

PREPARING A FARM BIOSECURITY PLAN

GUIDANCE TO HELP MINIMISE THE RISK OF BIOSECURITY THREATS
TO YOUR FARM OR ORCHARD



KO TĀTOU

THIS IS US BIOSECURITY 2025

 Horticulture™
New Zealand

The importance of on-farm biosecurity

Biosecurity is **crucial** for the ongoing sustainability of the horticulture industry. **Decisions you make** at the farm/orchard gate are essential to protect your property. **Every person** who visits or works on the farm/orchard has a role in managing biosecurity risk.

IT'S YOUR ASSET – PROTECT IT!

Adopting good on-farm biosecurity practices makes you a biosecurity champion!

contents

PREPARING AN ON-FARM BIOSECURITY PLAN	4
BIOSECURITY PLAN CHECKLIST	6
COMMON ON-FARM BIOSECURITY RISKS AND MITIGATING ACTIONS	8
- FARM OUTPUTS	8
- FARM INPUTS	10
- PEOPLE	12
- VEHICLES AND MACHINERY	14
- PRODUCTION AND HARVEST PRACTICES	16

Disclaimer: While every effort has been made to ensure the information in this publication is accurate, Horticulture New Zealand does not accept any responsibility or liability for error of fact, omission, interpretation or opinion that may be present, nor for the consequences of any decisions based on this information.



WHY DOES THE HORTICULTURE SECTOR NEED TO ADOPT GOOD ON-FARM/ORCHARD BIOSECURITY PRACTICE?

The New Zealand horticulture industry produces high quality fresh fruit and vegetables for the domestic market and discerning international consumers. We are fortunate to be free of many of the damaging pests, pathogens and weeds that growers overseas have to manage on an ongoing basis. Adoption of good on farm/orchard biosecurity practices is critical for the continued success of the horticulture industry.

These practices can help to:

- prevent new pests, pathogens and weeds from establishing in New Zealand
- reduce the spread of pests, pathogens and weeds to new areas
- prevent pests, pathogens and weeds being introduced to your property
- aid management of pests, pathogens and weeds that are already here

WHY DO YOU NEED A BIOSECURITY PLAN?

The best defence for your property against biosecurity threats such as pests, pathogens and weeds is to have sound biosecurity practices in place – this will help to protect your farm, your orchard, and your future.

Creating a biosecurity plan for your property is a good way to understand your on-farm biosecurity risks and identify simple but effective everyday biosecurity practices to manage these risks. The practices you select will be unique to your property, production methods, and the surrounding environment. Good practices don't need to cost a lot of money. However, they do need to be clear and easy to follow. Initially these practices might take up a little of your time, but they will soon become habit. Once put in place they will likely provide ongoing day-to-day benefits, and will be invaluable if a biosecurity event were to occur.

This Farm Biosecurity Planning guide is designed to help you:

- identify and prioritise biosecurity risks relevant to your property
- understand how you could take action to address the identified biosecurity risks

Preparing an on-farm BIOSECURITY PLAN

There are **5 KEY STEPS** to preparing & implementing a biosecurity plan for your farm/orchard



STEP
01

REVIEW PROPERTY MAP

It's useful to have a map of your property to help identify key features that can be factored into your biosecurity plan.

Mark these features on your property map:

- Entry and exit points
- Main roadways or parking areas and their proximity to production areas
- Known pest, disease and weed problem areas (hot spots)
- The best places to locate biosecurity zones – checkpoints, restricted access areas or wash zones.



STEP
02

IDENTIFY BIOSECURITY RISKS AND MITIGATING ACTIONS

This step involves considering the below biosecurity risk areas and identifying mitigating actions that are appropriate for your situation:

- Farm outputs
- Farm inputs
- People
- Vehicles and machinery
- Production and harvest practices

We have identified a number of common risks and management actions for you to consider. These provide a good starting point, however it's unlikely all will apply to your property, and there may be others that are unique to your site. We recommend you go through this guidance and identify risks relevant to your operation. Think about the suggested example actions and note how you plan to apply biosecurity actions on your property to best suit you. Mark key locations for mitigating actions on your property map where appropriate.



STEP
03

PRIORITISE

After you have identified the biosecurity practices that are relevant to your property, rank them in order of priority. If you can't implement them all at once, think about which ones can be done in the short term and which are longer term.

