Ministry for Primary Industries
Manatū Ahu Matua

Risk Management Proposal:

Amendments to the import health standards

Actinidia Plants for Planting
Citrus Plants for Planting
Importation of Nursery Stock
Prunus Plants for Planting
Seeds for Sowing

Prepared for public consultation
by Plant Germplasm Imports
Animal and Plant Health Directorate

April 2023

Te Kāwanatanga o Aotearoa
New Zealand Government

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Contents

1 General information

1.1 Purpose

(1) This document explains the amendments to the plant germplasm import health standards below. We are proposing to remove requirements for testing by biological indexing[1] and remove some pests from the following standards:

a) *Actinidia Plants for Planting*

b) *Citrus Plants for Planting*

c) *Importation of Nursery Stock*

d) *Prunus Plants for Planting*

e) *Seeds for Sowing*

1.2 Who should read this?

(2) Read this if you have an interest in the commodities listed in table 1, or are:

a) a New Zealand importer of plants for planting or seeds for sowing,

b) an exporter, to or from New Zealand, of plants for planting or seeds for sowing,

c) a national plant protection organisation.

Table 1: Commodities affected by this proposal

Commodity	Genus or species
Plants for Planting (nursery stock)	*Actinidia*, *Citrus*, *Fragaria*, *Fortunella*, *Malus*, *Olea*, *Prunus*, *Rubus*, *Solanum tuberosum*, *Vaccinium*, *Vitis*
Seeds for Sowing	*Actinidia*, *Fragaria*, *Malus*, *Prunus*, *Pyrus*, *Ribes*, *Rubus*, *Vaccinium*, *Vitis*

1.3 How the amended standards will affect you

(3) Importers will have some benefits.

a) Your processes will not change. Post-entry quarantine will still be required, and the plants will still be tested for many pests. Plants that were previously tested onshore with biological indexing will now be tested with ELISA or PCR.

b) We are removing some pests for *Fragaria*, *Olea*, *Prunus*, *Rubus*, *Solanum tuberosum*, and *Vitis* plants for planting, so you will no longer need to pay for tests for those pests.

c) Removing indexing as a mandatory test will free up space in Level 3B post-entry quarantine. With more space available, you may be able to import more varieties because quarantine space will only be used for imported plants (not indicator plants for indexing).

(4) Nothing is changing for exporters who export plants to New Zealand or national plant protection organisations (NPPOs).

[1] Biological indexing is testing based on the ability of indicator plants to produce symptoms when inoculated with a pathogen using mechanical inoculation (herbaceous indexing) or grafting (graft indexing) and may be used to detect plant pathogens.

(5) Nothing is changing for MPI-approved offshore facilities. MPI-approved offshore facilities can continue using biological indexing.

(6) Nothing is changing for horticulturalists and New Zealand exporters. Your industry will continue to experience the same level of protection from biosecurity risks that it does now.

1.4 What is changing

(7) We propose removing biological indexing as a diagnostic tool from all the plant germplasm standards.

(8) Indexing will be:

a) removed as a complimentary test to ELISA or PCR for 78 pests (where existing standards require biological indexing to be done with ELISA or PCR testing),

b) replaced by testing using only ELISA or PCR for 44 pests (where existing standards require biological indexing as the only test method),

c) removed as a test for one *Fragaria* disease of unknown aetiology (which will be managed by inspecting plants for symptoms).

(9) We will also remove all guidance and sections about biological indexing requirements.

(10) For *Fragaria*, *Olea*, *Prunus*, *Rubus*, *Solanum tuberosum*, and *Vitis* plants for planting, we are removing 25 pests from the plants for planting standards. We no longer consider these pests biosecurity risks on this pathway, and we will no longer require plants to be tested for these pests.

1.5 Why have we done this work

(11) We propose removing biological indexing from the standards because newer ELISA and PCR tests are now able to sufficiently detect the pests listed in this proposal, removing the need for biological indexing. This will not change the level of biosecurity risk.

(12) In addition, removing biological indexing and using ELISA and PCR testing alone will make more Level 3B post-entry quarantine space available. Currently one third of Level 3B space is used for growing indicator plants for indexing.

1.6 What you can do

(13) If you are happy with the changes, you do not need to do anything. If you are interested in the details, read on.

(14) If you want to comment on the amended standards, we are accepting feedback until 5pm 12/05/2023. If your feedback arrives after the closing date, we will hold it on file and consider it the next time we review these standards. Email your feedback to PlantImports@mpi.govt.nz.

