



Kiwifruit Plant Certification Scheme

Pollen Suppliers Standard

Version 1.0

1 April 2022

For Pollen mills.

Name:

Date:



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Updates

The Kiwifruit Plant Certification Scheme (KPCS) has been set up to produce plant material free from high-risk biosecurity pests and diseases. The standards are based on the 2011 Kiwifruit Nursery Standards that were developed in response to the Psa-V incursion and have been revised to embody the knowledge developments in the kiwifruit industry, objectives set out in the National Psa-V Pest Management Strategy, and Pathway Management Plan and incorporate risk management for threats beyond only Psa-V.

Revisions will be ongoing with the most recent version of the standard being available from the KVH website (www.kvh.org.nz/kpcs).

Disclaimer

While this standard's objective is to allow certification of plant material that has been produced under a system which aims to produce high health material there remains the possibility a proportion of pollen may contain biosecurity pests and diseases including Psa. KVH accepts no liability for claims regarding the presence of biosecurity pests or diseases being present in the pollen from any certified suppliers. While the objective of this standard and guidelines is to minimize the potential risk pest and disease transfer, no party can guarantee that adherence to these standard and guidelines will reduce such risk to zero.

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1. Purpose

The purpose of this document is to provide guidance for pollen producers and distributors to achieve certification under the Kiwifruit Plant Certification Scheme (KPCS) and a place for them to document how they will meet the requirements.

2. Introduction to the Kiwifruit Plant Certification Scheme

Growers should have a high degree of confidence in the biosecurity status of all plant material being moved into an orchard, and suppliers/distributors should be able to demonstrate how they are managing biosecurity risk.

The movement of plant material (budwood, rootstock, mature plants, shelter belt plants, and pollen) presents the greatest risk of moving new pests and diseases around our industry. The kiwifruit industry has already made significant progress in managing biosecurity risk across the rootstock pathway with the Kiwifruit Plant Certification Scheme (KPCS).

The Kiwifruit Certification Scheme is now extended to cover pollen and aims to manage risk associated with this movement by focusing on disease free status of supplying orchards. This applies across New Zealand to all aspects of the pollen supply chain, from management of biosecurity risk on the pollen source orchard (or part of an orchard), to the pollen milling process, through to the supply of pollen to the end-user/grower.

2.1 Scope

This biosecurity standard applies to the movement of pollen between orchards and provides an avenue for those supplying pollen to demonstrate compliance to the National Pest Management Plan and the Pathway Management Plan.

Those suppliers (pollen mills and distributors) that meet the requirements of this standard will be eligible for certification.

KVH will enforce grower compliance under the Biosecurity Act and through kiwifruit industry supply requirements such as GAP (Good Agricultural Practice).

2.2 Kiwifruit Industry Biosecurity Regulations

National Psa-V Pest Management Plan (NPMP)

The NPMP supports growers working collectively to minimise the impacts of Psa-V within their orchards and growing regions, as well as doing what is necessary to keep Psa-V out of areas where it hasn't yet been identified. It also brings together and unites the efforts of key organisations in the kiwifruit industry and associated industries, to take a consistent and coordinated approach to management of Psa-V. Key elements of the plan involve movement controls, monitoring, reporting, incursion response and managing the disease, along with a continued focus on awareness, education, and research.

Pathway Management Plan

The kiwifruit industry has introduced legislation, a Pathway Plan under the Biosecurity Act 1993, to better manage biosecurity risk to the kiwifruit industry. Instead of focusing on a single pest, like Psa, the Plan focuses on protection against a full range of biosecurity threats to our industry and provides for a consistent and pragmatic approach to managing risk on pathways such as young plants, budwood, pollen, orchard equipment and other items moved by people.

The Pathway Management Plan is equivalent to the current Psa-V National Pest Management Plan (NPMP) but is more fit-for-purpose and makes sure all the right settings are in place so that we can detect anything new quickly enough to stop its spread, limit impacts, and aim for eradication.

The Pathway Management Plan came into effect on 1 April 2022 and it will replace the current Psa-V NPMP (due to expire on 17th May 2023) as it will retain the important elements needed for Psa protection (e.g., controlling movements of high-risk pathways to the South Island) but also provide much wider benefits such as:

- better protection
- more value for money
- increased simplicity around rules and regulations
- right settings for early detection of new threats
- consistent and pragmatic.

2.3 High-risk organisms (refer to KVH website)

There are already risk management requirements for pollen movements under the National Psa-V Pest Management Plan (NPMP), however these are specific to Psa.

Currently there is not a proposal for testing for orchards supplying flowers for pollen. If a high-risk organism emerges that could have significant potential impacts to the industry, additional monitoring or testing requirements for this specific organism may be introduced. If there is a significant cost associated with this, KVH will consult with the industry.

