



Kiwifruit Plant Certification Scheme

Budwood Standard

Version 1

December 2021

For (KPIN) Budwood Suppliers

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 incorporate a high health that is much wider than 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 plants 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 budwood 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 budwood suppliers 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 budwood and aims to manage risk associated with this movement by focusing on monitoring and testing of supplying orchards. This applies across New Zealand to every kiwifruit budwood supplier and covers all aspects of the budwood supply chain, from management of biosecurity risk on the budwood source orchard (or any other facility that produces budwood) and through to the supply of budwood to the end-user/Grower so industry risk organisms can be inadvertently and rapidly spread through this activity. Budwood can be rapidly transported across orchards and growing regions.

2.1 Scope

This biosecurity standard applies to the movement of budwood between orchards and therefore does not apply to those who harvest budwood for use on the same property.

This Standard provides an avenue for those supplying and distributing budwood to demonstrate compliance to the National Pest Management Plan and the Pathway Management Plan.

Both suppliers and distributors who meet the requirements of this standard will be eligible for certification.

KVH will enforce grower compliance when sourcing budwood for their kiwifruit orchards 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

KVH is introducing a new regulation framework to better manage biosecurity risk to the kiwifruit industry. Instead of focusing on a single pest, like Psa, the Plan focuses on protection against the full range of biosecurity threats to our industry and provides for a consistent and pragmatic approach to managing pathway risks 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 will come 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 Target Organisms (see KVH website)

There are already risk management requirements for budwood 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 any additional target organisms other than Psa, however 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.

2.4 KPCS Requirements for budwood

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

All budwood suppliers are required to be KPCS certified.

A budwood supplier will be deemed to be KPCS certified if they meet the requirements specified below.

KPCS Budwood Certification

- Register with KVH.
- Must meet the requirements of the KPCS Budwood Standard.
- Complete monitoring and testing requirements for specified target organisms (currently testing is only for Psa on Not Detected orchards).
- Complete the KPCS Budwood Manual documenting how the KPCS Standard requirements are met and submit to KVH.
- Be audited to confirm compliance with the standard.
- Budwood certified to this Standard can be moved as specified in the table below:

FROM	TO		
	South Island	North Island Not Detected Orchard	North Island Psa positive orchard
North Island Not Detected orchard	PROHIBITED	Allowed for certified budwood suppliers/distributors	Allowed for certified budwood suppliers/distributors
North Island Psa positive Orchard	PROHIBITED	PROHIBITED	Allowed for certified budwood suppliers/distributors
South Island Not Detected Orchard	Allowed for certified budwood suppliers/distributors	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.

Budwood

Short lengths of young canes with buds from kiwifruit plants prepared for grafting on to the rootstock of another kiwifruit plant.

Budwood Distributor

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

Budwood Supplier

Anyone supplying budwood for grafting from one orchard to another.

Certified supplier or distributor

Person or body certified under the Kiwifruit Plant Certification Scheme.

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

A regulatory framework under the biosecurity Act 1993 for managing 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.

Psa-V

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

Registration

Growers who are intending to move budwood off their orchard 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 budwood was taken for propagation.

Target organisms

Target pests and diseases specified for the KPCS Standard. This list is likely to evolve as our knowledge of risk organisms evolves.

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 Budwood Standard

The KPCS budwood standard is divided into two parts.

Part A – Orchard Details

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

Part B - Risk Management

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

Note:

Please fill in the sections that apply to your business.

For growers, some of the required information may be in the on-orchard biosecurity plan (e.g., hygiene) – if this is the case then a cross reference to the detail in that document is acceptable.

Part A – Orchard Essentials

5.1. Source orchard details

Source KPIN:	
Orchard Name:	
Orchard address:	
Orchard Psa status:	
Kiwifruit growing region:	
Person responsible for orchard:	
Phone:	
Email:	

5.1.1. Budwood collection blocks

Blocks being used for collection need to be recorded in advance of collection so that monitoring and testing requirements can be met.

Block names or numbers	Variety being collected.

3.1.3 Orchard maps

The map must show the numbers, letters or names that are used to designate blocks. This information will be used in the inventory system to track plant movement.

<input type="checkbox"/>	Orchard entrance	<input type="checkbox"/>	Hygiene facilities/wash down areas etc
<input type="checkbox"/>	Parking area	<input type="checkbox"/>	Blocks
<input type="checkbox"/>	Sign in area		

5.1.4 Multiple sites

Where a supplier or distributor is collecting from multiple source orchards complete Appendix 4.

KPIN	Block	Variety being collected.

3.2 Staff and management responsibilities

Orchard management are responsible for implementing all aspects of the KPCS. This involves the planning and maintenance of KPCS procedures and the documentation of these in the Budwood Manual. Staff working on the orchard during the collection process must be aware of the requirements and procedures in this manual.

Budwood Supplier	
Budwood Distributor	

Part B - Risk Management

The Budwood Manual must include risk management principles which are designed to reduce biosecurity risks.

KPCS Standard Reference	How Supplier meets requirements
6.1 Monitoring	
<p>Monitoring and laboratory testing provide the highest level of confidence that plants are within acceptable limits for target organisms.</p> <p><u>Monitoring frequency</u> All Blocks from which budwood is to be collected shall be monitored annually, during Spring (October/November) and before budwood collection takes place, This involves tagging any symptomatic or unhealthy plants. These should not be used for collection (refer to KVH symptom guides)</p> <p><u>Monitoring records</u> These must include the following (see Appendix 2 for a monitoring template)</p> <ul style="list-style-type: none"> • Date of monitoring. • Block(s) monitored. • Name of monitor. • Presence of any symptoms; and details of any sampling for lab testing if required. <p><u>Sampling and lab testing</u> Suspected presence of a biosecurity pest or disease or any unusual vine symptoms must be reported to KVH on 0800 665 82</p> <p>(A template for recording sampling and testing can be found in Appendix 3).</p>	
Describe your monitoring process, timing/frequency, identification or tagging process for unhealthy vines and staff responsible for monitoring.	
State where monitoring records are maintained	
State what you will do if any symptomatic plants are found. Maintain any testing records and state where these will be kept.	