As a guide, short term activities can be in place quickly within the time and financial constraints of your business, while long term activities take more time and resources (financial or people) to implement.

Understanding the level of risk associated with an activity will help you prioritise actions that are most important to put in place on your property. When considering risk, the two factors to consider are likelihood (that something will happen) and impact (unwanted consequences).



STEP
04

COMMUNICATE EXPECTATIONS

Once you have noted the risks and biosecurity actions relevant to your operation, it is important that you communicate your expectations to those who work on or visit the property.

Consider what you expect from staff and visitors in terms of:

- Their actions
- Training
- Record keeping
- Reporting



STEP
05

IMPLEMENT

Once you have completed your biosecurity plan you can go ahead and implement your selected actions!



FINAL
STEP

REVIEW

You will need to review your plan periodically to check progress towards your goals and make sure it's still fit for purpose.

Biosecurity Plan

CHECKLIST

Make sure you've **completed all** of these steps in order to create your own biosecurity plan

REVIEW PROPERTY MAP

.....

IDENTIFY BIOSECURITY RISKS AND MITIGATING ACTIONS

.....

FARM OUTPUTS PAGES 8-9

Produce
Product packaging and containers
Waste management

FARM INPUTS PAGES 10-11

Hives
Plant material
Growing media, fertiliser and containers

PEOPLE PAGES 12-13

Visitors and staff
Contractors
Training
Record keeping
Reporting

VEHICLES AND MACHINERY PAGES 14-15

Vehicle and machinery hygiene practices
Entry of vehicles and machinery

PRODUCTION AND HARVEST PRACTICES PAGES 16-17

Crop surveillance
Propagation and potting
Water management
Weeds and volunteer plants
Use of equipment and tools
Harvest
Agrichemicals

PRIORITISATION OF BIOSECURITY ACTIONS FOR THE PROPERTY, IF REQUIRED

.....

THE BIOSECURITY PLAN AND BIOSECURITY EXPECTATIONS FOR THE PROPERTY HAVE BEEN COMMUNICATED TO:

.....

STAFF

CONTRACTORS

VISITORS

IMPLEMENTATION OF BIOSECURITY ACTIONS FOR THE PROPERTY

.....

A REGULAR REVIEW CYCLE HAS BEEN AGREED

.....

Common on-farm

BIOSECURITY RISKS & MITIGATING ACTIONS

FARM OUTPUTS

Responsibility for biosecurity doesn't end when the outputs of your operation leave the farm or orchard. The measures you put in place on your property support biosecurity in your community and manage the risk to the wider industry. Being a responsible grower protects your reputation and your business. It's about paying it forward to protect other growers too.

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
PRODUCE Moving produce (i.e. harvested fruit and vegetables) off your property has potential associated biosecurity risk for the recipient as material is being moved from one site to another.	Remove all soil and adhering plant material from produce before it leaves the property	
	Keep an eye out for any signs of pests or disease and report them immediately if spotted	
	Try not to bring unsold produce back to your property as there is a risk of cross-contamination. If you do, store the produce separately to minimise the likelihood of transferring pests and pathogens	
PRODUCT PACKAGING & CONTAINERS Product packaging and containers associated with harvest (bins, crates etc) can be sources of contamination and a breeding environment for pests and pathogens if not managed appropriately.	Remove all soil and adhering plant material from packaging and containers before they leave the property	
	Store crates, bins and packaging in an area free from pests and diseases and reinspect when ready for next use	

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
WASTE MANAGEMENT Farm/orchard waste can take many forms, each with a different level of biosecurity risk. Types of waste include gloves, booties, clothing, sample bags, disposable containers, plant material, growing media, harvest debris and reject fruit. Disposal of material that is known to be contaminated with pests, pathogens or weeds needs to be undertaken carefully to ensure spread on your property or to neighbouring properties is prevented. Conversely, healthy plant waste can be disposed of using less stringent measures.	There are a number of treatment and disposal options dependent on the type of waste, crop and pests of concern. Below are some examples: <ul style="list-style-type: none"> • Cleaning or soaking in bleach/disinfectant • Burning • Heat treatment • Containment in sealed bags for removal to deep burial sites by a recognised waste removal company • Controlled burial • Mulching/composting on site • Stock feed - lower risk material 	
	Reject fruit awaiting action must be securely stored to prevent dispersal of debris and exposure to birds which feed on soft fruit and can spread seeds through their droppings	
	Known infected plant material or growing media should be handled to minimise any material being lost to the environment during transport or disposal	
	Where fruit or plant material is moving from an area contaminated with a specific pest or disease to an uncontaminated area for disposal any movement controls set by MPI or your industry body must be followed	