Note, however, there may be some differences in the list of high-risk organisms and associated level of freedom across risk items. For example, some high-risk pests associated with plants are not likely to be associated with pollen (e.g., some viruses are not pollen transmissible).

2.4 KPCS Requirements for Pollen Suppliers

All pollen mills are required to be KPCS certified.

All pollen distributors are required to be registered with KVH, source pollen from a KPCS certified pollen mill and maintain traceability to destination KPIN(s).

A pollen mill will be deemed to be KPCS certified if they meet the requirements specified below.

KPCS Pollen Supplier Certification

- Register with KVH.
- Complete the KPCS Pollen Supplier Manual documenting how the KPCS Standard requirements are met.
- Be audited to confirm compliance with the standard.
- Pollen mills and distributors certified to this Standard can move pollen as specified in the table below:

MOVEMENT FROM	MOVEMENT TO		
	South Island	North Island Not Detected Orchard	North Island Psa positive orchard
North Island Not Detected orchard	PROHIBITED	Allowed for certified pollen suppliers -Full certification only	Allowed for certified pollen suppliers
North Island Psa positive Orchard	PROHIBITED	PROHIBITED	Allowed for certified pollen suppliers
South Island Not Detected Orchard	Allowed for certified pollen suppliers - Full certification only.	KVH authorisation required	KVH authorisation required

3. Definitions and List of abbreviations

Batch or lot

Plant material from a single source that is treated as one group for the purposes of propagation in the orchard. This could be a variety or a block.

Biosecurity Act 1993

An Act of Parliament that lists the laws relating to pests and diseases that are capable or potentially capable of causing unwanted harm to any natural and physical resources or human health.

Cultivar

The classification / name given to a distinct kiwifruit and the resultant plant material.

Effective crop protection product

Effective crop protection products are those with proven efficacy against the target pest or disease. To be an effective crop protection product for Psa-V control, ACVM must have issued a label claim stating the products approved for use in control of Psa-V. KVH maintain a list of ‘effective crop protection products’ on the KVH website and specific advice on best practice in management guides.

Kiwifruit plant

A plant or plants of any *Actinidia* species or cultivar.

KPIN

Kiwifruit Property Identification Number, used to identify a property on which kiwifruit is produced.

KPCS

Kiwifruit Plant Certification Scheme, of which this Standard is part of.

KVH

Kiwifruit Vine Health.

National Psa-V Pest Management Plan (NPMP)

A national pest management strategy under the Biosecurity Act 1993.

Orchard

means an area of land used or previously used, if kiwifruit remains present, for the cultivation of kiwifruit, or kiwifruit flowers or pollen, and including headlands and shelter belts immediately adjacent to kiwifruit plants.

Pathway Management Plan

The National Kiwifruit Pathway Management Plan, legislation under the Biosecurity Act 1993 for reducing the risk of spreading biosecurity risk organisms across the kiwifruit industry.

Pest

Any biosecurity threat to the kiwifruit industry which may be a pathogen (virus, bacteria, fungi or other), insect or weed. Biosecurity pests include the target organisms, but also include all other “regulated pests” as categorised by the Ministry for Primary Industries.

Pollen

means pollen harvested from flowers of the genus *Actinidia*.

Pollen Distributor

means any entity that buys and/or receives pollen from a pollen mill operator or buys and/or receives pollen from another pollen distributor, or otherwise distributes pollen as an intermediary between the pollen mill operator and the kiwifruit grower and is not the owner or person responsible for the orchard onto which the pollen will be used for pollination.

Psa-V

A genetically distinct high virulence form of *Pseudomonas syringae* p.v. *actinidiae*.

Registration

Pollen mills and pollen suppliers or distributors who are intending to move pollen must register with KVH on an annual basis.

Sanitiser

A KVH approved antibacterial with proven efficacy against Psa-V. A list of these is maintained on the KVH website (www.kvh.org.nz/hygiene).

Source block

The block from which the flowers were taken for pollen production.

Testing

For the purposes of this document means to test for target organisms specified in the KPCS Standard and conducted in a KVH approved laboratory.

4. The KPCS Pollen Supplier Standard

The KPCS Mature Plant standard is divided into two parts.

Part A – Pollen Supplier Details

This section describes the supplier or distributor and general information about them.

Part B - Risk Management

This section includes risk management principles which are designed to reduce biosecurity risks.

Please complete the sections that are relevant to your operation.

