Ministry for Primary Industries
Manatū Ahu Matua

Import Health Standard

Seeds for Sowing

155.02.05

26 January 2017

Issued under the Biosecurity Act 1993

New Zealand Government

TITLE

Import Health Standard: Seeds for Sowing

COMMENCEMENT

This Import Health Standard comes into force on the date of issue.

REVOCATION

This import health standard revokes and replaces Import Health Standard 155.02.05: Seeds for Sowing, dated 25th day of November 2016.

ISSUING AUTHORITY

This Import Health Standard is issued under section 24A of the Biosecurity Act 1993

Dated at Wellington this 26th day of January 2017

Stephen Butcher
Manager, Import & Export (Plants) group
Ministry for Primary Industries
(acting under delegated authority of the Director-General)

Contact for further information
Ministry for Primary Industries (MPI)
Regulation & Assurance Branch
Plant Imports
PO Box 2526
Wellington 6140
Email: plantimports@mpi.govt.nz

Contents

Introduction

This introduction is not part of the import health standard (IHS), but is intended to indicate its general effect.

Purpose

This IHS specifies the requirements for the importation of seeds intended for sowing in New Zealand.

Background

The New Zealand Biosecurity Act 1993 provides the legal basis for excluding, eradicating and effectively managing pests and unwanted organisms.

Each IHS issued under the Act specifies requirements to be met for the effective management of risks associated with imported goods that may pose a biosecurity threat to New Zealand. This IHS includes requirements that must be met in the exporting country, during transit and importation, and post clearance if specified before biosecurity clearance is given.

Additional information to the requirements is included in guidance text boxes.

Who should read this import health standard?

This IHS applies to importers of seed for sowing into New Zealand from all countries and outlines the import requirements that must be met.

Importers of seed for laboratory testing, analysis or research (where biosecurity clearance is not required) should refer to IHS MPI.STD.PLANTMATERIAL: *Dried & Preserved Plant Material, & Fresh Plant Material for Testing, Analysis or Research.*

Products containing viable seed that also contain organic growing media must also meet the requirements of the relevant IHS: MPI.STD.FERTGRO: *Fertilisers and Growing Media of Plant Origin*.

Why is this important?

It is the importers responsibility to ensure the requirements of this IHS are met. Consignments that do not comply with the requirements of this IHS may not be cleared for entry into New Zealand and /or further information may be sought from importers.

Importers are liable for all associated expenses.

Equivalence

MPI may consider a pre-export application for an equivalent phytosanitary measure to be approved, different from that provided for in this IHS, if in the opinion of the Director-General, it is considered to be equivalent to the current measures taken for managing the risks associated with the importation of those goods.

Equivalence will be considered with reference to the International Standard for Phytosanitary Measures (ISPM), Publication No. 24: *Guidelines for the determination and recognition of equivalence of phytosanitary measures (2011).*

Document history

Refer to Appendix 2 for the amendment record for this IHS.

Other Information

This is not an exhaustive list of compliance requirements and it is the importer's responsibility to be familiar with and comply with all New Zealand laws.

Listed below are other New Zealand legislative requirements which may also apply to seeds for sowing.

Importers of *Cannabis sativa* (low THC hemp seed), *Lophophora williamsii and Papaver somniferum* must contact the Ministry of Health prior to importation for advice on licensing:

Ministry of Health
PO Box 5013
Wellington
Attention: Advisor, Controlled Drug Licensing
Telephone: 04 496 2018

Part 1: General Requirements

1.1 Application

(1) This import health standard (IHS) applies to all viable seed, and products containing viable seed, from species that are listed in the MPI Plant Biosecurity Index other than seeds listed as "requires assessment" or "prohibited entry".

(2) This IHS applies to seed for sowing from any country, unless otherwise specified in Part 2: Specific Requirements.

Guidance

- A step-by-step guide to importing seeds for sowing can be found on the MPI website.

1.2 Incorporation of material by reference

(1) The following documents are incorporated by reference under section 142M of the Act;

a) International Standards for Phytosanitary Measures (ISPM);
b) MPI Biosecurity Organisms Register for Imported Commodities (BORIC);
c) MPI Standard MPI-STD-ABRT Approved Biosecurity Treatments;
d) MPI Schedule of Regulated (Quarantine) Weed Seeds;
e) MPI Plants Biosecurity Index (PBI);
f) MPI Protocol for Testing Seed Imports for the Presence of Genetically Modified Material;
g) MPI List of Approved Pest Free Areas for *Fusarium circinatum;*
h) International Rules for Seed Testing (ISTA)

(2) Under section 142O(3) of the Act it is declared that section 142O(1) does not apply, that is, a notice under section 142O(2) of the Act is not required to be published before material that amends or replaces any material incorporated by reference has legal effect as part of those documents.

1.3 Definitions

(1) Definitions that apply to this IHS are listed in Appendix 1.

1.4 Requirements for seed for sowing

(1) Seed for sowing must meet the following requirements:

a) all seed for sowing must be clearly identified with the scientific name (e.g. genus and species);
b) all packaging associated with seed for sowing must be clean, free from soil and other contaminants;
c) all seed for sowing from fleshy fruits must have all traces of flesh removed, except:

i) Orchidaceae seed (which may be imported in dry/green pods); and
ii) any other seed species specified in Part 2: Specific Requirements.

(2) Seed for sowing must not contain:

a) any unidentified seed;
b) any regulated pest (s);
c) any soil particles greater than 0.1% by weight ; and

d) quarantine weed seed contamination must not exceed the MPL of 0.01%. To achieve 95% confidence that the MPL (of 0.01% probability) will not be exceeded, no quarantine weeds seeds are permitted (i.e acceptance = No. = 0) in a sample(s) drawn and analysed by a MPI – approved method (e.g. ISTA sampling methodology as approved by MPI).

(3) The Maximum Pest Limit (MPL) for visually detectable regulated pests on seed for sowing is, at a 95% confidence level, not more that 0.5% of the units in the consignment are infested:

a) this equates to an acceptable level of zero units infested by regulated pests in a sample size of a minimum of 5kg.

(4) For seed for sowing listed in the MPI Plant Biosecurity Index (PBI) as " basic " under Import Specification Seed for Sowing the importer must elect one of the following two options:

Option 1: Seed with a phytosanitary certificate:

a) seed for sowing must be accompanied by a phytosanitary certificate that meets the requirements set under Part 1.5.2 of this IHS; or

Option 2: Seed without a phytosanitary certificate:

b) on arrival in New Zealand, the consignment/lots must be inspected at the importers expense.

