

What is ON-FARM biosecurity?

Contractors, tourists, news reporters, service providers, family members, and school groups. They all visit the farm now and again. For many, a farm visit is a valuable and rare experience, however for growers such a visit can prove costly.

It is important to remember that most farm visitors keep gardens at home and many contain their own vegetable patch. What may be a nuisance to an amateur gardener can become a huge set back to a commercial grower. Insects, nematodes, weed seeds, plant viruses – there are many organisms that can hitchhike on clothing, hands, footwear and vehicles and they can seriously affect grower bottom lines.

Biosecurity practices protect against the introduction and spread of new pests and help reduce their impact should they arrive in your growing region. Below is a set of practices and activities that can be carried out on-farm for this purpose.

Practical measures to maintain farm biosecurity

There are several cost effective and practical actions that growers can take in order to ensure biosecurity is a central focus on-farm.

Farm gate biosecurity signage sends a strong message to visitors that you expect them to abide by biosecurity procedures in place. Signage becomes especially important when growing areas are located in peri-urban spaces where traffic may enter the farm more often. A major reason for installing farm biosecurity signage is to make sure that visitors do not inadvertently access growing areas.

Ancillary signage may be used to give clear directions to visitor parking, direct visitors to the property office where they can sign a visitor register and undergo a farm induction, indicate when visitors are entering restricted areas, direct visitors to **foot washes**, and show the location of **vehicle or machinery clean-down facilities**. It is important that the biosecurity messages in front gate signs are reinforced by these additional on-farm biosecurity measures.

Biosecurity induction sessions are especially important when hosting school groups, tourist groups or when there is

regular staff change over. Induction sessions should outline biosecurity measures on-farm, using your farm biosecurity plan as a guide, and emphasise the risks posed by pests to commercial growers.

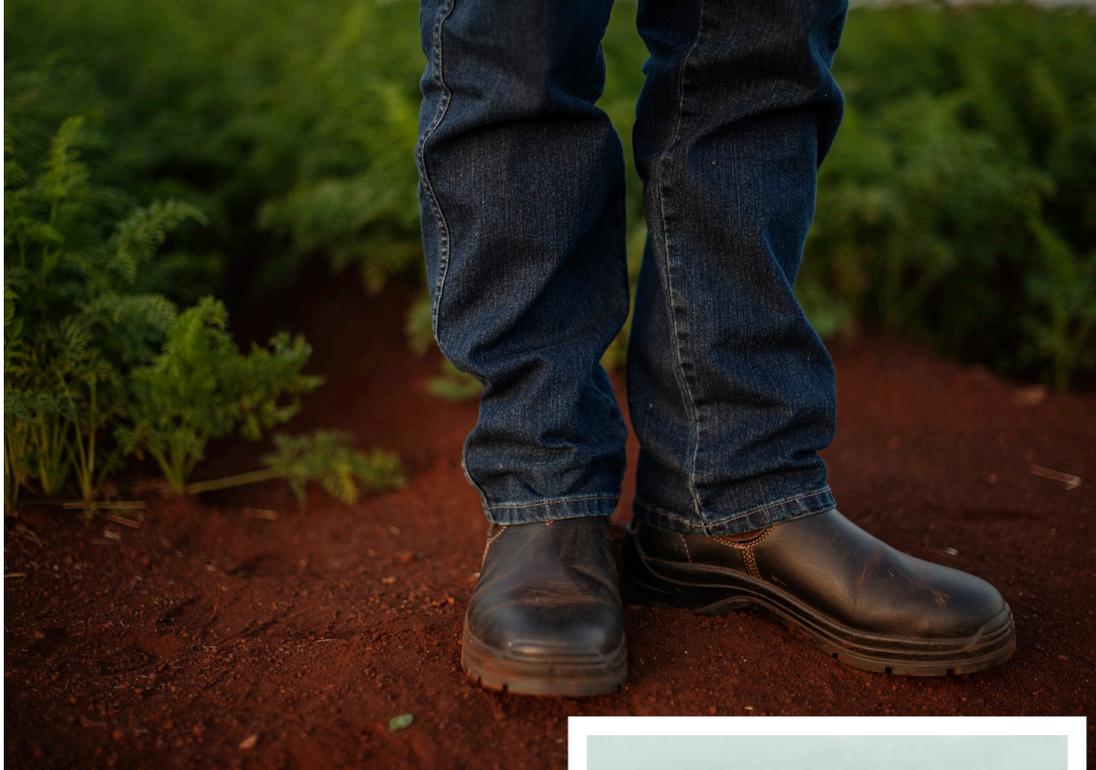
Importantly, **ensure visitor, contractor, and farm worker footwear and clothing is free from soil and plant material** before they enter or leaving your farm. Where necessary, provide scrubbing brushes, footbaths, boot covers and protective clothing to prevent the dispersal of foreign soil and plant material.