6.2 Sampling and Testing (Not Detected orchards only)

All Psa Not Detected orchards must have leaf samples taken from each source block used for budwood collection annually. Samples should be taken in March/April (while there are suitable leaves for sampling). Refer to KVH procedure (appendix 5). Each variety being supplied needs to be include in the block sample.

Record blocks sampled and where testing records are filed.
Maintain records (refer to Appendix 3)

6.3 Crop Protection

Crop protection to be in place that includes products that are effective against high-risk pests.

Copper spray to be applied prior to budwood collection taking place on Psa positive orchards.
Record date and spray used.

6.4 Hygiene

Orchards used for budwood collection must have hygiene protocols in place to prevent the spread of biosecurity pests and diseases within parts of the orchard or to other sites or operations.

- Budwood must not be collected from cuttings left on the ground after pruning.
- Any tools used must be cleaned of soil and plant material and sanitised (at least between blocks).
- Wounds must be protected.
- Containers and surfaces used during the collection process must be cleaned and sanitised using KVH approved sanitisers. (see KVH website)

Describe what hygiene measures are implemented during the budwood collection process including tool sanitising, wound sealants, protectant sprays etc. or reference to where this information is recorded.

6.5 Budwood Collection

Staff must be trained in hygiene procedures. Budwood collection areas must be clearly identified (on orchard map or similar). Do not collect from budwood prunings on ground, from vines tagged during the monitoring rounds, or any unhealthy vines noticed at time of collection.

Describe your collection process.

6.6 Traceability

A budwood supplier must have a system in place to allow budwood to be traced back to the orchard and block it is sourced from and traced forward to the final destination.

All budwood must be batched and batches clearly labelled.

Budwood stored must be in sealed labelled bags in a clean pest-free area and batches must be kept separate.

Describe determination of batches and how these are identified. (This could be by block.)

Keep a record of where budwood has gone (see Appendix 4 for an example template).

Indicate how records are kept.

6.7 Records

Records must be maintained for key activities:

- Budwood traceability records kept for a minimum of seven years and must be provided on request to KVH within 24 hours (refer to Appendix 4)
- 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.

State where records are kept.

Appendix 3: Template: Sampling/Testing Record

SAMPLING / TESTING RECORD								
KPIN	Date of sampling:	Sampling body or sampler's name:	Location of sample: Block/row/position	Block/Batch number	Variety	Pest detected in laboratory test.	Name of Pest or disease detected	Hard copy laboratory result held?
						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 5: Sampling and testing process

Collect 100 leaf samples from each budwood collection block.

- 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.)
 - For grafted plants – take some leaves from the rootstock and some from the grafted portion.
 - 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)
 - If the Block contains more than one variety and all varieties in the block are being used for budwood supply – ensure leaves are taken from across all varieties within the 100-leaf sample.
 - Repeat the process if supplying budwood from more than one block so that each Block has a 100-leaf sample.
 - A maximum of 6 x 100 leaves are to be taken from an orchard.
 - 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 budwood collection – this may mean that one 100 leaf sample may cover more than one block i.e. Sample 1 = Block 2&3
- Sending samples**
- Place the sample bag(s) into one larger plastic bag ensuring air has been removed.
 - The larger outer bag should be labelled with the KPIN and date of sampling.
 - 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.
 - Before sealing, place a copy of the completed collection sheet inside the larger plastic bag, then seal the bag.
 - 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



Orchard KIWIBLUE ORCHARD

Name Fred Dagg (Client)

Address Kiwifruit Alley
Timbuctoo

Phone _____ Fax _____

Email _____

Site Name KPIN 0000 (Client Reference)

Quote No 113708 Order No _____ (Additional Client Ref)

Submitted By Fred Dagg

Charge To KiwibLue Orchard

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: _____

ANALYSIS REQUEST

R. J. Hill Laboratories Limited
28 Duke Street, Hamilton 3204
Private Bag 3205
Hamilton 3240, New Zealand

T 8508 HILL LAB (44 655 22)
T +64 7 858 2000
E mail@hill-lab.co.nz
W www.hill-laboratories.com

Office use only: Job No: _____

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories Date & Time: 1/3/2015

Please tick if you require COC to be fixed back Name: Fred Dagg

Signature: Fred Dagg

Received at Hill Laboratories Date & Time: _____

Name: _____

Signature: _____

Condition Room Temp Chilled Frozen Temp: _____

Sample and Analysis details checked

Signature: _____

Priority Normal

Date Collected: 26/2/2015

Number of Samples: 6 x 100

KIWIFRUIT BUDWOOD LEAF TESTING (PSA-V)

Level of Symptoms: (Leaf Spotting, secondary symptoms, one vine, one block, widespread etc. or N/A if no symptoms)

Type of Sample: 100 x Leaves per sample

No.	Sample Description / Name	Location of Sample Block/Row/Bay	Kiwifruit variety e.g Hayward / 16A / G3 / G8 / G14	M / F (male or female)	Male Variety (if male sample) Bruce / Chieftain / M91 / GK1 / CK2 etc
1	Leaf	Block 1	C13/M33	both	
2	"	Block 2	C3/MC110	Y	
3	"	Block 3 & 4	G3		
4	"	Block 5 & 6	G3		
5	"	Block 7 & 8	H1W		
6	"	Block 10 rows 2, 4, 6, 8		M	Chieftain

For sampling information contact KVH.

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