(15) We are particularly interested in feedback on these questions:

a) Are our proposals feasible?

b) Do you have knowledge or scientific evidence that we would need to consider when managing the risk of:

   i) the 25 pests being removed from the standards, or

   ii) the *Fragaria* disease of unknown aetiology with basic measures?

c) Do you foresee any consequences from removing biological indexing that we have not addressed in this proposal?

(16) We base our requirements on the best scientific information available to us at the time, but knowledge is always changing. If you know of more up-to-date scientific information that could change our conclusions, include that information in your feedback.

(17) This is a public consultation. We add all feedback we receive to a document (review of submissions) that includes our responses and details of any changes we make based on feedback. We then publish the review of submissions on our website. This means you can see what other people have said to us and find out what we have done about it. It also means your own feedback, along with your name and organisation, will be online and may be read by anyone. See the legal notice below.

1.7 Legal notice about your feedback and Official Information Act 1982

(18) Your submission is public information, and it is MPI policy to publish submissions and a review of these submissions on the MPI website. Submissions may also be the subject of requests for information under the Official Information Act 1982 (OIA). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as information being commercially sensitive or personal. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

2 Scope of this review

(19) This review only addresses the pests for which the standards require biological indexing, and all related biological indexing information in the standards. This review has not considered any other pests or requirements already set up in the standards.

(20) We have reconsidered how we manage risk from all pests currently managed by biological indexing.

(21) We have not reassessed the appropriate level of protection in the standards. We are still open to considering the validity of indexing as a diagnostic tool on a case-by-case basis, including from MPI-approved offshore facilities.

3 Proposed changes to risk management measures

(22) The appendix outlines all the pests for which the proposed risk management changes relate to. For 122 of 148 pests listed in the appendix, we have not reassessed the biosecurity risk. This is because we are proposing a change in specific measures that provides an equivalent level of protection on the import pathway. See the appendix for the amendment details for each pest.

(23) For the experimental pests on the pest list for *Solanum tuberosum*, we propose removing the 13 pests that have indexing listed against them. This is because they are experimental pests only and we do not have any information to suggest that they can naturally infect *Solanum tuberosum*. See the appendix for the amendment details for each pest.

(24) We reassessed the biosecurity risk of 13 pests in the *Importation of Nursery Stock* and *Prunus Plants for Planting* standards. This is because the risk of those pests has changed since the measures were originally put in the standards. Table 2 on the next page summarises the characteristics of those 13 pests and the proposed changes to how we manage risk.

Table 2: Pests we have reassessed

Commodity	Pest	Proposed risk management and impact
Fragaria	*Strawberry feather leaf disease*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available does not suggest this pest poses a significant biosecurity risk on the pathway. • The impact from this disease of unknown aetiology is considered to be negligible because there is little information about the disease, and none that helps confirm aetiology. • There has been no original research published for this disease since 1970, suggesting this pest has negligible relevance today.
Fragaria	*Strawberry latent C virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available does not suggest this pest poses a significant biosecurity risk on the pathway. • The impact of this virus is considered negligible because very little is known about the impacts of this virus in horticulture since the 1990s. There is no new information published since the 1990s, suggesting this pest has negligible relevance today. • The European Food Safety Authority has concluded that this virus does not have the potential to be a quarantine pest or a regulated non-quarantine pest, because it does not fulfil the ISPM 11 and 21 criteria for a clear identity (EFSA 2014).
Fragaria	*Strawberry lethal decline disease*	**Manage by basic measures only** While the aetiology of strawberry lethal decline is not confirmed, it is likely a phytoplasma (CABI 2019). If it is a phytoplasma, generic PCR testing completed for phytoplasmas on *Fragaria* is likely sufficient to detect the pathogen (EPPO 2018). However, if the pest is not a phytoplasma, we expect growing season inspection is proportionate with the risk, because the impact of this disease on fruit production is considered minor (CABI 2019) and, while information on symptom expression is sparse, the name suggests symptoms would be visible.
Olea	*Olive vein yellow virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • The likelihood of this virus entering New Zealand on *Olea* plants is negligible because this virus has only been reported once in 1995. • This virus has negligible relevance today because Faggioli and Barba (1995) isolated the virus from a single symptomatic tree and were unable to identify other symptomatic trees or isolate the virus from any asymptomatic trees.
Prunus	*Cherry Hungarian rasp leaf virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • The impact of this virus is considered negligible because there are a couple of reports about pest symptoms (Nemeth 1986; Ogawa et al. 1995), but the reports have very little information on impacts. • This virus has taxonomic uncertainty, as Nemeth (1986) indicated that it is probably a strain of prune dwarf virus, which is non-regulated in New Zealand. • There is no genome sequence for this pest making identification and verification of tests difficult.