FARM INPUTS

Different properties will source different materials and inputs necessary for production, including plant material, fertiliser, hives and water. These inputs could potentially be contaminated with plant pests, including hitchhiking insects, pathogens and weed seeds. Starting with clean inputs provides a great foundation for the rest of your production processes.

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
HIVES Bees are important pollinators for crops, but may spread pests and pathogens as they move from plant to plant.	Source hives from a reputable supplier	
	Find out where the hives have been prior to your property	
	If you keep your own hives regularly check their health	
PLANT MATERIAL Plant material for planting can be a risk to your property and production if it is not clean. It is important to know where your material comes from and ensure that it has been appropriately propagated and screened for pests and diseases.	Source material from a reputable supplier <ul style="list-style-type: none"> • Talk to your supplier about biosecurity, hygiene, testing and record keeping • Obtain material from high health schemes or certified suppliers if available • Obtain copies of tests, certificates and declarations when available 	
	Isolate new plants when you receive them <ul style="list-style-type: none"> • Inspect the material on arrival for signs of pests or disease • Isolate away from your production areas for an appropriate period 	
	Maintain traceability records <ul style="list-style-type: none"> • Record where plant material was sourced from so you can trace back if needed 	

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
	Monitor your plant material <ul style="list-style-type: none"> • Regularly check plant material for anything unusual 	
GROWING MEDIA, FERTILISER AND CONTAINERS Pests, pathogens and weeds can be brought onto your property through contaminated production inputs such as improperly prepared growing media, fertiliser and used or poorly stored containers.	When making orders check your supplier is able to provide you with assurances that: <ul style="list-style-type: none"> • a process has been followed to ensure growing media and fertiliser are free from viable pests • plant material is being provided in appropriate media, being either an inert substance or media that has gone through a screening process for pests and pathogens of concern • organic matter for use as fertiliser doesn't contain weed seeds • containers are clean and free from contamination 	
	Inspect inputs on arrival for freedom from pests and pathogens	
	Keep records for growing media, fertiliser and containers including <ul style="list-style-type: none"> • where they were sourced from • when and where they are used or stored on your property 	
	Disinfect all reusable packaging and containers that arrive back on your property	

People come and go regularly from horticultural farms and orchards and have likely visited a range of different places between visits. There are a number of precautionary actions that can be taken to minimise risk associated with people movement on and off your property. It is important to ensure that the people associated with your property are aware of the importance of biosecurity and understand your expectations about good biosecurity practices.

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
<p>VISITORS AND STAFF</p> <p>People visiting your property can unintentionally carry pests, pathogens and weeds without realising.</p> <p>This can include staff, suppliers, transporters, consultants and contractors. It also includes guests and anyone who lives on the property. Never assume visitors know appropriate biosecurity measures for your property.</p>	Limit entry points to your property. Ideally there should be only one access point	
	Direct all visitors to a designated parking area using signage	
	Keep a visitor register at reception and appoint a staff member responsible for visitor movements. Knowing who has entered your property allows possible sources of pests, pathogens and weeds to be tracked	
	Consider the risk posed by each visitor before you let them onto your property – ask them what type of properties they have recently been on	
	Ask all visitors to ensure their vehicles, equipment and shoes are clean upon entry and be prepared to refuse entry or insist on cleaning at a designated area on your property if they cannot demonstrate cleanliness	
	Use obvious signs and simple messaging to tell visitors what you require from them	
	If you run a business with a tourism component, clearly indicate any entry requirements and be extra vigilant for pests and pathogens in tourism areas on your property	
	Inform staff (including family and friends) of the biosecurity practices required on site	
	Limit crop access and avoid any unnecessary contact with production areas	
Use footbaths containing an appropriate sanitising product to prevent spread of pathogens transferrable by footwear		

