successful eradication and minimise potential industry impacts.

SCAN OR [CLICK HERE](#) FOR MORE INFORMATION ON THE EPPRD.



OWNER REIMBURSEMENT COSTS (ORCs)

An underlying principle of the EPPRD is that growers should be neither better nor worse off for reporting a suspect pest. As a result, Owner Reimbursement Costs (ORCs) may be available to compensate growers for direct costs and losses resulting from an approved eradication response. This may include crop destruction, replacement of trees, or additional chemical treatments.

For mango growers, ORCs are calculated using the "Perennial Trees" formula. To ensure reimbursement calculations are correct, growers should keep records of key production value information (see [Appendix 1](#) for a record sheet template). ORCs only apply to approved Response Plans aimed at eradication, reinforcing the importance of early pest reporting and strong on-farm biosecurity practices.

SCAN OR [CLICK HERE](#) FOR MORE INFORMATION ON ORCs.



SIX WAYS TO PROTECT YOUR PROPERTY

You play a vital role in protecting your orchard, business and the entire mango industry from biosecurity threats.

Here are six important practices you can implement to reduce the threat of new pests impacting on your orchard/business. Each practice should be embedded in your orchard's everyday management as they make good business sense.

1.

CONTROL PLANT MATERIAL AND FRUIT COMING INTO YOUR PROPERTY

Ensure all propagation material and orchard inputs are pest-free. Keep good records of your orchard inputs. Never allow mango fruit or mango plant material to be brought onto your property unless you know its source and are confident of its pest free status.

2.

KEEP IT CLEAN

Practicing good sanitation and hygiene will help prevent the entry and movement of pests onto your property. Workers, visitors, vehicles and equipment can spread pests, so make sure they are clean before entering and leaving your property. Have a designated visitor's area and provide vehicle and personnel cleaning facilities.

3.

CHECK YOUR ORCHARD

Monitor your trees frequently. Knowing the usual appearance of your orchard and trees will help you recognise new or unusual events and pests. Keep written and photographic records of all unusual observations. Constant vigilance is vital for early detection of any exotic plant pest threat.

4.

BE AWARE OF BIOSECURITY THREATS

Make sure you and your staff are familiar with the most important exotic mango pest threats. Conduct a biosecurity induction session to explain required hygiene practices for people, equipment and vehicles in your orchard.

5.

ABIDE BY THE LAW

Respect and be aware of laws and regulations established to protect your business, your region and your industry.

6.

REPORT ANYTHING UNUSUAL

If you suspect a new pest – report it immediately.

**EXOTIC PLANT PEST HOTLINE:
1800 084 881**

PROPERTY DETAILS



The following information should be included into your Biosecurity Plan:

- ☐ Property/orchard name and address
- ☐ Owner/manager name and contact details (include key staff contact details)
- ☐ Property map and orchard details
- ☐ Zoning
- ☐ Location/region map (optional)

PROPERTY/ ORCHARD

Property/Orchard Name	
Physical Address	
Postal address for owner/ manager	
Coordinates of key property features (e.g. packing shed)	

PROPERTY OWNER/ MANAGER CONTACT

PRIMARY CONTACT

Name	
Phone Number	
Email	

ALTERNATIVE CONTACT

Name	
Phone Number	
Email	

ALTERNATIVE CONTACT

Name	
Phone Number	
Email	

PROPERTY MAP & ORCHARD DETAILS

The property map should include location of orchard blocks (with block names/ID) packing and machinery sheds and other notable infrastructure, external and internal roads and tracks, parking areas, waterways, other crops and vegetation.

Create and attach your property map, which should include the following key features:

- entry roads, tracks and parking areas
- orchard location
- infrastructure, including packing and machinery sheds, offices
- orchard blocks
- creeks and waterways
- existing fence lines
- homes and accommodation
- identify highly used roads (e.g. to packing shed, fuel storage, owner/managers home and staff accommodation)