Commodity	Pest	Proposed risk management and impact
Prunus	*Peach enation virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • Peach enation virus is not a valid name for a virus species (ICTV 2023). Peach enation virus is likely a strain of Prunus necrotic ringspot virus (Rankovic 1970). • EFSA considers this virus to be an undescribed *Nepovirus* based on later description by Kishi et al. (1973) (European Panel on Plant Health et al. 2019). However, Kishi et al. (1973) do not provide information other than morphological description, which supports the hypothesis that PEV is a strain or synonym of Prunus necrotic ringspot virus (which is already tested for by ELISA or PCR) in the genus *Ilarvirus*.
Rubus	*Black raspberry necrosis virus*	**Remove from the standard** This pest should not be managed on the nursery stock standard because this pest is present in New Zealand (Veerakone et al. 2015) and has been deregulated.
Rubus	*Bramble yellow mosaic virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. The likelihood of entry for this virus is negligible because: • it has only been reported once from *Rubus rigidus* in South Africa in the 1970s (Engelbrecht 1976), suggesting it has negligible relevance today, and; • it is only known to infect *Rubus rigidus*, which is not eligible for import into New Zealand.
Rubus	*Raspberry yellow spot disease*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • No causal organism has been identified for this disease, and because a type isolate does not exist it is impossible to identify and characterise the organism. • There is no evidence of an association of this disease, its impacts or association with the commodity other than mentions such as those in Martin et al. (2013) which do not provide any evidence or reference to original research or reports.
Rubus	*Rubus Chinese seed borne virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • The impact of this virus is considered negligible because there is no information on impact for this virus. • The likelihood of entry into New Zealand is considered negligible because this virus has only been isolated once from a single, symptomless plant of an unknown *Rubus* species in quarantine in the UK (Barbara et al. 1985). The plant died before it could be propagated, and the virus was not detected in any other material. • No genome sequence is available.
Rubus	*Thimbleberry ringspot virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • The impact of this virus is considered negligible because there is no information on impact for this virus. • The likelihood of entry into New Zealand is considered negligible because this virus has only been observed in *Rubus parviflorus* at a single site in Canada in 1958 (Martin et al. 2013).

Commodity	Pest	Proposed risk management and impact
Rubus	*Wineberry latent virus*	**Remove from the standard** This pest should not be regulated on this pathway because the evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • The impact of this pest is negligible because the natural impacts are not known. • The likelihood of entry into New Zealand is negligible because this virus has only been identified once in a single symptomless plant of *Rubus phoenicolasius* growing in an experimental planting in Scotland in 1977 (DVP 1985; Martin et al. 2013).
Vitis	*LN33 stem grooving*	**Remove from the standard** This pest should not be regulated on this pathway because it is insufficiently defined. The evidence available (summarised below) does not suggest this pest poses a significant biosecurity risk on the pathway. • The impacts of the disease are typically reported to be low or of lesser significance or uncertain (Lázár and Bisztray 2011). • The causative agent has not been isolated or identified. • The disease is typically only reported as part of grapevine rugose wood or rugose wood complex (Moskovitz et al. 2008). Therefore, the disease is likely caused by a species in the genus *Vitivirus* (family Betaflexiviridae) (Moradi et al. 2017), such as grapevine rupestris stem pitting-associated virus (GRSPaV) and grapevine virus A and grapevine virus B (GVA and GVB) (Fajardo et al. 2020), which are present in New Zealand (Veerakone et al. 2015), and grapevine virus D, which is already regulated on the pathway and managed by a PCR test.

4 Rationale for removing biological indexing

(25) We no longer need to rely on biological indexing as a diagnostic tool onshore in post-entry quarantine. Since MPI started using biological indexing, scientists have developed diagnostic tests (ELISA and PCR) that sufficiently detect the pests listed in this proposal.

a) Previously, some pests were managed by biological indexing and "ELISA or PCR". This was because the ELISA and PCR tests that MPI had did not provide sufficient coverage for some pests. However, MPI's Plant Health and Environment Laboratory now has ELISA and PCR tests that provide sufficient coverage to manage the pests in this proposal without using biological indexing.