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
<p>CONTRACTORS</p> <p>As contractors often move straight from farm to farm there is a higher risk that they will transfer pests, pathogens and weeds if biosecurity risk management practices are not followed.</p>	<p>Discuss your expectations with contractors, focusing on the following points:</p> <ul style="list-style-type: none"> The biosecurity practices you want them to implement How you can check that they are undertaking these practices Contractors who follow good biosecurity practices generally take more time – what level of risk are you prepared to accept? Whether biosecurity requirements can be included in contractual arrangements 	
	<p>TRAINING</p> <p>Training staff in good biosecurity practices ensures they have a higher level of awareness and understand what is required of them.</p>	<p>Provide biosecurity training or information sessions to staff relevant to their roles.</p> <p>Training could include:</p> <ul style="list-style-type: none"> Good/expected day-to-day biosecurity practices Knowing what to look for (what is normal and what is unusual) Monitoring methods for pests, diseases and weeds
<p>RECORD KEEPING</p> <p>Keeping records of your farm inputs and outputs allows trace-back and trace-forward if a biosecurity event occurs.</p>	Put posters up in common areas to remind staff that biosecurity is important	
	<p>REPORTING</p> <p>Early detection of new pests, pathogens or weeds is essential to maximise chances of control. All staff need to know how to report the unusual.</p>	<p>Set up record keeping processes that allow you to trace where plants have come from and where they went, as well as records of purchases, sales and movements of other materials</p>
<p>REPORTING</p> <p>Early detection of new pests, pathogens or weeds is essential to maximise chances of control. All staff need to know how to report the unusual.</p>	<p>Ensure all staff are familiar with the signs and symptoms of pests and diseases of concern</p>	
	<p>Ensure all staff know how to report something unusual via the MPI pest and disease hotline – 0800 80 99 66</p>	
	<p>Encourage a culture of reporting suspect pest, pathogen or weed detections</p>	

VEHICLES AND MACHINERY

Pests, pathogens and weeds can be easily spread by vehicles or machinery, either directly or in plant material or soil. Vehicles and machinery often travel directly from farm to farm, and have many nooks and crannies where plant debris or soil may be lodged. It's important to make sure that all vehicles and machinery that visit your property are clean.

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
VEHICLE & MACHINERY HYGIENE PRACTICES There are a number of ways vehicles and machinery can be cleaned to reduce the likelihood of transporting pests, pathogens and weeds onto properties.	Ensure visitor vehicles are clean and are parked in a designated area away from crops	
	Establish a wash down area to clean vehicles and machinery that need to enter the property. The wash down area should be: <ul style="list-style-type: none"> • Vehicle accessible • Away from crops, paddocks and waterways • Equipped with a high-pressure hose and bins for disposal of any cleaning gear • Situated on a non-porous material (e.g. a concrete pad), preferably with a sump to collect waste water. Ensure run off is directed away from crops, paddocks and waterways 	
	Clean vehicles and machinery from the top down and dismantle as much as possible to gain access to the internal spaces	
	Wash down can be followed with a broad-spectrum disinfectant, further reducing the risk of introducing less visible threats like bacteria, viruses and spores onto your property	

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
	If using shared or contracted machinery ask when and where it was last used and cleaned	
	Clean and disinfect all borrowed or used machinery before using it on your property	
	Keep records of vehicle and machinery cleaning	
	Regularly check areas around the wash down facility and next to roads and tracks for signs and symptoms of pests and disease	
ENTRY OF VEHICLES & MACHINERY Controlling and managing access points allows all movements to be recorded and reduces the risk that vehicles and machinery pose to your property.	Examine the risk associated with each vehicle entry and exit point, particularly in relation to the distance from crops	
	Limit the number of entry and exit points (one is preferable)	
	Display biosecurity signs, with clear instructions and contact details at each access point	

PRODUCTION AND HARVEST PRACTICES

It is common sense to make every effort to reduce the likelihood of spreading pests, pathogens and weeds during your everyday production and harvest activities on-site. Key activities include regular monitoring of crops and the surrounding environment for signs of pests, diseases and weeds and use of hygiene practices.

