

## ON-FARM BIOSECURITY

The following information provides areas you should think about when considering biosecurity on your property. Although important, farm biosecurity does not need to be onerous. Biosecurity can be built into pre-existing practices and you may find you are doing more than you think that can be considered biosecurity. If not, consider how you can implement some of the following concepts into your day to day operations.

Completing the Biosecurity Checklist on the Vegetables NZ website will help you identify areas where you currently have appropriate biosecurity practices and where there could be improvement.

### 1. Inputs – things that come on to your property

*Any plant material moved onto your property can be a potential source of pests, diseases and weeds. Monitor any plant material that comes on to the property, as well as sources of water and fertiliser.*

#### New plants

*Introducing new plants on to your property can allow unwanted pests, diseases and weeds to enter the production system.*

- Ensure you buy your seed and nursery stock from trusted sources.
- Isolate new plantings so these can be monitored for pests before on-planting, lowering the risk to your production area from new pests, diseases and weeds.
- Regularly check newly planted areas for the presence of pests, diseases and weeds, and treat before they become established
- If you see something unusual get it identified by your agronomist and/or send a sample for identification or ring the MPI Exotic Pest and Disease Hotline 0800 80 99 66.

#### Water sources

*Many disease-causing organisms can survive for a long time in water sources until they find a suitable host.*

- Ensure water sources are secure from contamination by diseases.
- If in doubt have water supplies tested for disease organisms.

#### Hives

*Bees from wild and managed hives pollinate many fruit and vegetable crops but may act as vectors for the spread of pests and diseases.*

- Make sure you know where any bee hives have been prior to your property.

### **Fertiliser**

*Organic fertilisers such as manure and compost can be a source of weeds and diseases if not composted thoroughly.*

- Ensure that animal manure and green waste is aged and thoroughly composted to destroy weed seeds and disease-causing organisms present in the material.
- Maintain a record of the source of organic fertilisers, the application dates and where applied.
- Check that the supplier is following the industry best practice quality controls.

## **2. Outputs – things that leave your property**

*Responsibility for biosecurity doesn't end when plant products leave the farm gate.*

### **Moving plant products off the property**

*Plant material can spread pests, diseases and weeds from your property and put the productivity of the entire industry at risk.*

- Ensure plant products are clean and that the transport vehicle is clean.

### **Sales and markets**

- Only take healthy plants or produce to sales and markets.
- Do not share equipment with others.

### **Product transport**

*Dirty bins can transfer pests, diseases and weeds to harvested crops. Soil and plant material with harvested crops can carry pests, diseases and weeds.*

- Ensure no soil, waste plant material or pests are left on or in bins or transport containers by removing organic matter and disinfecting the bins.

### **Product packing**

*Harvested crops with soil and plant material can carry pests, diseases and weeds.*

- Remove loose soil and plant material from crops.
- Minimise post-harvest contamination.
- Use potable water for washing vegetable produce.

### 3. People, Vehicles and Equipment

*Pests, diseases and weeds can enter a farm and be spread by equipment and vehicles, either directly or in plant material or soil.*

#### Property access

*Multiple entry points to your property make it difficult to control visitor access and manage high risk visitors such as those who visit multiple properties each day.*

- Limit the number of access points to your property (lock unused gates).
- Use signs to direct visitors to designated parking or reception areas.
- Access to production areas should be limited to restricted personnel only.

#### Signage

*Never assume that people know what to do when they arrive at your property.*

*Without signage, visitors and staff may be unaware of the biosecurity procedures for your property.*

- Erect signs to instruct visitors.
- Use clear instructions and provide relevant contact details.

#### Visitor risk assessment

*Visitors can unknowingly carry pests, diseases and weeds on their clothes and personal items. The risk is greater if they've been in contact with other crops or have recently been interstate or overseas.*

- Conduct a risk assessment before you allow a visitor onto your property. This can be asking a series of questions around where they have come from, have they recently been overseas etc.
- If required, provide cleaning equipment or a change of clothing or footwear.
- To reduce the risk, refuse entry to high risk visitors.