5 Feasibility of the proposed changes to the standard

(26) We expect the proposed measures to be practical and feasible for importers because we are only changing what happens onshore.

a) When samples are taken for testing, this will only happen for ELISA and PCR. The sampling for indexing will no longer need to happen, and the new ELISA and PCR test samples will happen at the same time as existing sampling.

(27) The proposed measures will also be practical and feasible for MPI's Plant Health and Environment Laboratory. This proposal can be implemented immediately because the laboratory has capacity and capability to conduct all of the required ELISA and PCR tests[2].

(28) The change in cost is expected to be feasible. In general, the proposed changes will be cheaper because under the current requirements PCR testing can be bulked while biological indexing cannot. However, cost feasibility now is not truly representative because diagnostic testing costs will be part of an upcoming consultation from MPI about post-entry quarantine.

(29) MPI-approved facilities that use biological indexing as part of their risk management system currently will still be recognised as managing biosecurity risk to our appropriate level of protection (which has not changed as part of this amendment).

a) However, any agreements where indexing would happen onshore will be replaced by ELISA or PCR if not already conducted offshore.

[2] Five tests are yet to be implemented. The laboratory is currently working on PCR tests for three pests of *Olea* and two pests of *Solanum tuberosum*. The PCR tests are expected to be ready to use before they are needed in post-entry quarantine.

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7 Appendix - proposed changes to risk management measures

7.1 Proposed changes to the standard *Actinidia Plants for Planting*

Commodity	Pest	Current requirement	Proposed requirement
Actinidia	*Pelargonium zonate spot virus*	Herbaceous indexing and PCR	PCR

7.2 Proposed changes to the standard *Citrus Plants for Planting*

Commodity	Pest	Current requirement	Proposed requirement
Citrus, *Fortunella*	*Citrus bark cracking viroid* (*Citrus viroid IV*)	Biological indexing and PCR	PCR
Citrus, *Fortunella*	*Citrus bent leaf viroid* (*Citrus viroid I*)	Biological indexing and PCR	PCR
Citrus, *Fortunella*	*Citrus chlorotic dwarf-associated virus*	Herbaceous indexing or PCR	PCR
Citrus, *Fortunella*	*Citrus psorosis virus* [strains not in New Zealand]	Herbaceous indexing or PCR	PCR
Citrus, *Fortunella*	*Citrus sudden death-associated virus*	Herbaceous indexing or PCR	PCR
Citrus, *Fortunella*	*Citrus viroid V*	Biological indexing and PCR	PCR
Citrus, *Fortunella*	*Citrus viroid VI*	Biological indexing and PCR	PCR
Citrus, *Fortunella*	*Hop stunt viroid* (*Citrus viroid II*)	Biological indexing and PCR	PCR
Citrus, *Fortunella*	*Satsuma dwarf virus*	Herbaceous indexing or PCR	PCR

7.3 Proposed changes to the standard *Importation of Nursery Stock*

Commodity	Pest	Current requirement	Proposed requirement
Fragaria	*Fragaria chiloensis latent virus* [strains not in New Zealand]	Herbaceous indexing	PCR
Fragaria	*Raspberry ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Fragaria	*Strawberry chlorotic fleck virus*	Graft indexing	PCR
Fragaria	*Strawberry feather leaf disease*	Graft indexing	Remove from the standard
Fragaria	*Strawberry latent C virus*	Graft indexing	Remove from the standard
Fragaria	*Strawberry latent ringspot virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Fragaria	*Strawberry lethal decline disease*	Graft indexing	Basic measures only
Fragaria	*Strawberry mild yellow edge-associated virus*	Graft indexing	PCR
Fragaria	*Strawberry pallidosis associated virus*	Graft indexing	PCR
Fragaria	*Strawberry pseudo mild yellow edge virus*	Graft indexing	PCR
Fragaria	*Strawberry vein banding virus*	Graft indexing and PCR	PCR
Fragaria	*Tobacco necrosis virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Fragaria	*Tobacco streak virus* [strains not in New Zealand]	Herbaceous indexing	PCR