See Figure 1 for a property map example

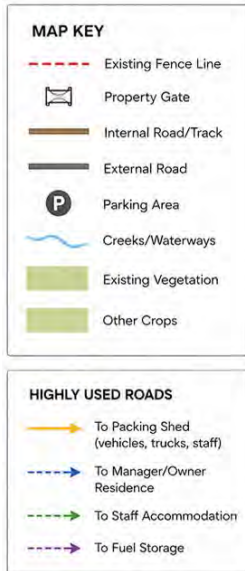
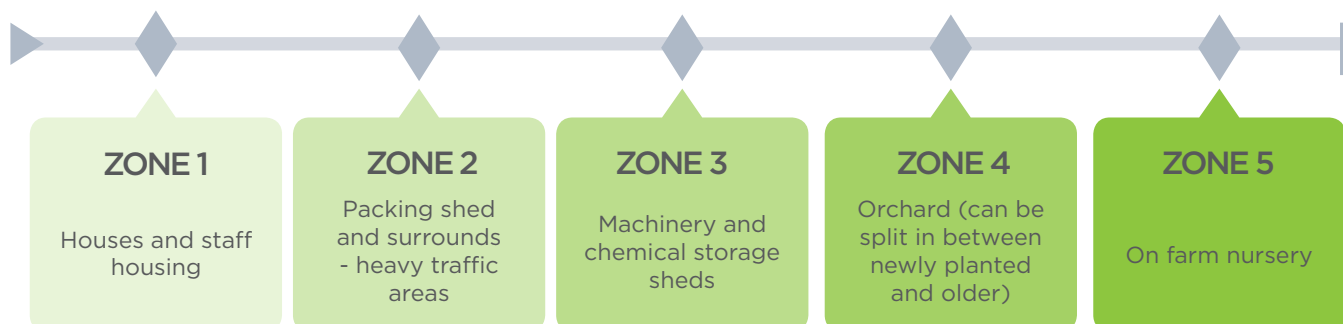


Figure 1: Property map example

COMPLETE THE TABLE WITH YOUR ORCHARD DETAILS

ZONING

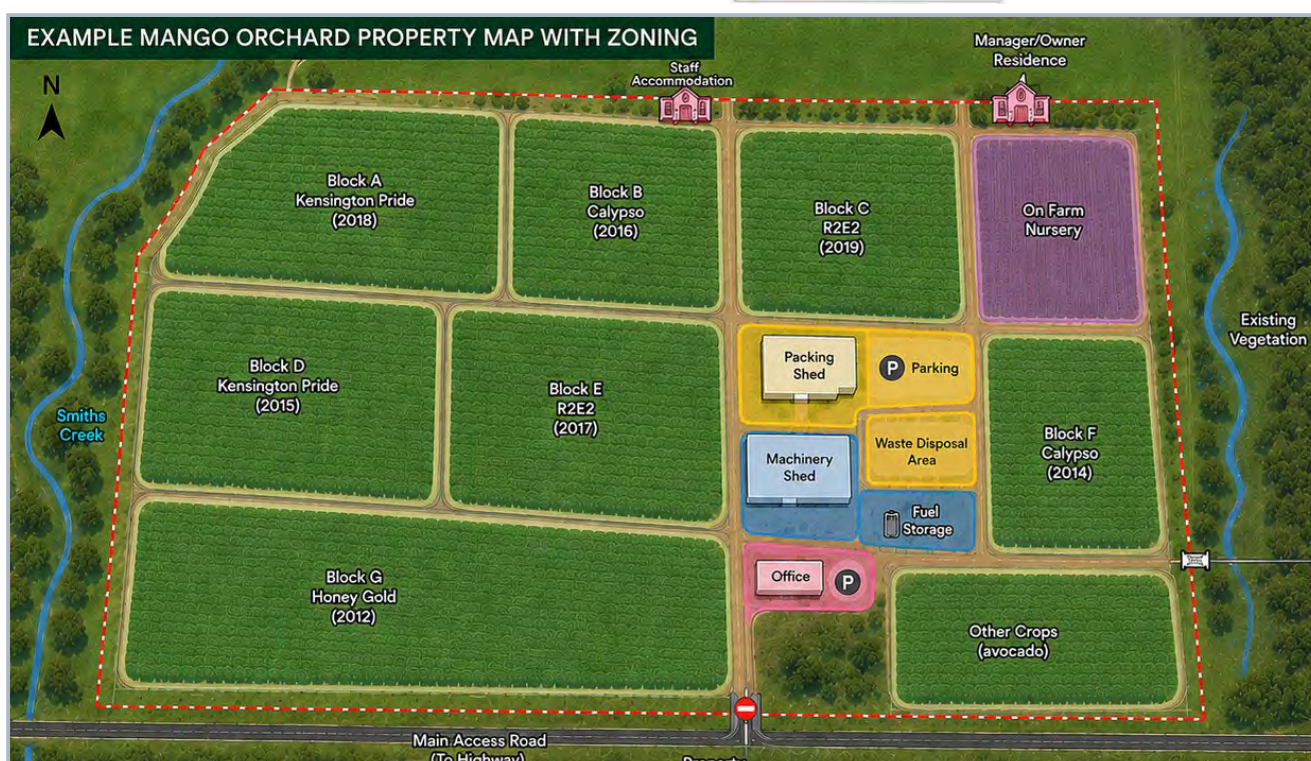
Many growers implement zoning on their property to provide another layer of protection to critical areas of their property. This can assist with identifying the areas that are most at risk where access needs to be restricted or partly restricted, and where biosecurity measures need to be stricter. The most protected zones are the orchard and on-farm nurseries. Areas around the packing shed and frequently travelled areas where it is difficult to restrict entry by vehicles and equipment are categorised in a different zone to these areas. In ranking from 'higher risk/clean' zones to 'lower risk/less clean' zones, the following rankings may apply. Zones can be adapted to suit each business/property.