(5) Seed for sowing listed in the PBI under Import Specification Seed for Sowing as "see 155.02.05 under… ") must meet all the requirements of Part 1: General Requirements and any specific requirements in Part 2: Specific Requirements.

(6) Any phytosanitary treatment, as required in Part 2: Specific Requirements, may be completed in New Zealand on arrival, if available, unless stated otherwise.

1.5 Documentation

1.5.1 Permit to Import

(1) A permit to import is only required if specified in Part 2: Specific Requirements.

1.5.2 Phytosanitary certificate

(1) A phytosanitary certificate is required for all seed imported under Part 2: Specific Requirements and for all "basic" seed imported under Option 1 in 1.4(4).

(2) The phytosanitary certificate must be issued by the exporting country National Plant Protection Organisation (NPPO) in accordance with ISPM 12: *Guidelines for phytosanitary certificates*.

(3) The phytosanitary certificate must include any additional declaration(s) required under Part 2: Specific Requirements.

(4) The phytosanitary certificate must certify that the seed has been inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests and conforms to New Zealand's import requirements.

(5) If visually detectable pests are found which are not listed in this IHS and BORIC, the certifying NPPO must establish their regulatory status prior to issuing the certificate.

(6) If the exporting NPPO is satisfied that the pre-shipment inspection activites have been carried out effectively, the following certification statement must be provided:

– "This is to certify that the seeds described herein have been inspected and/or tested according to appropriate official procedures and considered to be free from the specified quarantine pests and to conform with current phytosanitary requirements".

Guidance

- The phytosanitary certificate should contain sufficient detail to enable identification of the consignment and its component parts. Information should include:
  - lot number(s);
  - number and description of packages;
  - country/place of origin of the seed; and
  - variety name(s).
- If a visually detectable pest is not listed in this register, the certifying NPPO may contact MPI to establish the regulatory status of the pest.
- Information about the regulated pests for New Zealand is available in BORIC.

1.5.3 Seed analysis certificate (SAC)

(1) For all viable seed and products containing viable seed of species listed in the MPI PBI the importer must elect one of the following two options:

Option 1: Seed accompanied by a SAC:

a) The seed is to be accompanied by a SAC (original or PDF copy), documenting the status of the seed with respect to quarantine impurities, which must:

i) be issued by an ISTA or AOSA accredited seed testing station, or an accredited laboratory that follows the ISTA or AOSA methodology;
ii) state the actual weight of the sample examined;
iii) be endorsed that the sample has been officially drawn from an identified seed lot;
iv) be endorsed that the minimum size of the sample examined was as prescribed for the determination of other species by number in ISTA (as published in Seed Science and Technology 24, 1996);
v) state the botanical name of each identified species of seed or nematode gall found in the sample (any unidentified genera or species are to be recorded as such);
vi) give the percentage of soil particles present in the sample;
vii) certify that none of the regulated (quarantine weed seeds) listed in the Schedule of Regulated (Quarantine) Weed Seeds were present in the sample.

Option 2: Seed not accompanied by a SAC:

b) On arrival in New Zealand, samples of the seed must be inspected by MPI inspectors or, where appropriate, sent to a MPI-approved seed testing laboratory for analysis for weed seeds and other contaminants at the importer's expense.

Guidance

- Consignments of seeds not accompanied by a SAC may still enter New Zealand and will be sampled and analysed for regulated contaminants at the importer's expense.

1.5.4 Genetically modified testing certificate

(1) Genetically modified (GM) testing certificates are required for all consignments of *Brassica napus var. oleifera*, *Glycine max, Gossypium hirsutum, Medicago sativa Zea mays var. indentata* and *Zea mays var. saccharata,* unless stated in the *Protocol for Testing Seed Imports for the Presence of Genetically Modified Seeds* (the Protocol).

(2) A GM testing certificate is an option for consignments of *Cucurbita pepo* and *Linum usitatissimum*.

(3) GM testing certificates must:

a) state the sampling method used for each seed line (e.g. automatic in-line machine);

b) contain the same lot number or unique identifier as stated on all the other import documentation for consignments arriving in New Zealand;

(4) Testing must be conducted by facilities approved by MPI and a copy of the completed test certificate must accompany the consignment imported into New Zealand.

(5) Importers must provide all test records when required by an MPI inspector.

Guidance

- Complete guidelines for sampling and testing for the presence of GM seeds are specified in the Protocol. The Protocol and a list of MPI approved facilities are located on the MPI website.
- MPI will examine the test certificates on arrival to confirm that they reconcile with the actual seed for sowing.
- If consignments arrive at the border without having been tested for the presence of GM seeds, MPI will offer the importer the conditions of re-shipment, destruction, or having the consignment sampled and tested according to the Protocol at the importer's expense.
- Any consignment that is found to contain unapproved GM seeds will not be permitted to enter New Zealand and will be re-shipped or destroyed, unless the importer obtains an approval to grow the GM variety from the Environmental Protection Authority (EPA).
- All test results must be available to MPI on request.

1.6 Post- entry quarantine

(1) Seed for sowing must be imported into a post entry quarantine (PEQ) facility if required by Part 2: Specific Requirements.

(2) The PEQ facility must be approved to the MPI operational standard PBC-NZ-TRA-PQCON.

(3) Seed for sowing must be actively growing during the quarantine period, and must be tested, treated or inspected for regulated pests at the importer's expense.

(4) Testing must be undertaken by a diagnostic laboratory approved to the MPI diagnostic standard 155.04.03.

1.6.1 Testing

(1) The unit for testing is defined as an individual seedling and each seedling must be labelled individually and tested separately, unless one of the following methods has been used:

a) Polymerase chain reaction:

i) samples taken from up to five seedlings of the same species growing in PEQ can be combined to form a single composite sample for pre-determined testing by polymerase chain reaction (PCR).

b) Enzyme-linked immunosorbent assay:

i) for viruses that are not pollen transmitted, samples taken from up to five seedlings can be combined to form a single composite sample for enzyme-linked immunosorbent assay (ELISA) testing;

ii) the phytosanitary certificate must be endorsed with an additional declaration (AD) stating that the seeds have been derived from the same parent plant.

c) Graft (woody) indexing:

i) where prior permission is received from MPI, samples taken from up to five seedlings can be combined to form a single composite sample for testing by graft indexing;

ii) the phytosanitary certificate must be endorsed with an AD stating that the seeds have been derived from the same parent plant.

