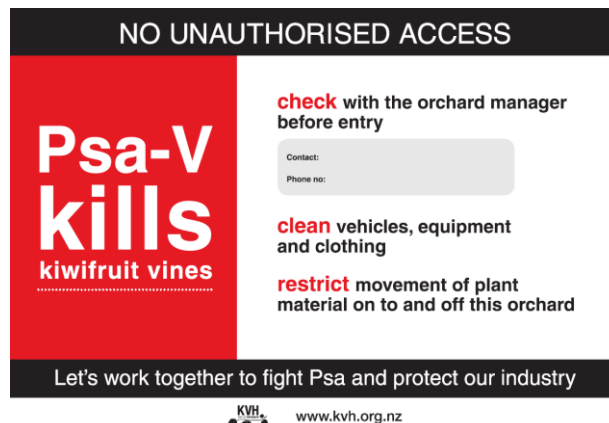


Background

Any substrate (plant material or contaminated inanimate object) has the potential to be a carrier of Psa-V bacteria, or other new biosecurity risks, both onto and within an orchard. Good hygiene practices will prevent or limit the spread of infection from vine to vine on an orchard, or between orchards. It is impractical to stop all movement on and off the orchard so best practice advice is aimed at reducing risk where possible. For maximum effectiveness, hygiene and movement controls need to be in place before a new pest or disease arrives and not just after it is discovered.

Scope

Orchard activities should aim to minimise the risk of transferring biosecurity risks such as Psa-V infection between and within orchards through the movement of plant material. The use of dedicated vehicles, ensuring people, vehicles and equipment are cleaned of plant material, denying access to dirty machinery, washing down and sanitising machinery, can reduce spread of disease. Cleaning of vine tools between **bays/rows** will significantly reduce the risk of infection spread between plants and within the orchard.



1. Best Practice Guidelines - Recovery Regions

The requirements described below are KVH best practice advice. Individual growers need to ensure they communicate any additional requirements to their service providers.

A grower's hygiene protocol must be included in their **Biosecurity** Orchard Management Plan and there should be a way of communicating these to orchard visitors and staff. This could be through signage or part of a staff induction process.

Orchard access

- Display Psa risk management signage at orchard property entrances listing owner/manager contact details to authorise entry.
- Allow essential vehicles only access to enter orchard.
- Ensure non-essential vehicles are left in designated parking areas, preferably outside the orchard.
- Advise contractors of all key operational areas on orchard –parking, equipment clean down, wash down areas, personnel sanitation facilities.
- Orchard work should be avoided under wet or damp conditions

On arrival at the orchard

- Visitors to observe grower hygiene requirements.
- Workers should not bring their own tools and equipment onto the property unless they have been thoroughly cleaned and sanitised and ideally inspected by the grower or orchard manager.
- **Workers/visitors should not bring fruit onto the orchard.**

Vehicle and Equipment Cleaning

- Ensure any obvious plant material is removed from all vehicles and equipment on entry to, and exit from, orchards. Check and remove any trapped plant material in fans on sprayers if moving between orchards.
- **Refer to [KVH Protocol: Orchard Equipment and Infrastructure](#) for movement controls if moving vehicles and equipment between kiwifruit growing regions.**
- Clear high risk vehicles which come into direct contact with vines and plant debris, such as mulchers, mowers, root rippers etc. of plant material and wash and sanitise between orchards.

- For lower risk vehicles such as fertiliser spreaders, quad bikes used for maturity clearance sampling and pollen application, trucks transporting beehives for pollination, and harvest machinery and picking bags, check and remove visible plant material, clean and sanitise at least daily and before moving between Recovery regions.

Tool Hygiene within the orchard

- Ideally all equipment (including tools) should be assigned exclusively to the property.
- Wash and sanitise tools between bays/rows to limit any inadvertent spread of (Psa-V) infection within the property.
- Consider using two sets of tools. Alternate between them, resting one set in sanitising solution while the other is in use.
- Clean used tools to remove all plant residues and sanitise. (Common practice is using methylated spirits in a spray bottle.)
- Clean any cleaning equipment used, e.g. brushes etc. of visible plant material and then sanitise afterwards.
- always move from least infected area to more infected when working in an infected orchard.

Waste

- Dispose of any plant debris appropriately.
- Refer to [KVH Protocol: Disposal Options](#)

People

- Ensure all workers and visitors understand and follow the orchard hygiene requirements prior to entering the production area.
- Ensure only necessary equipment and personal items are taken into the orchard.
- Before leaving the orchard, all personnel should ensure their clothing and footwear is free of plant material.

Harvest hygiene

- On orchards where other strains of Psa have been identified (e.g. streptomycin resistance) refer to [KVH Protocol: Resistance to Psa control products](#) , for specific harvest requirements
- All orchards should have a clearly defined transition zone for parking, loading and unloading that is separate from the harvest area.
- Limit vehicle and people movement into the 'harvest area' (under the vines).
- At the end of the harvest operation on the orchards ensure all harvest equipment has visible plant material removed and is sanitised before moving between Recovery regions.
- Harvest bins
 - clear all plant material and sanitise bins before using on an orchard.
 - minimise plant debris entering the bins during harvest and/or soil or plant material adhering to the outside of bins.
 - check before being transported to the packhouse and remove any obvious plant material.
- Where gloves are used supply new/clean gloves to pickers at the start of each orchard. Gloves should be removed prior to exiting the orchard and placed in an allocated bag, washed (e.g. in Napisan) or appropriately disposed of

2. Best Practice Guidelines - Containment and Exclusion Regions

Best practice advice is as for Recovery regions above, and **in addition** the following is recommended:

On arrival at the orchard

- Designate a dedicated wash-down area for all visitor vehicles, equipment and footwear to be cleaned in and sanitised.

Vehicle and Equipment Cleaning

- Movement of orchard equipment is restricted and KVH authorisation is required for the following movements:
 - between containment regions
 - from a 'recovery' or 'containment' region to an 'exclusion' region

o from a 'recovery' region to a 'containment' region

- Clear all vehicles and equipment, including harvest equipment and picking bags of any plant material and sanitise between orchards.
- Provide a high-pressure hose capable of dislodging caked mud and plant debris from vehicles and equipment to be entering the production area.
- Pay particular attention to the underside of vehicles, ensuring tyres are thoroughly washed and nothing is trapped in the tread. Check in and around windows, bonnet and doors and wheel arches for trapped plant material.
- Once washed and visually clean, spray vehicles and equipment with sanitising solution, rinse (optional) and air dry.
- Ensure any runoff or splash does not contaminate adjacent vehicles.

People

- Sanitise hands and scrub footwear (particularly the soles) immediately prior to entering and exiting the orchard. Use a footbath, or spray footwear with an approved sanitiser.



Restricting access to unnecessary vehicles and dirty machinery will help protect uninfected orchards from infection and may help limit the spread of other biosecurity risks between orchards.

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