Movement between zones should be controlled so that people, vehicles, and equipment move from higher risk areas (e.g. Zone 5) to lower risk areas (e.g. Zone 1) where possible and enter sensitive zones only when clean or appropriately sanitised.

Your waste disposal area should be clearly designated with restricted access, as it is likely to be the most susceptible area for harbouring pests.

If the property owner/manager has implemented a zoning system, these zones should be marked on the property map and clearly shown to workers and regular visiting contractors. Acknowledgement of the zoning system in place should be undertaken by the visitor/contractor signing the visitor register.



REGIONAL MAP

(OPTIONAL)

A regional map should identify other orchards/crops in proximity (neighbouring properties), creeks and waterways, roads, and any urban or peri-urban areas. If an exotic pest or disease is detected on a property, in a peri-urban area or in natural vegetation in your region or immediate surroundings, it may have an impact on your business. Having a map which identifies your property and the proximity of other properties (including mango orchards and other crops) can help you to assess the potential risks to your property and improve preparedness.

Where available, it may also be useful to have access to the contact details of the owners/managers of neighbouring orchard(s) around your property.



NEIGHBOUR CONTACT DETAILS

Property Name	
Owner/Manager Name	
Phone Number	
Email	

Property Name	
Owner/Manager Name	
Phone Number	
Email	

Property Name	
Owner/Manager Name	
Phone Number	
Email	

Property Name	
Owner/Manager Name	
Phone Number	
Email	



THE AUSTRALIAN TREE CROP MAP

Serves as a helpful resource for locating nearby orchards in your region. Scan or [click here](#).





KEY CONTACTS



In the event of a biosecurity incident, it is important that you can quickly contact key people who will be involved in the response and stay up to date with the situation. See **Appendix 2** for the contact details that apply to your region, and/or complete the section below with your own key contacts.

LOCAL DEPARTMENT CONTACT DETAILS

Department/Agency	
Key Contact	
Phone Number	
Email	
Alternate Contact	
Phone Number	
Email	

INDUSTRY ORGANISATION CONTACT DETAILS

Organisation	
Key Contact	
Phone Number	
Email	
Alternate Contact	
Phone Number	
Email	

Organisation	
Key Contact	
Phone Number	
Email	
Alternate Contact	
Phone Number	
Email	

A photograph of two workers in a mango orchard. The workers, wearing high-visibility vests and hats, are walking away from the camera down a grassy path between rows of mango trees. A silver pickup truck is parked at the end of the path. The sky is blue with some clouds.

WHO AND WHAT IS ENTERING YOUR PROPERTY

BEFORE ENTERING: BIOSECURITY BEST PRACTICES

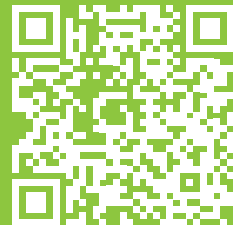
BIOSECURITY SIGNAGE

Well-designed signage informs visitors that biosecurity is important and they share responsibility for maintaining it. The signs serve to alert people to the potential impact of their visit. Signs also demonstrate your commitment to orchard hygiene and biosecurity.

Biosecurity signage should be placed at the main entrance, external entrances and visitor parking areas. Biosecurity signs should direct visitors to contact the owner or orchard manager and register their presence before entering any production areas. The sign should include the property owner/manager's phone numbers.



VISIT [FARMBIOSECURITY.COM.AU](https://farmbiosecurity.com.au) OR SCAN THE QR CODE FOR MORE.



DEDICATED CLEANING SITES

At this time, we are unaware of any soil borne high priority exotic disease, so the installation of a wash-down facility may not be needed. However, a dedicated cleaning area close to the entrance of the property allows orchard employees, contractors and visitors to clean their vehicle and equipment (including hand tools) in an easily managed area where any runoff is contained.



Image ©Weedstop

A dedicated cleaning area should:

- ☐ Be readily accessible and located between the driveway and orchard roads.
- ☐ Be isolated from production areas.
- ☐ Have a sealed (concrete or bitumen) or packed gravel surface.
- ☐ Not be in a position where potential runoff drains into a waterway or production area.

PEOPLE MOVEMENT

People moving between orchards, nurseries and regions can spread pests on vehicles, equipment, footwear and clothing. The most obvious risks are pests carried in plant material.

CONTRACTORS

Contractors and utility providers can be a particular risk especially if they are visiting multiple properties. The term 'contractors' includes utility providers, orchard contractors, earthmoving companies and research personnel who enter an orchard in their day-to-day operations. Contractors pose a significant risk because of their movement between properties. Placing biosecurity signs on external property gates can play an important part in raising biosecurity awareness with contractors, especially providers of power, water and communications. Limit the risk of contractors introducing new pests onto your property by requesting all contractors' vehicles and equipment be cleaned before starting work on your property. Provide a suitable area to complete this task.