1.7 Seed for sowing of New Zealand origin

(1) Seed for sowing exported from New Zealand, given clearance into the importing country or rejected prior to clearance, may be returned to New Zealand under one of the following circumstances:

1.7.1 Seed for sowing unopened offshore:

(1) Product in its original packaging is permiited entry into New Zealand, with a re-export phytosanitary certificate issued by the NPPO of the overseas country.

1.7.2 Seed for sowing opened offshore:

(1) Seed for sowing inspected offshore, and rejected for any reason, is permitted entry into New Zealand.

(2) If seed is grown in New Zealand, sent to another country, packaged in that same country and returned to New Zealand, the importer must provide the following:

a) accompanied with the original or a copy of the New Zealand issued phytosanitary certificate,
b) an export bill of lading; and
c) a declaration from the overseas packaging company manager; stating that:

i) the re exported seed is the same seed as covered by the attached phytosanitary certificate and bill of lading; and
ii) the quality system used by the company ensures that the seed is not contaminated by any other seed lots, residues from grading or packaging machines, or storage pests.

Guidance

- Inspection is required by an MPI inspector to confirm the packaging and labelling is consistent with the documentation provided.

1.8 Biosecurity clearance

(1) A biosecurity clearance, under section 26 of the Act, may be given when seed for sowing meets the requirements of this IHS.

Guidance

- On arrival in New Zealand, each line of seed will undergo inspection to verify that the seed and associated documentation is compliant with the requirements of this IHS. A 5 kilogram sample will be inspected from each line (or the whole line if less than 5kg). For hermetically sealed and pelleted seed, a random sample will be inspected from each line.

1.9 Seed for sowing imported as laboratory specimens

1.9.1 Species of Seed listed as 'Basic' in the Plants Biosecurity Index

(1) A permit to import is not required for seed intended for laboratory testing, analysis or research that is listed with a Seed for Sowing import specification of 'Basic' in the Plants Biosecurity Index.

(2) All seed must be clearly identified with its scientific name (genus and species) and should be accompanied by a statement stating that 'the seed is being imported for research purposes'. Packaging associated with seed must be clean and free from soil and other contaminants.

1.9.2 All Other Species of Seed

(1) Species of seed for sowing listed in the Plants Biosecurity Index as "see 155.02.05 under ……" that do not meet the requirements of the specific schedule within this IHS, may be imported as laboratory specimens for research purposes on a case by case basis.

(2) A request to import must be submitted in the form of a permit to import application. Information must be supplied by the importer to identify how the seed for sowing will be maintained in an MPI-approved transitional or containment facility (which will be identified on the import permit).

(3) Seed for sowing imported as laboratory specimens, and any material derived from the imported seed will not be eligible for biosecurity clearance.

(4) Any biosecurity requirements will be identified on the import permit.

1.9.3 Genetically Modified Seeds

(1) All Genetically Modified seeds listed under the PBI as "Basic" or as "see 155.02.05 under ……" imported as laboratory specimens can only be imported into New Zealand with an approval under the Hazardous Substances and New Organisms (HSNO) Act 1996 from the Environmental Protection Authority (EPA) and a permit for import issued by MPI.

Part 2: Specific Requirements

(1) This part sets out the specific phytosanitary requirements that must be met in addition to Part 1: *General Requirements*, for the following seeds:

Abies
Acer
Acrocomia
Actinidia
Agropyron
Agrostis
Arabidopsis thaliana
Avena spp.
Beta
Brassica napus
Camellia sinensis
Camissonia
Cannabis sativa
Capsicum
Carpinus
Carthamus tinctorius
Carya
Castanea
Cicer
Citrus
Cocos
Coffea
Coriandrum
Corylus
Corypha
Cucurbitaceae
Cuminum
Desmodium
Echinochloa
Elaeis
Eriobotrya
Fagus
Fragaria
Glycine
Gossypium
Helianthus
Hordeum
Humulus
Juglans
Lablab
Lavandula
Lens
Linum usitatissimum
Lithocarpus densiflorus
Livistona
Lophoraphora williamsi
Lotus
Macadamia
Malus
Mangifera
Medicago
Nicotiana tabacum
Oxyria
Panicum
Papaver somniferum
Persea
Phaseolus
Phoenix
Pinus
Pisum
Populus
Prunus
Pseudotsuga menziesii
Psophocarpus
Pyrus
Quercus
Ribes
Rubus
Sesamum
Solanum
Solanum lycopersicum
Solanum tuberosum
Sorghum
Stenotaphrum
Trigonella foenum-graecum
Triticum
Ulmus
Vaccinium
Vicia
Vigna
Vitis
Zea mays

2.1 Abies

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed for Sowing as "see 155.02.05 under *Abies*"

Countries: All

Quarantine pests: *Verticillium albo-atrum* [strain]

Import Permit: Not Required

2.1.1 Phytosanitary certificate

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.1.2 Approved treatment

(1) The *Abies* seeds must be treated with one of the following fungicides:

i) Captan at 2g a.i. per kg seed;
ii) Thiram at 2g a.i. per kg seed.

2.2 Acer

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed for Sowing as "see 155.02.05 under *Acer*"

Countries: All

Quarantine pests: None

Import permit: Required

2.2.1 Phytosanitary certificate

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.2.2 Approved treatment

(1) The *Acer* seeds must be treated with one of the following fungicide:

i) Captan at 2g a.i. per kg seed;
ii) Thiram at 2g a.i. per kg seed.

2.3 Acrocomia

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed for Sowing as "see 155.02.05 under *Acrocomia*"

Countries: All countries except Guam, the Philippines and the Solomon Islands

Quarantine pests: *Coconut cadang-cadang viroid*

Import permit: Not Required

Guidance
- Seed covered in a fleshy pericarp will not be permitted entry into New Zealand.

2.3.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *Acrocomia* seeds have been produced in an approved country and have not been produced in Guam, the Philippines or the Solomon Islands".

AND

b) "The *Acrocomia* seeds have been sourced from a 'pest free area' free from *Coconut cadang-cadang viroid"*.

2.4 Actinidia

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed for Sowing as "see 155.02.05 under *Actinidia*."