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
<p>CROP SURVEILLANCE</p> <p>Monitoring your crops gives you the best chance of identifying a new pest before it becomes established. Check your farm/orchard regularly for the presence of new pests, diseases or weeds. Surveillance at the orchard level provides essential regional information and ultimately contributes to the national status (presence/absence) of a pest.</p>	Establish an active monitoring programme and fill out a surveillance record sheet, even when nothing is found	
	Identify pests, diseases and weeds that are the target of surveillance before you begin an inspection	
	Ensure your staff are familiar with what is 'normal' and the key pests, diseases and weeds to look out for, so they will know what is unusual and needs to be reported	
	Increase monitoring frequency during periods of higher risk, such as during disease outbreaks or periods when conditions are suitable for increased insect activity or weed growth	
	Consult with neighbours on any pest issues, as it's likely the problem isn't restricted by property boundaries	
	<p>PROPAGATION AND POTTING</p> <p>Using good hygiene practices during potting and propagation will minimise the likelihood of pests and pathogens spreading.</p>	<p>Orchards and farms that propagate and pot their own plants should designate areas for these activities away from crops</p> <p>Use hand disinfectant before and after handling plant material or soil</p> <p>Benches and tools used for propagation should be regularly washed and disinfected. It is best practice to do this between working with each batch of media or plant materia</p>
	<p>WATER MANAGEMENT</p> <p>A clean water supply is important for maintaining plant health. If water sources are contaminated they can spread pests or pathogens through an entire farm or orchard.</p>	<p>Inspect water sources and the surrounding area for rubbish, weeds or pests that could cause contamination</p> <p>If in doubt, test water supplies for pathogens</p>
	<p>WEEDS AND VOLUNTEER PLANTS</p> <p>Weed species can be biosecurity problems in themselves, but can also host some pests. Volunteer plants originating from production areas can provide a refuge for pests or pathogens between each growing season.</p>	<p>Control weeds beside high traffic areas such as tracks, roads, parking areas and cleaning areas</p> <p>Control volunteer plants near previous planting blocks</p>

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
USE OF EQUIPMENT AND TOOLS Equipment used for production and harvest can vary greatly, however there are some general principles that apply to all equipment. These include appropriate hygiene, storage and dedicating certain equipment for high risk use.	Develop a staff procedure for the appropriate use, cleaning and storage of equipment	
	If possible, don't share equipment with other growers	
	Tools should be assigned exclusively to a property	
	Wash and disinfect equipment/tools prior to moving them from one block to another: <ul style="list-style-type: none"> • Clean tools to remove plant debris and soil using soapy water, cloths and/or brushes • Disinfect tools with an antibacterial solution or similar 	
	Within blocks, consider using two alternating sets of tools, resting one set in sanitising solution while the other is in use	
	Assign dedicated equipment, including tools, clothing and footwear when undertaking activities in high risk areas. The equipment used in infected or infested areas should not be reused in clean areas	
If working in an orchard where any disease is present always move from the least diseased area to the most diseased area		

RISK AREA	RISK REDUCTION ACTIONS & CONSIDERATIONS	ACTIONS RELEVANT TO MY PROPERTY (INCLUDING RECORD KEEPING)
HARVEST Harvest is the time of maximum activity at many sites and people are often pressed to complete work activities in a timely manner. This creates potential to cut corners with biosecurity risk management.	Record all entries of people and machinery into the harvest area	
	All orchards should have a clearly defined area for parking, loading and unloading harvested crops that is separate from the harvest area	
	Ensure harvest bins are prepared for use: <ul style="list-style-type: none"> • Remove all plant debris and sanitise bins before use • Minimise plant debris and soil entering or adhering to bins during harvest • Remove all obvious plant material prior to transport to the packhouse 	
AGRICHEMICALS Inappropriate use of agrichemicals can have unwanted consequences, such as the build-up of pest resistance due to overuse.	Ensure your staff are well trained and appropriately certified for use of agrichemicals	
	Apply chemicals following their label instructions for rate, method and expiry date	
	Keep a spray diary of all herbicides and pesticides used and retain records for an appropriate length of time	

REPORT THE UNUSUAL



CATCH IT



SNAP IT



REPORT IT

MPI exotic pest and disease hotline

0800 80 99 66



Further Resources

For further biosecurity risk management information and resources contact your industry body in the first instance.

Special Thanks

We would like to acknowledge the assistance of Plant Health Australia Ltd in the preparation of this document.



Horticulture New Zealand

PO Box 10232, The Terrace, Wellington 6143

Phone: +64 4 472 3795

Email: info@hortnz.co.nz

Web: <http://www.hortnz.co.nz>