CASUAL WORKERS

Casual workers (e.g. contract harvest crews, backpackers, etc.) are often employed to assist with pruning, picking and packing. While their contribution is highly valued, they are a particular biosecurity threat because they move from orchard to orchard and region to region. They can potentially carry and spread pests (including weed seeds) from and to susceptible hosts on their clothing, footwear, gloves, and equipment. Before entering production areas, make sure casual workers understand biosecurity measures at your property, have changed or washed their clothes and footwear, and all tools and equipment are cleaned and disinfected.

OVERSEAS TRAVELLERS

People returning from overseas may be a threat to the Australian biosecurity system, especially if they have visited orchards, nurseries, or markets where plant material and produce was sold. Air travel means exotic plant pests are only a few hours away from your orchard. To protect your orchard from overseas pests, ensure that all people who have recently returned from overseas have cleaned their footwear and clothes before entering the orchard. Great care should be taken to prevent the introduction of plant pests into Australia.



VISITOR REGISTER

WHO AND WHAT IS ENTERING YOUR PROPERTY

Maintain a visitor register to record visitor movements and help manage safety issues. Keeping a register will ensure you are aware of who has visited your property and most importantly provides information that enables visitor movements to be tracked back one step. Electronic registers (check-in apps) are also available and are in use in other industries as they can track visitors before their visit and after they leave. These systems often use QR codes at property entry points for people entering your property to scan and record entry.

See **Appendix 3** for a visitor register template. Keep a register in your office and packing shed for visitors to sign.

PEOPLE TRAINING AND ACCESS

The information in the following table provides a guide as to the risks posed by people movement, and the potential actions to address those risks.

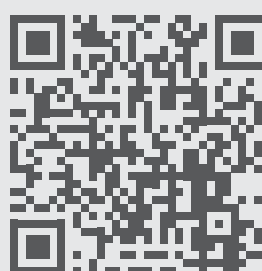
PEOPLE	ASSESSED RISK	MANAGEMENT ACTIONS TO REDUCE RISK
Permanent staff	LOW	Ensure staff are fully aware of business/orchard biosecurity plan and actions, including processes for the detection of unidentified pests or disease symptoms, and that they are familiar with high priority pests and diseases.
Casual/ seasonal workers	MODERATE	Ensure biosecurity is part of the induction process and that staff biosecurity awareness is maintained.
Contractors/ service providers	MODERATE	• Ensure appropriate biosecurity training is available. • Maintain appropriate signage at property entrance and office/packing shed. • Limit areas people can access. • Maintain contractor and service provider attendance register with history of previous travel. • Ensure their equipment has been cleaned.
Visitors	MODERATE	• Limit areas visitors can access. • Maintain attendance register with history of previous travel. • Maintain a designated visitor car park.
Agronomists/ advisors	HIGH	Assess risks based on activities, e.g. agronomists may visit multiple orchards in a same day. Ensure they are aware of your on-farm biosecurity and implement any required biosecurity practices.

Provide a staff/contractor biosecurity induction that includes the below:

- The importance of biosecurity and implications of an exotic pest detection
- Biosecurity measures in place on your property (e.g. no mango fruit or plant material to be brought onto property, areas where vehicles are to be parked, etc.)
- What to do if they see any unusual pests or disease symptoms
- Make sure employee and visitor footwear and clothing are free of soil and plant material before entering or leaving the orchard.
- Display biosecurity awareness material in staff rooms and packing sheds. Keep the message simple and effective.
- Ensure that staff and contractors sign off that they have completed and understood their biosecurity induction.



Watch on the [@FarmBiosecurity](#) YouTube Channel.



This video shows simple ways workers can support farm biosecurity. It is useful for training and available in several languages.

MACHINERY, VEHICLES AND EQUIPMENT

Vehicles and orchard equipment such as sprayers, hedgers, tractors and hand tools can carry pests in adhering soil, sap and plant material. Pests can then be introduced to a previously clean property or crop. It is impractical to stop all vehicle and equipment movement on and off the property, but using dedicated orchard vehicles, areas dedicated to cleaning machinery and denying access to dirty machinery can reduce the spread of pests.

Contractors, re-sellers, service providers and drivers of delivery trucks (compost, mulch, fertiliser, etc.) and earth moving equipment should be requested to clean their vehicles and equipment before entering your property.

Orchards open to other growers (e.g. for field days, equipment demonstrations, etc.) have a heightened risk and therefore designated parking areas away from production sites are important. **Inspecting and cleaning machinery is more time and cost effective than managing a new pest introduced to your property.**

The information in the following table provides a guide as to the risks posed by vehicles, equipment and machinery, and the potential actions to address those risks.