#### Visitors to the property

*Visitors may have come from diseased areas and it is difficult to trace back or trace forward in the event of an incursion.*

- Direct all visitors to a designated parking area away from crops and ask them to report to management and sign a visitor register.

#### Visitor contact with plants

*Visitors can carry pests, diseases and weeds on their clothes and personal items.*

- Limit access to and contact with crops and eliminate any unnecessary contact altogether.

#### Staff training

Anyone working on the property (including friends and family) may not know how easily pests, diseases and weeds can spread and how to prevent this from happening.

- Inform staff of the biosecurity standards required on site.
- Provide biosecurity training or information sessions for staff.

- Have posters to remind staff of the importance of farm biosecurity

#### **4. HYGIENE**

*Pests, diseases and weeds can enter a farm and be spread by equipment and vehicles, either directly or in plant material or soil. It is important to maintain equipment hygiene and ensure all vehicles that visit your property are clean and well maintained.*

##### **General hygiene**

*Pests, disease-causing organisms and weed seeds can be present on hands, clothing, footwear and personal items of people.*

- Provide hand washing facilities, foot baths or alternative clothing and footwear for visitors to use while on-farm.

##### **Equipment hygiene**

*Tools and equipment can carry pests, diseases and weed seeds and may be spread by borrowed or bought second-hand equipment from other properties.*

- Clean and disinfect tools and equipment before and after use on crops.
- Clean and disinfect equipment between rows of plants (e.g. secateurs) or between different batches.
- Clean and disinfect second-hand or borrowed equipment before and after use.

##### **Dedicated equipment**

*Practically, it may be best to have dedicated tools, clothing and footwear for use on crops affected by pests, diseases and weeds. This equipment should never be used in clean areas of your property.*

- Have dedicated tools, clothing and footwear available for use in production areas or on plants affected by pests or disease.
- Always work with sick or suspect plants last.

##### **Storage areas**

*Some pests, diseases and weed seeds can live in the natural environment for years.*

- Clean and disinfect equipment storage areas regularly.

##### **Vehicle entry points**

*Multiple, unsecured entry points to your property make it difficult to control access and manage high risk visitors such as utility providers who visit multiple properties every day.*

- Encourage visitors to enter the property via one or two routes only. Use signs to inform visitors about property access points.

### Vehicle movement and parking

*All parts of a vehicle can carry disease-causing organisms, pests and weeds seeds. Restricting parking and vehicle movements within the property, can control and assist with monitoring the spread of diseases, pests and weeds.*

- Minimise the number of vehicles allowed on the property and restrict them to designated visitor parking areas.
- Monitor areas next to parking facilities for signs of pests, diseases and weeds. Not all vehicles need to access production areas.
- If possible, use your own farm vehicles to transport visitors around the property.

### Vehicle hygiene and washes

*All parts of a vehicle can carry pests and weed seeds.*

- Provide a wash area for vehicles that need to enter production areas, or before moving crops.
- Use a high pressure wash down (or blow down) facility located well away from crops for cleaning vehicles and equipment.
- It is recommended that you also disinfect after washing.

### Run-off from wash areas

*Run-off from vehicle washing can contain pests, diseases and weed seeds.*

- Collect run-off from vehicle wash areas in a sump or direct it away from production areas.
- Monitor areas next to cleaning facilities for signs of pests, diseases and weeds and treat weeds before setting seed or becoming established.

### Roads and tracks

*There is an increased risk of introducing pests, diseases and weeds when vehicles travel off or divert from established roads and tracks.*

- Ask visitors to stay on established roads or tracks.
- Check areas next to roads and tracks for pests, diseases and weeds and treat.