Commodity	Pest	Current requirement	Proposed requirement
Fragaria	*Tomato bushy stunt virus*	Herbaceous indexing	PCR
Fragaria	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Malus	*Cherry rasp leaf virus*	Herbaceous indexing and PCR	PCR
Malus	*Tomato bushy stunt virus*	Herbaceous indexing	PCR
Malus	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Olea	*Cherry leaf roll virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Olea	*Olive latent 1 virus*	Herbaceous indexing	PCR
Olea	*Olive latent 2 virus*	Herbaceous indexing	PCR
Olea	*Olive latent ringspot virus*	Herbaceous indexing	PCR
Olea	*Olive leaf yellowing-associated virus*	Woody indexing	PCR
Olea	*Olive vein yellow virus*	Herbaceous indexing	Remove from the standard
Olea	*Phytoplasmas*	Woody indexing and PCR	PCR
Olea	*Strawberry latent ringspot virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Rubus	*Black raspberry necrosis virus* [strains not in New Zealand]	Country freedom or graft indexing and PCR	Remove from the standard
Rubus	*Blackberry calico virus*	Country freedom or herbaceous indexing	Country freedom or PCR
Rubus	*Blackberry chlorotic ringspot virus*	Country freedom or herbaceous indexing and PCR	Country freedom or PCR
Rubus	*Bramble yellow mosaic virus*	Country freedom or herbaceous indexing	Remove from the standard
Rubus	*Cherry rasp leaf virus*	Country freedom or herbaceous indexing and ELISA or PCR	Country freedom or ELISA or PCR
Rubus	*Raspberry leaf curl virus*	Country freedom or graft indexing	Country freedom or PCR
Rubus	*Raspberry ringspot virus*	Country freedom or herbaceous indexing and ELISA or PCR	Country freedom or ELISA or PCR
Rubus	*Raspberry yellow spot disease*	Country freedom or graft indexing	Remove from the standard
Rubus	*Rubus Chinese seed borne virus*	Country freedom or Herbaceous indexing	Remove from the standard
Rubus	*Rubus chlorotic mottle virus*	Country freedom or herbaceous indexing	Country freedom or PCR
Rubus	*Rubus yellow net virus*	Country freedom or graft indexing and PCR	Country freedom or PCR
Rubus	*Thimbleberry ringspot virus*	Country freedom or graft indexing	Remove from the standard
Rubus	*Tobacco necrosis virus* [strains not in New Zealand]	Country freedom or herbaceous indexing	Country freedom or PCR
Rubus	*Tomato ringspot virus*	Country freedom or herbaceous indexing and ELISA or PCR	Country freedom or ELISA or PCR
Rubus	*Wineberry latent virus*	Country freedom or herbaceous indexing	Remove from the standard
Solanum tuberosum	*Andean potato latent tymovirus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Andean potato mottle comovirus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Arracacha A nepovirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Arracacha B nepovirus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Asparagus 3 potexvirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Cassava green mottle nepovirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Cherry leaf roll nepovirus*	Herbaceous indexing	Remove from the standard

Commodity	Pest	Current requirement	Proposed requirement
Solanum tuberosum	*Eggplant mosaic tymovirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Eggplant mottled dwarf nucleorhabdovirus*	Herbaceous indexing	PCR
Solanum tuberosum	*Melilotus mosaic potyvirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Papaya mosaic potexvirus*	Herbaceous indexing and PCR	PCR
Solanum tuberosum	*Pelargonium line pattern carmovirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Pepino mosaic virus*	Herbaceous indexing and PCR	PCR
Solanum tuberosum	*Pepper veinal mottle potyvirus*	Herbaceous indexing and ELISA or PCR	Remove from the standard
Solanum tuberosum	*Potato black ringspot nepovirus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Potato mop-top furovirus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Potato T trichovirus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Potato virus U nepovirus*	Herbaceous indexing	PCR
Solanum tuberosum	*Potato virus Y potyvirus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Potato yellow dwarf nucleorhabdovirus*	Herbaceous indexing	PCR
Solanum tuberosum	*Potato yellow mosaic begomovirus*	Herbaceous indexing	PCR
Solanum tuberosum	*Sowbane mosaic sobemovirus*	Herbaceous indexing	PCR
Solanum tuberosum	*Tobacco etch potyvirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Tobacco necrosis necrovirus* [strains not in New Zealand]	Herbaceous indexing	PCR
Solanum tuberosum	*Tobacco rattle tobravirus* [strains not in New Zealand]	Herbaceous indexing and PCR	PCR
Solanum tuberosum	*Tobacco streak ilarvirus* [strains not in New Zealand]	Herbaceous indexing	PCR
Solanum tuberosum	*Tobacco stunt varicovirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Tomato busy stunt tombusvirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Tomato chlorotic dwarf viroid*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Tomato leaf curl begomovirus – New Delhi*	Herbaceous indexing	PCR
Solanum tuberosum	*Tomato top necrosis nepovirus*	Herbaceous indexing	Remove from the standard
Solanum tuberosum	*Tomato yellow mosaic begomovirus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Solanum tuberosum	*Wild potato mosaic potyvirus*	Herbaceous indexing	PCR
Vaccinium	*Blueberry leaf mottle virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Blueberry scorch virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Blueberry shock virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Peach rosette mosaic virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR

Commodity	Pest	Current requirement	Proposed requirement
Vaccinium	*Tobacco streak virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium macrocarpon	*Blueberry scorch virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium macrocarpon	*Tobacco streak virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*Cherry leaf roll virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*Grapevine Bulgarian latent virus*	Herbaceous indexing	PCR
Vitis	*Grapevine chrome mosaic virus*	Herbaceous indexing	PCR
Vitis	*Grapevine deformation virus*	Herbaceous indexing	PCR
Vitis	*Grapevine fanleaf virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*LN33 stem grooving*	Woody indexing or green indexing	Remove from the standard
Vitis	*Peach rosette mosaic virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*Raspberry ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*Sowbane mosaic virus*	Herbaceous indexing	PCR
Vitis	*Strawberry latent ringspot virus* [strains not in New Zealand]	Herbaceous indexing and PCR	PCR
Vitis	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR

7.4 Proposed changes to the standard *Prunus Plants for Planting*

Commodity	Pest	Current requirement	Proposed requirement
Prunus	*American plum line pattern virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Apple stem grooving virus* [Prunus-infecting strain]	Herbaceous indexing	PCR
Prunus	*Apricot latent virus*	Herbaceous indexing	PCR
Prunus	*Carnation Italian ringspot virus*	Herbaceous indexing	PCR
Prunus	*Cherry Hungarian rasp leaf virus*	Herbaceous indexing	Remove from the standard
Prunus	*Cherry leaf roll virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Cherry mottle leaf virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Cherry rasp leaf virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Cherry twisted leaf associated virus*	Herbaceous indexing	PCR
Prunus	*Myrobalan latent ringspot virus*	Herbaceous indexing	ELISA or PCR
Prunus	*Peach enation virus*	Herbaceous indexing	Remove from the standard
Prunus	*Peach mosaic virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Peach rosette mosaic virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Plum pox virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Raspberry ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Sowbane mosaic virus*	Herbaceous indexing	PCR
Prunus	*Tomato bushy stunt virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR

7.5 Proposed changes to the standard *Seeds for Sowing*

Commodity	Pest	Current requirement	Proposed requirement
Actinidia	*Apple stem grooving virus* [Actinidia infecting strain]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Fragaria	*Fragaria chiloensis latent virus*	Herbaceous indexing	PCR
Fragaria	*Raspberry ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Fragaria	*Strawberry latent ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Fragaria	*Tobacco streak virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Fragaria	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Malus	*Apple scar skin viroid*	Woody indexing and PCR	PCR
Malus	*Tomato bushy stunt virus*	Herbaceous indexing and PCR	PCR
Prunus	*Cherry leaf roll virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Cherry rasp leaf virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Plum pox virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Prunus necrotic ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Prunus	*Tomato bushy stunt virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Pyrus	*Tomato bushy stunt virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Ribes	*Raspberry ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Ribes	*Tobacco rattle virus* [strains not in New Zealand]	Herbaceous indexing	PCR
Rubus	*Raspberry ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Rubus	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Blueberry leaf mottle virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Blueberry shock virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Peach rosette mosaic virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vaccinium	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*Grapevine Bulgarian latent virus*	Herbaceous indexing	PCR
Vitis	*Grapevine chrome mosaic virus*	Herbaceous indexing	PCR
Vitis	*Grapevine fanleaf virus* [strains not in New Zealand]	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*Peach rosette mosaic virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR
Vitis	*Tomato ringspot virus*	Herbaceous indexing and ELISA or PCR	ELISA or PCR