Part A – Pollen Supplier Essentials

5.1 Supplier Details	
Status:	<input type="checkbox"/> Pollen mill
Name of pollen mill	
Contact Name:	
Physical address:	
Phone:	
Email:	
Kiwifruit growing region:	<input type="checkbox"/> Milling flowers from Not Detected orchards only
Details of male only orchards associated with pollen mill:	
Any distributors supplied list here:	

5.2 Source Orchards	
Pollen mill operator must only accept and mill flowers from an orchard or parts of an orchard that achieve an appropriate level of freedom from high-risk pests. This will include an effective crop protection programme and orchard monitoring where appropriate.	
Orchard Psa status established. If Psa-V free ND – what records are available to back this up? (e.g., lab testing-should be in Spring prior to flower collection) KVH movement controls adhered to.	
Orchard monitored to ensure unhealthy/symptomatic vines avoided for flower collection.	
Monitoring records available for source orchards (if applicable) Testing records on file for Not Detected orchards (if milling ND pollen).	
KVH permissions on file if applicable	

Part B – Risk Management

The manual must include risk management principles which are designed to reduce biosecurity risk.

6.1 Flower harvesting

While harvesting appropriate systems must be in place to minimise disease transfer and to maintain traceability.

Complete this section if harvesting is part of your operation.

Harvester agreement in place if harvesters contracted to mill.	
Flowers for pollen milling not collected from infected vines that are expressing Psa secondary symptoms at the time of flower collection. Vines showing any other unusual symptoms should also be avoided.	
Flower bags clearly labelled so traceability to source KPIN maintained.	
Transport of flowers to be in cleaned vehicles and flowers to be securely enclosed.	

6.2 Hygiene

Hygiene practices throughout the flower harvesting, milling and distribution process must be managed to minimize possible transfer of infection. All tools, containers and surfaces used during the collection process must be cleaned and sanitized using KVH approved sanitisers (refer KVH Information Sheet: Sanitisers).

Training of all harvest and/or mill workers in hygiene practices.	
Flower bags cleaned and sanitised.	
Hygiene processes in place to minimise cross contamination at mill site. Footbaths at entrance to mill (recommended). Mill area cleaned regularly. <ul style="list-style-type: none">○ Floors swept.○ Machinery cleaned daily or between batches.○ Cleaning equipment sanitised. - Cleaning records available	
Pollen pottles new (or cleaned and sanitised if not new).	

6.3 Traceability

Traceability must be maintained of orchards from which flowers have been collected and orchards or other pollen distributors that pollen is supplied to.

Flowers, flower parts and pollen must have traceability.	
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Labelling of flower bags -orchard/KPIN (contractor/picker) etc Jar label -KPIN sourced from - Mill name/identifier - Orchard Psa-V status - Date milled - Region of source orchard	
List distributors pollen supplied to (if any) Distributor must also be KVH registered.	

6.4 Storage

Pollen containers must be sealed to prevent contamination and must only be opened for the purposes of testing viability in an area that is clean and sterile such that it is free of pests and pathogens.

Packaging should be appropriate, and jars sealed.
Psa-V Not Detected product – status verified and stored separately from other product

6.5 Waste Disposal

All kiwifruit plant material removed during the milling process to be disposed of in a way that prevents potential spread of Psa-V and other pathogens.

Describe method of waste disposal.

- in a covered pit that prevents wind distribution
- transport in covered vehicles
- removal by recognised waste provider.
- any other method has KVH permission/signoff.

6.6 Records

Records must be maintained for key activities:

- Traceability records kept for a minimum of seven years and must be provided on request to KVH within 24 hrs.
- Monitoring and testing records must be kept for a minimum of three years.
- Crop protection records must be kept for a minimum of three years.

Records including but not limited to Records are kept _____ (location)	<input type="checkbox"/> source orchards -which maybe maps of blocks/orchards showing location of flower collection. <input type="checkbox"/> Harvester agreements <input type="checkbox"/> inwards flower receipts <input type="checkbox"/> outwards records of KPINs/distributors supplied. <input type="checkbox"/> monitoring and testing records (if applicable) <input type="checkbox"/> evidence that orchards have a Biosecurity plan. <input type="checkbox"/> Training records <input type="checkbox"/> Cleaning records
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Distributors to maintain records of pollen supplied (KPIN, quantity including pottle numbers if on jar and address Describe where and how these are maintained.	
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6.7 Applications

Traceability must be maintained back to source and inputs. **Complete this section only if application is part of your process.**

<p>Contractors to be familiar with KVH guidelines.</p> <ul style="list-style-type: none"> - application carried out on calm days to reduce drift - grower's hygiene protocols followed as described in the Orchard Management plan. - records available for each orchard pollinated: <ul style="list-style-type: none"> o Dates o Supplier of pollen o Sizes and batch numbers of all packs applied. o Given to each owner/manager. - equipment for applying pollen is sanitised and cleaned between orchards. 	
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Appendix 1: Template: Multiple source orchards

Appendix 2: Template: Monitoring Record

MONITORING RECORD						
KPIN:						
Monitor name:						
Monitoring date:	Location and name of block:	Variety:	Leaf spotting or other symptoms observed?	Description of symptoms observed:	Action taken. (e.g. ring KVH 0800 665 825)	Lab test required?
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO
			YES / NO			YES / NO

Appendix 3: Template: Traceability /Distribution records

Appendix 5: Sampling and testing process

Collect 100 leaf samples from each flower collection block.