Countries: All

Quarantine pests: *Apple stem grooving virus* [*Actinidia* infecting strain]

Import permit: Required

PEQ: level 3

Minimum period: six months

2.4.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.4.2 Testing requirements

Organism	MPI acceptable detection methods (listed below)
Apple stem grooving virus [Actinida infecting strain]*	ELISA (Bioreba or Loewa) or PCR (Clover et al., 2003) and herbaceous indicators Cq, Nb, Ng, No and Pv.

(1) Indicator hosts: *Chenopodium quinoa* (Cq), and *Nicotiana benthamiana* (Nb), *N. occidentalis* cv. 37B (No), *N. glutinosa* (Ng) and *Phaseolus vulgaris* cv. Prince (Pv). At least two plants of each indicator species must be used in mechanical inoculation tests.

(2) Indicator plants must be grown under appropriate temperatures and must be shaded for 12-24 hrs prior to inoculation. Maintain post-inoculated indicator species under appropriate glasshouse conditions for at least 4 weeks. Inspect inoculated indicator plants at least twice per week for symptoms of virus infection.

(3) Enzyme linked immunosorbent assay (ELISA); Polymerase chain reaction (PCR).

(4) Testing must be carried out on Actinidia plants while they are in active growth. For bioassay and ELISA, plants shall be sampled from at least two positions on every stem including a young, fully expanded leaflet at the top of the stem and an older leaflet from a midway position.

(5) PCR and ELISA need to be validated using positive controls/reference material prior to use in quarantine testing.

(6) Positive and negative controls must be used in ELISA tests.

(7) For ELISA tests, the unit for testing is an individual seedling because of the presence of pollen transmitted viruses for which pre-determined testing is required (denoted by '*' in the table above).

(8) Positive and negative controls (including a blank water control) must be used in PCR. Ideally positive internal controls and a negative plant control should be used. Internal controls in PCR tests are important to avoid the risk of false negatives.

(9) *Actinidia* plants in a PEQ facility must be inspected for signs of pest and disease at least twice per week during periods of active growth and once per week during dormancy.

Guidance
- With prior notification, MPI will accept other internationally recognised testing methods.

2.5 Agropyron

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed for Sowing as "see 155.02.05 under *Agropyron*."

Countries: All

Quarantine pests: *Tilletia controversa*, other Ustilaginales, *Trogoderma* spp.

Import permit: Not Required

2.5.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Agropyron* seeds have been:

i) sourced from a 'pest free area' free from *Tilletia controversa";*

OR

ii) "sourced from a crop that has been inspected during the growing season according to appropriate procedures and no *Tilletia controversa* was detected";

OR

iii) "had an representative sample of 600 seeds officially drawn in which no spores of *Tilletia controversa* were found".

2.5.2 Approved Treatments

(1) The *Agropyron* seeds must be treated with one of the following fungicide combinations:

i) Carboxin at 0.8g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed;
ii) Carboxin at 0.8g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
iii) Imazalil at 80mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
iv) Imazalil at 80mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed.

2.6 Agrostis

The following requirements only apply to species in the Plant Biosecurity listed under Import Specifications for Seed for Sowing as "see 155.02.05 under *Agrostis*."

Countries: All

Quarantine pests: *Trogoderma* spp., Ustilaginales

Import permit: Not Required

2.6.1 Phytosanitary requirements

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.6.2 Approved treatments

(1) The *Agrostis* seeds must be treated with one of the following fungicide combinations:

i) Carboxin at 0.8g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed;
ii) Carboxin at 0.8g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
iii) Imazalil at 80mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
iv) Imazalil at 80mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed.

2.7 Arabidopsis thaliana

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Arabidopsis thaliana*."

Countries: All

Quarantine pests: None

Phytosanitary Certificate: Not Required

Import permit: See below

2.7.1 GM seed

(1) A permit to import is required.

(2) All GM seed must also be imported in accordance with a HSNO approval.

2.7.2 Non-GM seed

(1) A declaration signed by the exporter and importer must accompany the consignment declaring that the consignment does not contain GM seeds.

(2) The declaration form is provided in Appendix 3.

2.8 *Avena*

The following requirements only apply to species in the Plant Biosecurity Index listed under import specifications for Seed as "see 155.02.05 under *Avena*".

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States of America.

Quarantine Pests: Refer to pest list for Avena

Import permit: Not Required

2.8.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section (if applicable), and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Avena* seeds have been:

i) sourced from a 'pest free area' free from *Xanthomonas campestris* pv. *undulosa* and *High plains virus;*

OR

ii) sourced from a 'pest free place of production' free from *Xanthomonas campestris* pv. *undulosa* and *High plains virus"*.

AND

b) "The *Avena* seeds have been:

i) sourced from a 'pest free area' free from *Anguina tritici";*

OR

ii) "sourced from a 'pest free place of production' free from *Anguina tritici';*

OR

iii) "inspected microscopically in accordance with official procedures and *Anguina tritici* was not detected".

AND

c) "The *Avena* seeds have been:

i) sourced from a 'pest free area' free from *Cephalosporium gramineum";*

OR

ii) "treated with a fungicide combination in MPI approved treatments (refer to Part 2.8.2)".

2.8.2 Approved treatments

(1) The *Avena* seeds for sowing must be treated with one of the following fungicide combination:

i) Carboxin at 0.8g a.i. per kg of seed and Thiram at 0.8g a.i. per k.g of seed;
ii) Flutriafol at 0.05g a.i. per kg of seed and Imazalil at 0.05g a.i. per kg of seed;
iii) Triadimenol at 0.375g a.i. per kg of seed and Fuberidazole 0.15g a.i per kg of seed;
iv) Triadimenol at 0.23g a.i. per kg of seed, Imazalil 0.075g per kg of seed and Fuberidazole 0.15g a.i. per kg of seed;
v) Tebuconazole at 0.025g a.i. per kg of seed and Imazalil at 0.05g a.i. per kg of seed.

(2) As required, MPI may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

2.9 Beta

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Beta*."

Countries: All

Quarantine pests: *Clavibacter michiganensis* subsp. *sepedonicus*.

Import permit: Not Required

2.9.1 Phytosanitary certificate - Additional Declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Beta* seeds have been:

i) sourced from a 'pest free area' free from *Clavibacter michiganensis* subsp. *sepedonicus;*

OR

ii) *Clavibacter michiganensis* subsp. *sepedonicus* was not detected in a representative sample of 3200 seeds drawn from this consignment.

2.10 Brassica napus

These requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Brassica napus*".

Countries: All

Quarantine pests: None

Import permit: Permit not required, unless seeds are to be grown in PEQ.