EQUIPMENT/ MACHINERY	ASSESSED RISK	MANAGEMENT ACTIONS TO REDUCE RISK
Trucks (fuel delivery, freight)	LOW	Ensure trucks travels on designated roads while on your property.
Equipment (e.g. chainsaws)	MODERATE	Ensure equipment is cleaned prior to entry onto your property and prior to leaving your property.
Bins and pallets	MODERATE	Ensure bins and pallets are inspected and cleaned before entering and leaving your property.
Hedging machinery	HIGH	Ensure hedging machinery is cleaned of any vegetative material (branches, twigs, leaves) prior to entry onto your property and prior to leaving your property. Spray cutting bars/discs with suitable sterilising solution.
Tractors and machinery	HIGH	Ensure machinery is cleaned of any vegetative material (branches, twigs, leaves) prior to entry onto your property and prior to leaving your property. Spray cutting bars/discs with suitable sterilising solution

Important note: When moving machinery between regions, check if any movement restrictions or permits are required (government/industry standards) e.g. movement of machinery from the Northern Territory to Queensland.



Image © PHA

CLEANING OF EQUIPMENT, MACHINERY AND VEHICLES

Before machinery and equipment enters your property:

- Request machinery and equipment cleaned of any plant material and soil before it enters your property. Where appropriate, machinery (e.g. hedgers and pruning equipment, including hand tools) should also be disinfected with a suitable disinfectant.
- Clean vehicle floors and tyres of soil, plant material and pests, especially after visiting other properties.
- Clean and disinfect machinery in a designated cleaning area before moving into and between properties.
- Make sure that borrowed and second-hand equipment and machinery is cleaned of all plant material and soil before moving them into your orchard.
- Regularly clean all tools and equipment, including bins and any other equipment used in the orchard, preferably with a suitable disinfectant.

Tips for effective cleaning:

- While compressed air might be best for cleaning radiators and some machinery, any with mud or dirt will need to be cleaned with high-pressure water.
- Clean machinery from the top down to avoid contaminating areas already cleaned.
- For additional protection, an added detergent-based degreaser or disinfectant (e.g. Septone Truckwash®, Castrol Farmcleanse® or Virkon®) may be appropriate. Seek advice from resellers on the best product for your situation. For best results, remove as much soil and plant material from the equipment before using the disinfectant.
- Dismantle vehicles and equipment as far as possible to give access to internal spaces. Leave covers off after cleaning to allow inspection and to dry.
- Get a second opinion – a fresh look will often pick up contamination you may have missed.



DESIGNATED PARKING AREAS

A well sign-posted designated parking area should be provided for all visitors. Ideally, dedicated orchard vehicles should be used for transport around your property with other vehicle movement limited to direct entry to a designated visitor parking area only. Parking areas serve to contain the entry of new pests away from production sites. They also allow for the inspection of tyres, equipment, floor mats for soil and plant material which may carry new pests. This area should be regularly monitored for the presence of new pests, especially new weeds.

A biosecurity sign in the parking area will remind visitors of the risk of spreading pests between properties. Do not allow the movement of orchard machinery through the parking area.

PLANTING AND PROPAGATING MATERIAL

Use only clean (i.e. checked with no pest detections and from known recognised nurseries/sources) planting and propagation material. Obtain these only from nurseries that will provide you with reliable records of the material's source and history.

Be aware of restrictions that apply to the movement of plant material between states/territories/regions. If in doubt, contact your local department.

To minimise the risk of bringing in a pest from planting and propagating material:

- Purchase plant material only from a nursery that observes good biosecurity practices and keep records accordingly. If the nursery providing your trees is accredited (i.e. maintains a Quality Assured scheme such as NIASA and BioSecure HACCP), it is likely that some fundamental biosecurity best practices are being applied.
- Check your nursery and planting material thoroughly. When receiving new trees, keep them in a restricted area before planting and check for any pests or disease symptoms.
- Maintain a register of your orchard's propagation material, including its source (with contact details), cultivar/rootstock combinations, specific planting locations, numbers of plants and date planted.
- Record details of all trees brought onto your property. If you are top working trees, record the source of budwood, even if it is from your own property. See [Appendix 4](#) for a Plant propagation material register template.
- Retain invoices of purchased propagation material and where available, certification documents. These may be used in the Owner Reimbursement Costs calculations in the event of an incursion.

ORGANIC FERTILISERS AND MULCHES

There is potential for organic fertilisers and mulches to bring in pests, pathogens and weeds. While many of these pests and weeds may already be established in your region, bringing in organic fertilisers and especially mulches increase the risk of unwanted weeds coming onto your property. Before accessing organic fertilisers and mulch, check the source and keep a record, including:

- Type of material
- Source
- Delivery date
- Area applied (e.g. block number/s)

FARM OUTPUTS



While it is normal to focus on inputs, outputs from your orchard are also important, as this benefits your neighbours and the broader industry. It also assists your business in maintaining vigilance on pests and diseases.