### Water management

*The management of water supplies is important for healthy plants. If water sources become contaminated they can spread pests throughout production areas.*

- Where possible, use drip irrigation for recycled water to avoid aerosol formation.

### Plant waste

*Leaf material or discarded produce can attract or harbour pests, diseases and weeds and diseases. It is important to break their life cycle.*

- Collect all plant waste that shows signs of pests or disease and dispose of it by deep burial or burning, well away from water sources, nursery and production areas.

- For cuttings or healthy waste plant material, use a dedicated waste management facility or compost it thoroughly.

### Product storage

*Stored products, feed and equipment can attract or harbour pests, diseases and weeds. Soil and plant material adhering to harvested crops can carry insect pests and disease organisms.*

- Clean equipment before storage.
- Remove loose soil and plant material from harvested crops before storage.
- Minimise post-harvest contamination.

## 5. CROP MONITORING AND SURVEILLANCE

*Active monitoring and surveillance can provide early warning of potential or emerging problems with pests and diseases. Monitoring data can be used to support continued access to international markets. Recording the absence of pests or diseases is just as important as recording what you do see.*

### Monitoring and surveillance

*Early detection of pests, diseases and weeds gives the best chance of preventing them from establishing on your property and additional expenses for their control. Early detection also increases the chances of eradicating a new pest, disease or weed. Recording the absence of pests or diseases is just as important as recording what is present.*

- Regularly monitor your crops.
- Become familiar with pests, diseases and weeds commonly found in your region so you will know if you see something different.
- Display posters which show common pests, diseases and weeds to help with identification.
- Keep a record of all crop monitoring, even if you don't see anything.

### Monitoring frequency

*The frequency of monitoring depends on the type of crop being managed, and the production intensity. Additional monitoring may be required during disease outbreaks, seasonal presence of insects, or growing periods. This can minimise the chance of pests, diseases and weeds entering and spreading.*

- Increase the frequency of inspections of crops during periods of higher risk, such as known disease outbreaks, increased insect activity or growing periods for weeds.

## 6. AGRICHEMICALS

*Chemical residues on plant products can result in rejection from international and domestic markets and can pose a risk to human health. The misuse of chemicals can also lead to the development of resistance by pests, potentially creating new biosecurity risks and management challenges.*

- Be sure to follow the instructions on the label and observe withholding periods after treatments.
- Where necessary seek training in appropriate use of agrichemicals.

### **Pesticide resistance**

*Inappropriate use of chemicals can cause pests to become resistant, making control difficult. This can cause more ongoing biosecurity problems.*

- If you suspect pesticide resistance, contact your agronomist.

## **7. WEEDS**

*Weed species are biosecurity problems and can be alternative hosts of some pests.*

- Establish a weed management plan, including plans for eradicating or managing weeds and to prevent the introduction of new species.
- Control weeds along tracks and roads, and next to parking or cleaning areas.
- Look for outbreaks of weeds, especially after drought, fire and flood.
- Control weeds in fields and paddocks after infrequent events e.g. floods and landworks.
- Inspect any new areas e.g. roads, fences and treat weeds before they set seed and establish.

## **8. RECORD KEEPING AND TRACEABILITY**

*Ensure that you have the ability to trace where plants have come from and where they went. Keep accurate records of purchases, sales and movement of all products entering or leaving the property.*

### **Record keeping**

*A property owner or manager should to be able to 'trace back' and 'trace forward' if there is a pest, disease or weed incursion on their property.*

- Keep records of purchases and sales, health certificates and declarations, and pest and disease monitoring activities.

### **Vendor declarations and statements**

*Plants entering your property can carry pests, diseases or weed seeds. Simple visual inspection of plants may not be enough to know they are healthy.*

- Always request history and supporting paperwork e.g. seed or nursery stock certification or records of testing.

## **9. Suspect diseases, pests and weeds**

You have a responsibility to report unusual diseases, pests or weeds to the MPI Exotic Pest and Disease Hotline 0800 80 99 66.