2.10.1 Phytosanitary requirements

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.10.2 GM seed testing

(1) In addition to the phytosanitary requirements above, all consignments of *Brassica napus* var. *oleifera* (oilseed rape) are required to be representatively sampled, tested, and found to be free of unapproved GM seed according to the Protocol (refer to Part 1.5.4 *Genetically Modified Testing Certificate*).

(2) The full scientific name of the *Brassica napus* sub-species or variety, plus the appropriate common name, must be specified on the phytosanitary certificiate, e.g. *Brassica napus* var*. biennis* (forage rape) or *Brassica napus* var*. oleifera* (oilseed rape).

(3) Importers of consignments of *Brassica napus* that are not identified appropriately will be offered the options of re-shipment, destruction or testing for the presence of unapproved GM seeds.

Guidance

- Validation of *Brassica napus* varieties - MPI reserves the right to undertake validation audits to confirm that the variety matches that which is stated on the phytosanitary certificate. Audits may be conducted on a random basis and if required, grow out testing of samples will be conducted at an MPI accredited facility at the expense of the importer.

2.11 Camellia sinensis

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Camellia sinensis*".

Countries: All

Quarantine pests: *Exobasidium vexans, Phloem necrosis*

Import permit: Required

PEQ: Level 1

Minimum Period: 1 growing season

Isolation: 50m exclusion area

2.11.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Camellia sinensis* seeds have been sourced from a 'pest free area' free from *Exobasidium vexans* and *Phloem necrosis"*.

2.11.2 Approved treatments

(1) The *Camellia sinensis* seeds must be treated with one of the following fungicides:

i) Captan at 2g a.i. per kg seed;
ii) Thiram at 2g a.i. per kg seed.

2.12 Camissonia

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Camissonia*".

Countries: All

Quarantine pests: *Peronospora arthurii*

Import permit: Not Required

2.12.1 Phytosanitary certificate

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.12.2 Approved treatments

(1) The *Camissonia* seeds must be treated with one of the following fungicides:

i) Captan at 2g a.i. per kg seed; or
ii) Thiram at 2g a.i. per kg seed.

2.13 Cannabis sativa

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Cannabis sativa*".

Countries: All

Quarantine pests: Refer to pest list for *Cannabis sativa*

Import permit: Not Required

Guidance

- Importers of *Cannabis sativa* (low THC hemp seed) must contact the Ministry of Health prior to importation for advice on licensing:
  Ministry of Health
  PO Box 5013
  Wellington
  Attention: Advisor, Controlled Drug Licensing
  Telephone: 04 496 2018

2.13.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section (if applicable), and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Cannabis sativa* seeds have been:

i) sourced from a 'pest free area' free from the named regulated bacteria (*Pseudomonas syringae* pv. *cannabina* and *Xanthomonas campestris* pv. *cannabis*)";

OR

ii) "sourced from a 'pest free place of production' free from the named regulated bacteria (*Pseudomonas syringae* pv. *cannabina* and *Xanthomonas campestris* pv. *cannabis*)";

OR

iii) "treated with hot water treatment in MPI approved treatments (refer to Part 2.13.2)";

AND

b) "The *Cannabis sativa* seeds have been:

i) sourced from a 'pest free area' free from the named regulated fungi (*Leptosphaeria woroninii, Septoria cannabis* and *Curvularia cymbopogonis*)";

OR

ii) "treated with an approved fungicide combination in MPI approved treatments (refer to Part 2.13.2)".

AND

c) "The *Cannabis sativa* seeds have been:

i) sourced from a 'pest free area' free from the named regulated viruses (*Hemp mosaic virus* and *Hemp streak virus*)";

OR

ii) "sourced from a 'pest free place of production' free from the named regulated viruses (*Hemp mosaic virus* and *Hemp streak virus*)".

2.13.2 Approved testing and treatments for *Cannabis sativa*

(1) The *Cannabis sativa* seeds must be treated using a hot water dip (for bacteria and parasitic weed) prior to shipment, for the eradication of bacterial organisms (*Pseudomonas syringae* pv. *cannabina* and *Xanthomonas campestris* pv. *cannabis*);

a) hot water treatment must be conducted either at 50˚C for 30 minutes or at 60˚C for 10 minutes.

(2) The *Cannabis sativa* seeds must be treated (in lieu of pest free area) with the active ingredients in one of the following combinations:

a) Carboxin at 0.8g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed;
b) Carboxin at 0.8g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
c) Imazalil at 80mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
d) Imazalil at 80mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed.

Guidance

- The hot water treatment that would be carried out in New Zealand as an alternative to the same treatment prior to shipment, cannot be permitted as no MPI- approved facility is currently available in New Zealand.
- As required, MPI may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

References:

- Hemp Diseases and Pests: Management and Biological Control. J. M. McPartland, R. C. Clarke and D. P. Watson 2000. CAB International.

2.14 Capsicum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Capsicum*".

Countries: All

Quarantine pests: *Pepper chat fruit viroid; Potato spindle tuber viroid*

2.14.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

"The [*Capsicum annuum; C. baccatum; C. cardenasii; C. chinense; C. eximium; C. frutescens; C. microcarpum; C. pendulum; C. pubescens*] seeds for sowing in this consignment have been:

i) inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests."

AND

a) "The Capsicum seeds have been:

i) sourced from a 'pest free area' free from Potato spindle tuber viroid;

OR

ii) sourced from a 'pest free place of production' free from Potato spindle tuber viroid".

OR

iii) "The Capsicum seeds have been officially tested, on a representative sample and using appropriate methods, and found to be free from Potato spindle tuber viroid".

2.14.2 From the 7th April 2017, all phytosanitary certificates issued on or after this date must meet the new requirements for *Pepper chat fruit viroid* and *Potato spindle tuber viroid.*

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

"The [*Capsicum annuum; C. baccatum; C. cardenasii; C. chinense; C. eximium; C. frutescens; C. microcarpum; C. pendulum; C. pubescens*] seeds for sowing in this consignment have been:

i) inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests."

For *Potato spindle tuber viroid* (PSTVd):

a) "The seeds have been

i) sourced from (country name) where *Potato spindle tuber viroid* is not known to occur."