An important aspect of farm outputs is the **appropriate disposal of waste**, in particular:

- ☐ **Waste fruit** (fallen and out of grade fruit)
- ☐ **Plant material waste** (pruned and fallen branches, etc.)

These can be a harbour for pests and diseases.

WASTE FRUIT

Fallen fruit can be a harbour for pests such as fruit fly and mango seed weevil (if present in your region). While disposal of fallen fruit can be labour intensive, it is an important practice for reducing pest build-up within your orchard.

Out of grade fruit from the packing shed should be disposed of appropriately. An area away from the orchard should be dedicated for fruit disposal. Ideally, fruit waste should be treated with an appropriate insecticide and preferably deep buried. **Dimethoate can be used for orchard cleanup as per the permit [PER13859](#) (fruit fly control).**

PLANT MATERIAL WASTE

Dispose of plant material waste such as pruned and fallen branches by mulching, burial or burning.

If your tree shows dieback symptoms prune out infected twigs and branches below visible dieback symptoms and dispose by burning, deep burial or removal from the orchard.





PEST AND DISEASES SURVEILLANCE

Orchard monitoring and surveillance involves looking for and recording the presence, absence and population levels of pests. Conducting regular monitoring is a fundamental part of orchard management practices and gives the best chance of spotting a new pest soon after it arrives.

Importantly, recording absence of a pest (important exotic pests) is critical as it provides evidence that your orchard is free of that pest.



Pest surveillance is necessary for:

- ☐ Market access: several market destinations for mangoes require evidence of absence data for exotic and some established pests of concern.
- ☐ Exotic pest eradication: early detection of exotic pests improves the chance of eradication, or containment within a region.
- ☐ Improved established pest management: regular monitoring helps assess population levels and improve management decisions, such as effective crop protection product applications.
- ☐ Pest status information: orchard surveillance contributes to regional biosecurity efforts.

DEVELOP A CROP MONITORING PLAN

All pest (exotic and established) surveillance activities carried out on your property should be recorded. These records can be used in the response to a pest outbreak and provide support to industry surveillance activities. The addition of exotic pests to current surveillance datasheets used by consultants (e.g. crop monitors) allows to demonstrate absence of these exotic pests, which is important if there is a response to an incursion in your region. See [Appendix 5](#) for the list of high priority pests for the Australian mango industry.

In your Biosecurity Plan, describe what crop monitoring/surveillance activities are undertaken. Identify who undertakes the monitoring, when and how often, and what pests are being monitored.

Develop a crop monitoring plan using the following template



CROP MONITORING PLAN

Crop monitor	
Phone Number	
Email	
Frequency of monitoring	
Monitoring sites (e.g. whole orchard or target sites)	

PESTS AND DISEASES	TIMING OF SURVEILLANCE (e.g. flowering, bud burst...)	METHOD (trapping, scouting...)



RECORD SURVEILLANCE DATA

Your crop monitor needs to record presence and absence of pests. For established pests, record indication of pest population levels or disease symptoms severity. Maintain up to date pest monitoring records so that:

- ☐ any trends can be observed
- ☐ in the event of a detection within the region, past proof of presence or absence can be demonstrated

See **Appendix 6** for a pest surveillance datasheet template.

REPORT SUSPECTED PESTS

Early detection and reporting may prevent or minimise long-term damage to, or quarantine period of, your orchard and the mango industry.



**REPORT ANY UNUSUAL OR SUSPECT PLANT PEST IMMEDIATELY
VIA THE EXOTIC PLANT PEST HOTLINE ON 1800 084 881.**

Calls to the Exotic Plant Pest Hotline will be forwarded to an experienced person in your state or territory government, who will ask some questions about what you have seen and may arrange to collect a sample.

Do not send samples without first speaking to someone from the state/territory department who can discuss the correct type of sample, its packaging, handling and transport to the laboratory assigned for diagnosis.

If you have found a suspected exotic plant pest, precautions should be taken immediately to contain the pest and protect other parts of your orchard:

- Mark the location of the pest and limit access to the area for both people and equipment, while waiting for the identification of the pest
- Take a photo and collect a sample, if required to
- Undertake further surveillance to check presence/absence in other parts of orchard
- Ensure staff and any contractors/agronomists are aware

**EXOTIC PLANT PEST HOTLINE:
1800 084 881**



Image ©NTDAF



BIOSECURITY PLAN CHECKLIST

We recommend you review your biosecurity plan regularly, at least once a year. The period in the lead up to the season may be a good time.

The following checklist can be used to review your biosecurity plan.