A **clean-down facility** is an area where growers, farm workers, extension officers and contractors can clean and disinfect all vehicles and machinery entering or leaving growing areas. Regular use of the facility will go a long way towards reducing the chance of introducing pests to a property and spreading pests to other regions.

Dividing growing regions into zones allows greater access control to growing sites, minimising the risks of pest and disease introduction or spread. Regularly inspecting and **maintaining boundary fences and managing feral animal and weed populations** are also part of good biosecurity practices.

Regular surveillance of growing areas, neighbouring vegetation, wash down areas and water sources will give you the best chance of identifying a new pest before it becomes established. It is important that when carrying out these inspections, **farm staff are aware of what pests to look for** and that **records of all surveillance** are well organised. These records can be important for retaining market access. A list of exotic pests that may impact vegetable growers can be found in the Vegetable Industry Biosecurity Plan at www.ausveg.com.au/biosecurity.





Common symptoms of pest infestation or plant disease include:

- Stem or leaf wilt
- Leaf chlorosis or mottling
- Puncture wounds, chew marks or tunnelling tracks in leaf tissue
- Reduced fruit or vegetable size and reduced crop yield
- Underdeveloped root systems
- Pale fuzzy or powdery growth on leaves, indicating mildew
- Decayed roots, leaves, stems, fruit or vegetables

It is also important to consult with neighbours about anything suspicious, as it is unlikely that the problem is restricted to one property.

Actions to take if an unusual pest is found on-farm:

- Report the pest to the Exotic Plant Pest Hotline on 1800 084 881
- Record the pest or disease symptoms and photograph
- Record the location of the pest, and restrict access of farm workers and equipment to that zone
- Wash hands, clothes and boots that have been in contact with affected plant material or soil
- Do not move the affected plant – incorrect handling could further spread the pest
- Identify equipment and machinery that have recently been used in the affected zone and decontaminate

It is not only up to growers and farm staff to ensure that biosecurity best practice is maintained on-farm. The responsibility belongs to **everybody**.



Resources at your disposal

The following pages contain a biosecurity checklist and a farm biosecurity plan template. Each of these resources may be used separately or together for improving on-farm biosecurity practices. Biosecurity planning provides a mechanism to identify plant pests, analyse the risks they pose, and put in place procedures to reduce the chance of pests becoming established – and to minimise the impact if a pest incursion occurs.

The checklist can help you identify what areas of your current on-farm biosecurity practices could be improved. It is not an auditable part of the program but can help growers to effectively manage their resources. Once areas for improvement have been identified, the biosecurity plan template provides a simple mechanism for developing strategies to mitigate biosecurity risks.

Further resources for improving your biosecurity practices can be found on the AUSVEG website www.ausveg.com.au or the farm biosecurity website at www.farmbiosecurity.com.au.

Farm Biosecurity Checklist

Good biosecurity practices are important for any vegetable growing business. Many of the pests affecting plant production overseas are not present in Australia. In addition, different growing regions display variable pest profiles. What is endemic to one region may be a rarity in a neighbouring growing region. Effective biosecurity measures ensure the future profitability of Australian horticulture by helping to maintain freedom from pests.