OR

ii) sourced from a 'pest free place of production', where parent plants were tested according to a NPPO approved methodology and found free from *Potato spindle tuber viroid"*

OR

iii) have been officially tested, on a representative sample of a minimum of 3000 seeds officially drawn according to the ISTA or AOSA sampling methodology using an approved PCR NPPO testing method, and found to be free from *Potato spindle tuber viroid*"

AND

b) For *Pepper chat fruit viroid* (PCFVd):

"The seeds have been

i) sourced from a 'pest free area' free from *Pepper chat fruit viroid*"

OR

ii) *Pepper chat fruit viroid* (PCFVd) is absent/not known to occur in _____(name of country)

OR

ii) sourced from a 'pest free place of production' free from *Pepper chat fruit viroid"*

OR

iii) have been officially tested, on a representative sample of a minimum of 3000 seeds officially drawn according to the ISTA or AOSA sampling methodology using an approved PCR NPPO testing method, and found to be free from *Pepper chat fruit viroid*"

2.15 Carpinus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Carpinus*".

Countries: All

Quarantine pests: *Cladosporium caryigenum*

Import permit: Required

2.15.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

   a) "The *Carpinus* seeds have been sourced from an area where *Cladosporium carygenum* is not known to occur".

2.15.2 Approved treatments

(1) The *Carpinus* seeds must be treated with one of the following fungicides:

   a) Captan at 2g a.i. per kg seed; or
   b) Thiram at 2g a.i. per kg seed.

2.16 Carthamus tinctorius

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Carthamus tinctorius*".

Countries: All

Quarantine pests: *Alternaria carthami, Cercospora carthami, Trogoderma* spp.

Import permit: Not Required

2.16.1 Phytosanitary certificate

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.16.2 Approved treatment

(1) The *Carthamus tinctorius* seeds for sowing must be treated with Iprodione at 2.5g a.i. per kg seed.

2.17 *Carya*

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Carya*".

Countries: Australia, USA

Quarantine pests: *Cladosporium caryigenum, Conotrachelus* spp., *Curculiocaryae*, *Cydia caryana*, *Trogoderma* spp.

Import permit: Not Required

2.17.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section (if applicable), and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Carya* seed or nuts have been:

i) sourced from an area where they are not known to be attacked by *Conotrachelus* spp., *Curculio caryae* or *Cydia caryana;*

OR

ii) fumigated with methyl bromide at _____ pressure for ____ hours at _____ g/m³ at a temperature of _____C";

iii) the pressure/time/rate temperature combination used is to be in accordance with the following scale:

Temperature	Rate (g/m³)	Time (hours)	Pressure
15-21°C	32	12	Atmospheric
21°C or above	16	12	Atmospheric
15-21°C	48	1.5	91 kpa vacuum
21°C or above	48	1.0	91 kpa vacuum

AND

b) "The *Carya* seeds or nuts have been sourced from an area where *Cladosporium caryigenum* is not known to occur".

2.17.2 Approved Treatments

(1) The *Carya* seeds must be treated with one of the following fungicides:

a) Captan at 2g a.i. per kg seed;
b) Thiram at 2g a.i. per kg seed.

2.18 Castanea

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Castanea*".

Countries: All

Quarantine pests: *Ceratocystis fagacearum; Cryphonectria parasitica*; *Curculio spp.; Cyrtepistomus castaneus*

Import permit: Required

PEQ: Level 3

Minimum Period: 2 years

Isolation: 50m

2.18.1 Phytosanitary certificate - Additional declaration

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Castanea* seeds have been:

i) sourced from trees that have been officially inspected and found to be free of diseases caused by *Cryphonectria* spp;

OR

ii) sourced from an area where *Cryphonectria parasitica* is known not to occur".

2.18.2 Inspection and testing requirements

Organism	MPI acceptable detection methods
Ceratocystis fagacearum	Growing season inspection in PEQ for disease symptom expression
Cryphonectria parasitica	Growing season inspection in PEQ for disease symptom expression

2.19 Cicer

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Cicer*."

Countries: All

Quarantine pests: *Ascochyta rabiei, Megaselia arietina, Trogoderma* spp.

Import permit: Not Required

2.19.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Cicer* seeds have been:

i) sourced from a 'pest free area' free from *Ascochyta rabiei*;

OR

ii) sourced from a 'pest free place of production' free from *Ascochyta rabiei*".

2.20 Citrus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Citrus*."

Countries: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States of America.

Quarantine pests: *Xanthomonas campestris* pv. *citri, 'Candidatus* Liberibacter africanus'*, 'Candidatus* Liberibacter asiaticus'*, 'Candidatus* Liberibacter americanus'.

Import permit: Not Required

2.20.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *Citrus* seeds have been sourced from an area where *Xanthomonas campestris* pv. *citri* is not known to occur";

AND

b) "The *Citrus* seeds have been sourced from an area where '*Candidatus*' Liberibacter spp. is not known to occur".

2.21 Cocos

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Cocos*."

Countries: All countries except Guam, the Philippines and the Solomon Islands

Quarantine pests: *Coconut cadang-cadang viroid*

Import permit: Not Required

Guidance
- Seed covered in a fleshy pericarp will not be permitted entry into New Zealand.

2.21.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) *"The Cocos* seeds have been produced in an approved country and have not been produced in Guam, the Philippines or the Solomon Islands"

AND

b) "The *Cocos* seeds have been produced in a 'pest free area' free from *Coconut cadang-cadang viroid"*.

2.22 Coffea

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Coffea*".

Countries: Australia, Cook Islands, Hawaii, Samoa, Tonga

Quarantine pests: *Stephanoderes hampei*

Import permit: Not Required

2.22.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.22.2 Approved treatments

(1) The *Coffea* seeds must be treated with one of the following fungicides:

a) Captan at 2g a.i. per kg seed;
b) Thiram at 2g a.i. per kg seed.

2.23 Coriandrum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Coriandrum*."

Countries: All

Quarantine pests: *Ramularia coriandri, Trogoderma* spp.

Import permit: Not Required

2.23.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Coriandrum* seeds have been:

i) sourced from a 'pest free area', free from *Ramularia coriandri;*

OR

ii) sourced from a 'pest free place of production' free from *Ramularia coriandri*."

2.23.2 Approved treatments

(1) The *Coriandrum* seeds for sowing must be treated with one of the following fungicides:

a) Benomyl at 2.5g a.i. per kg seed;
b) Carbendazim at 2.5g a.i. per kg seed;
c) Thiophanate methyl at 2.5g a.i. per kg seed.