ACTIVITY	YES	NO	ACTION
PROPERTY			
Property details are up to date	☐	☐	
Contact details (owner/farm manager) are up to date	☐	☐	
Biosecurity signs with contact details are located at main entrances	☐	☐	
Property map is up to date	☐	☐	
PEOPLE			
All visitors sign the visitor register (paper or electronic) on arrival	☐	☐	
All staff (casual workers and permanent staff) are provided with biosecurity information as part of their induction	☐	☐	
Permanent staff is aware of what to do if they see an unusual pest	☐	☐	
All contractors have been informed of property biosecurity guidelines	☐	☐	
All people recently returned from overseas are instructed to clean footwear and clothing before entering orchard	☐	☐	
MACHINERY AND EQUIPMENT			
A designated parking area for visitors and contractors' vehicles and machinery is available and clearly signed	☐	☐	
Dedicated vehicles are available to travel within the orchard	☐	☐	
Machinery and equipment is inspected and cleaned prior to entry on the property	☐	☐	
A designated area for cleaning machinery is available and clearly signed	☐	☐	
PLANTING AND PROPAGATION MATERIAL			
Propagation material is thoroughly checked upon receipt and initially kept in a restricted area	☐	☐	
Records of new planting material are added to the plant propagation material register (see Appendix 4)	☐	☐	
FARM OUTPUTS			
Fallen fruit is properly disposed of	☐	☐	
Out of grade fruit is properly disposed of	☐	☐	
Plant material (branches etc.) is properly disposed of	☐	☐	
PEST AND DISEASES SURVEILLANCE			
A crop monitoring plan has been developed and implemented	☐	☐	
Pest and disease surveillance is undertaken regularly	☐	☐	
Records of crop monitoring (including pest presence and absence) are maintained (see Appendix 6 for the pest surveillance datasheet)	☐	☐	

ORCHARD BIOSECURITY PLAN REVIEW DATE :

APPENDIX 1

RECORDS TO SUPPORT OWNER REIMBURSEMENT COSTS (ORCs)

In the event of an exotic plant pest incursion requiring the destruction of trees, fruit or equipment, growers may be eligible for reimbursement under the Emergency Plant Pest Response Deed (EPPRD). Maintaining accurate, auditable records helps ensure reimbursement is based on your actual business performance rather than regional averages, which may result in lower compensation. The checklist below outlines the key records growers should keep to support a reimbursement claim.

ORCHARD INFORMATION

Property map showing orchard layout and block boundaries	☐
Area (ha) planted for each block	☐
Number of trees per block	☐
Variety and rootstock details	☐
Planting dates and/or Tree ages	☐
Records of orchard redevelopment or top-working	☐

PRODUCTION RECORDS

Maintain at least **3-5 years** of production records, including:

Annual production by block (if available) and by variety (tonnes or kilograms harvested)	☐
Pack-out percentages (Premium, C1, C2, Processing)	☐
Records of biennial bearing (where applicable)	☐

SALES AND INCOME RECORDS

Keep copies of:

Packhouse statements	☐
Processor receipts	☐
Sales invoices	☐
Market returns	☐
Contracts with buyers or retailers	☐
Export records	☐
Farm gate prices received	☐
Direct sales records (farm gate, roadside, online)	☐

CAPITAL ASSET RECORDS

Maintain an up-to-date asset register including:

Irrigation infrastructure	☐
Machinery and implements	☐
Harvest bins and picking equipment (e.g. harvest aids, cherry pickers)	☐
Cool rooms	☐
Packing equipment	☐
Other permanent infrastructure	☐



BEST PRACTICE

- ☐ Keep records for **at least five years**.
- ☐ Store records electronically and back them up securely.
- ☐ Ensure records are dated, legible and supported by invoices or receipts wherever possible.
- ☐ Review and update your orchard maps and asset register annually.

Keep:	
Purchase invoices	☐
Installation costs	☐
Dates of purchase	☐
Replacement values	☐
Depreciation schedules (if available)	☐

CROP MANAGEMENT RECORDS

Maintain records of crop management activities and associated costs, including:

Crop protection programs, including products applied (e.g. fungicides, insecticides, herbicides, beneficial insects), application dates and rates	☐
Nutrition programs, including fertilisers and soil amendments applied, application dates and rates	☐
Irrigation schedules, water use and associated costs	☐
Pruning and canopy management	☐
Pollination (e.g. hive hire)	☐
Soil, leaf and water analyses	☐
Orchard, harvest and packing labour	☐
Contract services (e.g. agronomists, pest scouts and other advisory services)	☐
Packaging materials (cartons, stickers and other consumables)	☐
Freight and transport	☐
Levies and royalties	☐
Electricity, fuel and other operating costs	☐
Machinery operation, repairs and maintenance	☐

↳ **Retain supporting invoices, receipts, spray diaries, application records and financial records where available.**