1. Collect leaves with any suspect spotting, if possible, otherwise collect leaves randomly. **Do not include stalks.**
Younger leaves in active growth provide better material for testing. Choose leaves from different areas of the plant (i.e., some from the bottom, some middle, some from the top of the plant.)
2. For grafted plants – take some leaves from the rootstock and some from the grafted portion.
3. Each block will have a total of 100 leaves in the sample and can be put in a single bag. Label this bag clearly with the KPIN and sample number (e.g., Sample 1 etc)
4. If the Block contains more than one variety and all varieties in the block are being used for pollen supply – ensure leaves are taken from across all varieties within the 100-leaf sample.
5. Repeat the process if supplying flowers from more than one block so that each Block has a 100-leaf sample.
6. A maximum of 6 x 100 leaves are to be taken from an orchard.
7. If there are more than six blocks being used, then the 100 leaf samples will need to be taken across the blocks so that the sample is representative of all the blocks being used for flower collection – this may mean that one 100 leaf sample may cover more than one block i.e. Sample 1 = Block 2&3

Sending samples

8. Place the sample bag(s) into one larger plastic bag ensuring air has been removed.
9. The larger outer bag should be labelled with the KPIN and date of sampling.
10. Complete the Hill Lab Kiwifruit Nursery Submission form- ensuring that the samples are labelled on the bag and on the form with the Block they were taken from.
11. Before sealing, place a copy of the completed collection sheet inside the larger plastic bag, then seal the bag.
12. Place large plastic bag(s) in a courier bag.

Courier to: Hill Laboratories

28 Duke Street

Frankton

Hamilton 3204

Attention: Psa Testing Phone 07 858 2000

Hill Laboratories TRIED, TESTED AND TRUSTED		ANALYSIS REQUEST			
NURSERY <i>Kiwiblue Orchard</i>		R J Hill Laboratories Limited 28 Duke Street, Hamilton 3204 Private Bag 3205 Hamilton 3240, New Zealand T 0608 HILL LAB (44 555 22) F +64 7 858 2000 E mail@hill-labs.co.nz W www.hill-laboratories.com			
Name <i>Fred Dagg</i> (Client) Address <i>Kiwiblue Alley</i> <i>Timbuctoo</i> Phone _____ Fax _____ Email _____ Site Name <i>KPIN 0000</i> (Client Reference) (Additional Client Ref) Quote No 81222 Order No _____ Submitted By <i>Fred Dagg</i> Charge To <i>Kiwiblue Orchard</i> I have authority as the landowner / or authorised representative to request this test and consent to the results being released to KVH Name: _____ (Primary Contact) Association: _____ Signed: _____ Date: _____		Office use only: Job No: _____ CHAIN OF CUSTODY RECORD Sent to Hill Laboratories Date & Time: <i>1/3/2066</i> Please tick if you require CCC to be faxed back Name: <i>Fred Dagg</i> Signature: <i>F Dagg</i> Received at Hill Laboratories Date & Time: Name: _____ Signature: _____ Condition Room Temp Chilled Frozen Temp: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Sample and Analysis details checked Signature: Priority <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Urgent (ASAP, extra charge applies, please contact lab first) Date Collected: <i>28/12/2065</i> Number of Samples: <i>6 x 100</i>			
ADDITIONAL INFORMATION KIWIFRUIT NURSERY TESTING (PSA) Level of Symptoms: (Leaf Spotting, secondary symptoms, one vine, one block, widespread etc. or N/A if no symptoms)					
Date last sprayed: _____ Type of Sample: (Please circle) Leaf Cane		Product: _____ Blocks: _____			
No.	Sample Description / Name	Location of Sample Block/Row/Bay	Kiwifruit variety Hayward / 16A / G3 / G9 / G14	M / F (male or female)	Male Variety (if male sample) Bruce / Chieftain / M91 / CK1 / CK2 etc
1	<i>Leaf</i>	<i>Block 1</i>	<i>G3 / M33</i>	<i>both</i>	
2	<i>"</i>	<i>Block 2</i>	<i>"</i>	<i>M</i>	<i>MC 110</i>
3	<i>"</i>	<i>Block 3 & 4</i>	<i>G3</i>		
4	<i>"</i>	<i>Block 5 & 6</i>	<i>G3</i>	<i>#</i>	
5	<i>"</i>	<i>Block 7 & 8</i>	<i>HW</i>		
6	<i>"</i>	<i>Block 10 Rows 2, 4, 6, 8 HW</i>	<i>M</i>		<i>chieftain</i>

For sampling information contact KVH.

KB Item: 35726

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