2.24 Corylus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under Corylus."

Countries: All

Quarantine pests: *Cydia latiferreana, Curculio nucum*

Import permit: Not Required

2.24.1 Phytosanitary requirements

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

(2) All *Corylus* seeds imported into New Zealand must have their shells removed to permit inspection, prior to entry.

2.25 Corypha

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Corypha*."

Countries: All countries except Guam, the Philippines and the Solomon Islands

Quarantine pests: *Coconut cadang-cadang viroid*.

Import permit: Not Required

Guidance
- Seed covered in a fleshy pericarp will not be permitted entry into New Zealand.

2.25.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *Corypha* seeds have been produced in an approved country and have not been produced in Guam, the Philippines or the Solomon Islands".

AND

b) "The *Corypha* seeds have been produced in a'pest free area' free from *Coconut cadang-cadang viroid"*.

2.26 Cucurbitaceae

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Cucurbitaceae"*.

Countries: All

Quarantine pests:*Cucumber green mottle mosaic virus* (CGMMV); *Kyuri green mottle mosaic virus* (KGMMV)

Import Permit: Not required

2.26.1 Phytosanitary certificate – Additional declarations

(1) The required Additional declarations must be endorsed in full on the phytosanitary certificate, no variations in the wording will be accepted by MPI, with exception of translation artifacts.

(2) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) The [*Benincasa hispida; Citrullus lanatus; Cucumis anguria; Cucumis melo; Cucumis metulliferus; Cucumis myriocarpus; Cucurbita ficifolia; Cucurbita maxima; Cucurbita mixta Cucurbita moschata; Cucurbita pepo; Cucumis sativus; Lagenaria siceraria; Luffa acutangula; Luffa cylindrical; Luffa aegyptiaca; Momordica charantia; Portulaca oleraceae*] seeds for sowing in this consignment have been:

i) inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests.

AND

b) For *Cucumber green mottle mosaic virus* (CGMMV):

i) sourced from a Pest free area, free from the named regulated virus *Cucumber green mottle mosaic virus;*

OR

ii) *Cucumber green mottle mosaic virus* (CGMMV) is absent/not known to occur in _____(name of country)

OR

iii) sourced from mother plants that were sampled according to a NPPO approved methodology and tested using a NPPO approved ELISA or a NPPO approved PCR method, during the active growing period and found free from *Cucumber green mottle mosaic virus*.

OR

iv) sourced from a seed lot officially sampled according to ISTA or AOSA methodology, and tested using the ISTA validated ELISA or a NPPO approved PCR method and found free from *Cucumber green mottle mosaic virus.*

AND

c) For *Kyuri green mottle mosaic virus* (KGMMV):

i) sourced from a "Pest free area", free from *Kyuri green mottle mosaic virus*;

OR

ii) *Kyuri green mottle mosaic virus* (KGMMV) is absent/not known to occur in _____(name of country)

OR

iii) sourced from a "Pest Free Place of Production", free from *Kyuri green mottle mosaic virus*;

OR

iv) sourced from a seed lot officially sampled according to ISTA or AOSA methodology, and tested using a NPPO approved serological (ELISA) or molecular (PCR) method and found free from *Kyuri green mottle mosaic virus*.

Guidance

- Phytosanitary certificates endorsed with the previous additional declaration issued on or prior to the date of the issuance of this IHS will still be accepted until the 30th June 2017. However, the seed lot will be required to be tested for KGMMV on arrival in New Zealand by an MPI-approved testing laboratory.
- Previous additional declaration:

  a) "The [cucurbitaceae species name] seeds for sowing in this consignment have been:

  i) inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests;

  AND

  ii) tested using the International Seed Test Association (ISTA) validated ELISA method and found to be free of *Cucumber green mottle mosaic virus* (CGMMV)".

2.26.2 Testing Requirements

(1) Testing is required to be completed offshore prior to export, or on arrival in New Zealand.

(2) Pre-export testing for each seed lot must be endorsed by the NPPO on the phytosanitary certificate, or if tested on arrival in New Zealand, must be completed by an MPI-approved testing laboratory.

(3) For seed lots of 10,000 or more seeds:

a) A representative sample of a minimum of 2000 seeds, officially drawn according to ISTA or AOSA methodology is required from each seed lot and tested as specified in the schedule;

(4) For seed lots with less than 10,000 seeds:

a) A composite sample of a minimum of 2000 seeds must be officially drawn across all seed lots of the same seed species in a consignment, which must have been produced at the same place of production or production site.

(5) In order to achieve a composite sample, proportionate sampling is to be carried out across all lots imported. A sample of seeds must be drawn from each imported lot within a consignment, adding up to 2000 seeds. The size of the sample from each lot must be proportionate to the size of the imported lot within the consignment.

Guidance

- The sample size from each lot should be calculated as follows:

  a) The proportion of each lot in the total consignment (seed number) is calculated using the following equation:

$$Proportion\ of\ total\ consignment\ size = \frac{No.\ of\ seeds\ in\ each\ lot}{Total\ number\ of\ seeds\ in\ consignment}$$

b) Calculate the sample size for each lot (number of seeds) using a total composite sample size of 2000 seeds:

$$Sample\ size\ of\ each\ line = 2000\ seeds\ x\ proportion\ of\ total\ consignment\ size$$

c) Take the sum of the sample size for each lot to check the total composite sample for the consignment is at least 2000 seeds. …

2.26.3 Cucurbita pepo

(1) Different varieties of Yellow Straightneck, Yellow Crookneck squash and Green Zucchini seeds have been genetically modified. The following varieties are prohibited entry to New Zealand without HSNO approval:

a) Cucurbita pepo event ZW20;
b) Cucurbita pepo event CZW3;
c) Yellow Crookneck squash variety "Revenue"; "Tigress"; "Destiny III"; Prelude II;
d) Yellow Straightneck squash variety "XPT1832 III"; "Conqueror III"; "Patriot II"; "Liberator III";
e) Green Zucchini variety "SV6009YG"; "Judgement III"; "Justice III"; "Declaration II"; "Independence II".

(2) *Cucurbita pepo* importers are required to comply with one of the two options listed below:

Option 1:

a) a declaration signed by the exporter and importer must accompany the consignment declaring that the consignment does not contain GM seeds (the declaration form template is provided in Appendix 3).