ORCHARD ESTABLISHMENT RECORDS

Retain records for:

Site preparation	☐
Tree purchases	☐
Planting costs	☐
Irrigation installation	☐
Replanting costs	☐

SUPPORTING BUSINESS RECORDS

Retain:

Financial statements	☐
Tax records	☐
Insurance records	☐
Business activity statements (BAS)	☐
Payroll records	☐

NOTES:

		CONTACT DETAILS
ORGANISATION	Australian Mango Industry Association (AMIA)	▷ 07 3278 3755 ▷ industry.mangoes.net.au
	Plant Health Australia (PHA)	▷ 02 6215 7700 ▷ info@phau.com.au ▷ planthealthaustralia.com.au
	Farm Biosecurity	▷ farmbiosecurity.com.au
GOVERNMENT	Australian Government Department of Agriculture, Fisheries and Forestry (DAFF)	▷ 02 6272 3933 ▷ agriculture.gov.au
	New South Wales Department of Primary Industries and Regional Development	▷ 1800 680 244 ▷ dpi.nsw.gov.au
	Northern Territory Department of Agriculture and Fisheries (DAF)	▷ 08 8999 2392 (Plant Biosecurity Darwin) ▷ 08 8973 9704 (Plant Biosecurity Katherine) ▷ plantbiosecurity@nt.gov.au ▷ daf.nt.gov.au
	Queensland Department of Primary Industries	▷ 13 25 23 ▷ dpi.qld.gov.au
	Western Australia Department of Primary Industries and Regional Development (DPIRD)	▷ 1300 374 731 ▷ dpird.wa.gov.au ▷ enquiries@dpird.wa.gov.au

APPENDIX 3

VISITOR REGISTER

[illegible]

If you see anything unusual, call the Exotic Plant Pest Hotline

Download a copy from the Australian Mangoes website (industry.mangoes.net.au)

EXOTIC PLANT PEST HOTLINE:
1800 084 881

APPENDIX 4

PROPAGATION MATERIAL REGISTER

[illegible]

This list includes the key high priority exotic pest threats for the Australian mango industry, as identified through the development of the Mango Industry Biosecurity Plan. Any of these pests could have serious consequences should they enter and become established in Australia.

COMMON NAME

SCIENTIFIC NAME

Coleoptera (beetles)

Ambrosia beetle	<i>Hypocryphalus dilutus</i>
Mango pulp weevil, mango fruit weevil	<i>Sternochetus frigidus</i> (syn. <i>Cryptorhynchus frigidus</i>)
Black twig borer	<i>Xylosandrus compactus</i>

Diptera (flies and midges)

A large number of exotic fruit flies and midges including the following examples:

Oriental fruit fly	<i>Bactrocera dorsalis</i>
Other exotic fruit flies	<i>Bactrocera</i> spp, <i>Zeugodacus cucurbitae</i>
Mango gall midge	<i>Procontarinia</i> spp., <i>Dasineura amaramanjarae</i>
Mango leaf gall midge	<i>Procontarinia pustulata</i> ; contained in Far northern biosecurity zone 1

Hemiptera (stink bugs, aphids, mealybugs, scale, whiteflies and hoppers)

Citrus blackfly	<i>Aleurocanthus woglumi</i>
Mango leafhopper	<i>Amritodus atkinsoni</i>
Fruit tree mealybug	<i>Rastrococcus invadens</i>

Lepidoptera (butterflies and moths)

Red-banded mango caterpillar	<i>Deanolis sublimbalis</i> ; contained in Far northern biosecurity zone 1
False codling moth	<i>Thaumatotibia leucotreta</i> (syn. <i>Cryptophlebia leucotreta</i>)

APPENDIX 6 PEST SURVEILLANCE DATASHEET

Date:

Orchard:

Scout:

Timing of surveillance:
(flowering, bud burst...)

ENDEMIC PESTS (ESTABLISHED)					
	PEST	BLOCK(S) AFFECTED	POPULATION LEVELS/SEVERITY	TRENDS/OBSERVATIONS	ADDITIONAL COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

EXOTIC PESTS				
PEST	ABSENCE (✓)	PRESENCE (✓)	BLOCK(S) AFFECTED	COMMENTS
Mango Pulp Weevil (<i>Sternochetus frigidus</i>)	☐	☐		
Mango Leaf Gall Midge (<i>Procontarinia pustulata</i>)	☐	☐		
Red Banded Mango Caterpillar (<i>Deanolis sublimbalis</i>)	☐	☐		
Other exotic pests:				
	☐	☐		
	☐	☐		

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Download a copy from the Australian Mangoes website (industry.mangoes.net.au)

EXOTIC PLANT PEST HOTLINE:
1800 084 881

NOTES:



A large, empty rectangular area with a light blue background, intended for taking notes.