Introduced pests on a property can lead to reduced yield and higher production costs as well as problems with market access and

quarantine. Implementing the measures outlined in this checklist in day-to-day operations will minimise productivity losses and unnecessary costs.

The easiest and most cost effective method of controlling plant pests and disease is prevention.

This checklist can be used as a first step towards identifying biosecurity risks on property and developing a farm biosecurity plan. Please note, it is not an auditable component of EnviroVeg.

Biosecurity Practice	In place	In progress	No	N/A
Vehicle Cleaning				
Clean down facilities are provided on site for machinery and vehicles				
Clean down facilities are located near farm entrances and away from growing areas				
A hard pad is provided in vehicle clean down area				
High pressure water and air hoses are available for removal of plant and soil from equipment and machinery				
Clean down facility and surrounds are inspected frequently for potential sources of contamination (eg. organic matter)				
Records of clean down facility inspections are logged				
Machinery is inspected and disinfected before entering growing areas				
Vehicle Movement				
Visitor vehicle access is restricted to designated parking areas				
Only on-site vehicles are used to transport equipment and visitors around the farm				
Vehicle movement is kept to a minimum in growing areas				
Designated pathways between the farm and growing areas are used to limit vehicle movement				
Machinery and vehicles are cleaned before moving off property				
Staff and Farm Visitors				
Footbaths and brushes are easily accessible				
Visitor clothing, footwear and tools are checked for soil and organic matter before entering the farm				
Staff are trained in biosecurity practices				
Visitors are inducted in biosecurity expectations prior to moving around the farm				

Biosecurity Practice	In place	In progress	No	N/A
Visitors sign a register to monitor on farm movements				
Appropriate hygiene supplies are available to staff and visitors (hand sanitiser, gloves, foot baths etc...)				
Contractor entry is conditional to a biosecurity induction and appropriate hygiene protocols				
Growing Areas and Controlled Access				
Gate signs requesting phone check in and providing farm contact numbers are visible at main entrances				
Farm is divided into 'zones' with restricted or minimised people, machinery and equipment movement between zones				
Where there is regular movement of people, machinery or equipment between zones sanitation procedures are in place				
There is regular communication with neighbours regarding minimising the spread of unwanted pests (e.g. effectiveness of weed spraying)				
Boundary fences are regularly inspected and maintained				
Vermin, feral animal and weed and populations are managed to prevent pest and disease spread				
Sourcing of Plants and Materials				
Records of planting material are maintained				
Planting material for all grown crops are sourced from reputable suppliers and are treated for pests where necessary				
There is seed or seedling testing procedures in place for common pests				
Records of seed or seedling tests are logged				
Pest Surveillance				
Pest surveillance is regularly conducted in crops				
Pest surveillance is regularly conducted in neighbouring vegetation				
Staff are trained to recognise endemic pests and to look out for anything unusual in crops				
Staff are aware of exotic pests that may impact the crop and are familiar with the high priority pests for the industry				
Staff know how and where to report suspect pests or suspect plant disease symptoms				
Activities and results of pest surveillance are recorded, including when no pests are found in the crop				
Pest surveillance records are well organised and maintained				
Pest management plans are maintained for endemic and exotic pests on farm				
Water sources are regularly inspected for plant insect pests and treated to minimise breeding of insect pest populations				

Farm biosecurity suggested plan template

What is the risk?	Estimated risk rating* (0 = no risk, 10 = high risk)	Mitigation practices	Action
<p>Vehicle movement</p> <p>With multiple entry sites, vehicle access cannot be controlled, making it difficult to stop visitors moving into growing regions. These risks are increased when the vehicles have been exposed to different growing areas.</p>		<p>Visitor vehicles are restricted to parking only at designated areas and on site vehicles travel on designated pathways between growing areas.</p> <p>Gate signs direct traffic and inform visitors about property access points, and who to contact for queries.</p>	
<p>Vehicle hygiene</p> <p>Areas where organic matter can become lodged, such as tyre treads and grilles, can incubate pests.</p> <p>Runoff from clean down areas can carry plant diseases, pests and weeds.</p>		<p>Clean vehicles and machinery at dedicated on site facilities that are well maintained and away from growing areas.</p> <p>Clean and disinfect equipment between use in different growing areas, ideally with high pressure air/water facilities.</p>	
<p>Staff and Farm Visitors on farm</p> <p>Visitors and staff can carry pests and other contaminants from other sites on farm or other growing regions.</p> <p>It can be difficult to trace the incursion of a disease outbreak without the knowledge of where visitors have been.</p> <p>Staff that are untrained in good biosecurity practices can spread diseases, pests and degrade biosecurity systems in place.</p>		<p>Visitor clothing, footwear and tools are checked for organic matter and soil, and are cleaned down before entering the farm.</p> <p>Cleaning facilities including footbaths and brushes are maintained and accessible for visitors and staff.</p> <p>Staff are inducted in on farm biosecurity practices and visitors are made aware of biosecurity expectations prior to moving around the farm.</p> <p>All visitors report to the farm office and sign a visitor register upon entering the property.</p>	
<p>Waste</p> <p>Farm waste can become a breeding ground and incubation source for pests and diseases.</p>		<p>Waste is disposed of as soon as possible, stored away from growing areas and water sources.</p>	

***Estimated risk rating**

The risk rating is a qualitative estimate that aims to indicate high priority areas of farm biosecurity. It is important to note that individual properties may face different levels of risk for each aspect of biosecurity. For this reason farm biosecurity plans should be tailored accordingly to be most effective. Attributing a value to the risk rating should be based on current knowledge of farm traffic, farm management practices, current pest issues, and professional advice.

What is the risk?	Estimated risk rating* (0 = no risk, 10 = high risk)	Mitigation practices	Action
<p>Planting and packaging materials</p> <p>Seed, seedlings, packing materials, soil, compost and fertilizer can be a source of pests and diseases.</p>		<p>Planting material is sourced from reputable suppliers and treated for pests as required.</p> <p>Any tests for pests, eg. seed diagnostics, are kept on record.</p>	
<p>Pest surveillance</p> <p>Lack of surveillance can lead to endemic or exotic pests going unnoticed in growing regions.</p> <p>This allows them to go unmanaged, during which time they may establish in growing regions and spread to other properties.</p> <p>Lack of record keeping can lead to a reduction in management practices, or implementation of ineffective or inappropriate management practices.</p>		<p>Regular pest surveillance is carried out in crops and surrounding vegetation.</p> <p>Staff are trained to be aware of both common and exotic plant pests, diseases and weeds.</p> <p>Posters, information pages and fact sheets are available on property to help staff identify pests.</p> <p>Crop monitoring records are kept – in the interests of retaining market access this also includes recording a lack of observation</p>	
<p>Growing Area regulation</p> <p>Unnecessary movement in growing areas can increase the risk of introducing and spreading pests and diseases.</p> <p>Neighbouring properties could harbour pests and diseases that could easily spread to your property.</p> <p>Feral animals, weeds and vermin can spread pests and diseases.</p>		<p>Gate signs are in place to direct traffic and inform visitors about property access points. There is a designated visitor parking area.</p> <p>Regular communication is maintained with neighbours regarding pest and disease management.</p> <p>Feral animal, vermin and weed populations are controlled in order to prevent transmission of plant pests, diseases and weeds.</p>	

What is the risk?	Estimated risk rating* (0 = no risk, 10 = high risk)	Mitigation practices	Action
<p>Biosecurity planning</p> <p>Not implementing biosecurity strategies can lead to higher long-term costs for managing plant pests, diseases and weeds, and can put a property at risk of quarantine in the event of an exotic pest incursion.</p>		<p>A biosecurity plan with prioritised actions is maintained for each growing area on your property. This plan is updated as goals are achieved and is integrated into the overall Farm Management Plan.</p>	
<p>Extra risk:</p>			
<p>Extra risk:</p>			
<p>Extra risk:</p>			