Option 2:

b) a representative sample from each seed lot of *Cucurbita pepo* must be sampled, tested, and found to be free of unapproved GM seed according to the Protocol (refer to section 1.5.4 *Genetically Modified Testing Certificate*). More information can also be found at https://www.mpi.govt.nz/importing/plants/seeds-for-sowing/genetically-modified-seeds/

Guidance

- The Protocol for testing for the presence of genetically modified plant material can be found at http://www.mpi.govt.nz/document-vault/10250
- References:

a) Ling et al., 2014. First report of Cucumber green mottle mosaic virus infecting greenhouse cucumber in Canada. Plant Disease 98 (5): 701-2.
b) Reingold et al., 2013. First report of Cucumber green mottle mosaic virus (CGMMV) symptoms in watermelon used for the discrimination of non-marketable fruits in Israeli commercial fields. New Disease Reports 28, 11.
c) ISTA http://www.seedtest.org/upload/cms/user/SH-07-026-2014.pdf
d) Daryono, B. S., Somowiyarjo, S., Natsuaki, K. T. 2005. Biological and Molecular Characterization of Melon-Infecting Kyuri Green Mottle Mosaic virus in Indonesia. Journal of Phytopathology 153, 588-595.
e) Daryono, B.S., Somowiyarjo, S. and Natsuaki, K.T. 2006. Biological characterization and complete nucleotide sequence of coat protein of Kyuri green mottle mosaic virus isolated from angled loofah in Indonesia. Jour. Agri. Sci. Tokyo Univ. of Agric. 51 (1), 42-52. (Printed in English)
f) Daryono, B. S. and Natsuaki, K.T. 2012. Application of Multiplex RT-PCR for Detection of Cucurbit-infecting Tobamovirus. Jordan Journal of Agricultural Sciences, 8 (1): 46-56.

g) Hongyun, C., Wendjun, Z., Qinsheng, G. and Shuifang, Z. 2008. Real time TaqMan RT-PCR assay for the detection of Cucumber green mottle mosaic virus. Journal of Virological Methods, 149 (2): 326-9.
h) Kwon, J. Y., Hong, J. S., Kim, M. J., Choi, S. H., Byeong, E. M., Song, E. G., Kim, H. H., Ryu, K. H. 2014. Simultaneous multiplex PCR detection of seven cucurbit infecting viruses. Journal of Virological Methods 206, 133-139

2.27 Cuminum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Cuminum*."

Countries: All

Quarantine pests: *Alternaria burnsii*

Import permit: Not Required

2.27.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Cuminum* seeds have been:

i) sourced from a 'pest free area', free from *Alternaria burnsii;*

OR

ii) sourced from a 'pest free place of production', free from *Alternaria burnsii".*

2.27.2 Approved treatments

(1) The *Cuminum* seeds must be treated with Iprodione at 2.5g a.i. per kg seed.

2.28 Desmodium

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Desmodium*."

Countries: All

Quarantine pests: *Desmodium mosaic virus, Trogoderma* spp.

Import permit: Not Required

2.28.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Desmodium* seeds have been:

i) sourced from an area where *Desmodium mosaic virus* is not known to occur;

OR

ii) sourced from a crop that has been inspected during the growing season according to appropriate procedures and no *Desmodium mosaic virus* was detected".

2.29 Echinochloa

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Echinochloa*."

Countries: All

Quarantine pests: *Sclerospora graminicola, Trogoderma* spp., Ustilaginales

Import permit: Not Required

2.29.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Echinochloa* seeds have been:

i) sourced from a 'pest free area', free from *Sclerospora graminicola;*

OR

ii) sourced from a 'pest free place of production', free from *Sclerospora graminicola".*

2.29.2 Approved treatments

(1) The *Echinochloa* seeds for sowing must be treated with one of the following fungicides:

a) Carboxin at 0.8g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed;
b) Carboxin at 0.8g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
c) Imazalil at 80mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
d) Imazalil at 80mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed.

2.30 Elaeis

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Elaeis*."

Countries: All countries except Guam, the Philippines and the Solomon Islands

Quarantine pests: *Coconut cadang-cadang viroid*

Import permit: Not Required

Guidance
- Seed covered in a fleshy pericarp will not be permitted entry into New Zealand.

2.30.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Elaeis* seeds have been produced in an approved country and have not been produced in Guam, the Philippines or the Solomon Islands".

AND

b) "The *Elaeis* seeds have been produced in a 'pest free area' free from *Coconut cadang-cadang viroid"*.

2.31 Eriobotrya

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Eriobotrya*."

Countries: All

Quarantine pests: *Pseudomonas syringae* pv. *eriobotryae*

Import permit: Required

Importers are required to comply wiuth one of the two options listed below:

Option 1: Phytosanitary certificate - Additional declaration

a) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

    i) "the *Eriobotrya* seeds have been sourced from an area where *Pseudomonas syringae* pv. *eriobotryae*is not known to occur".

Option 2:

a) PEQ: Level 3
b) Minimum Period: 2 growing seasons

2.32 Fagus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Fagus*."

Countries: All

Quarantine pests: *Tortricidae*

Import permit: Not Required

2.32.1 Phytosanitary certificate

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.32.2 Approved treatments

(1) The *Fagus* seed must be treated with one of the following fungicides:

a) Captan at 2g a.i. per kg seed;
b) Thiram at 2g a.i. per kg seed.

2.33 *Fragaria*

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Fragaria*."

Countries: All

Quarantine pests: Refer to "Pest List for *Fragaria*."

Import permit: Required

PEQ: Level 3

Minimum Period: 6 months

2.33.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.33.2 Inspection and testing requirements

Organism	MPI acceptable detection methods (listed below)
Fragaria chiloensis latent virus	Herbaceous indexing with Cq
*Raspberry ringspot virus**	ELISA or PCR and herbaceous indexing with Cq
*Strawberry latent ringspot virus**	ELISA or PCR and herbaceous indexing with Cq
*Tobacco streak virus**	ELISA or PCR and herbaceous indexing with Cq
*Tomato ringspot virus**	ELISA or PCR and herbaceous indexing with Cq

Cq – *Chenopodium quinoa*

(1) Tests are to be carried out on plants germinated from the imported seeds.

(2) Testing must be carried out on plants while they are in active growth.

(3) Indicator plants must be grown under appropriate temperatures.

(4) Indicator plants must be shaded for 12-24 hrs prior to inoculation.

(5) Post-inoculated indicator plants must be maintained under appropriate glasshouse conditions for at least 4 weeks.

(6) Post-inoculated indicator plants must be inspected at least twice per week for signs of virus infection with observations being recorded on a weekly basis.

(7) For ELISA tests, the unit for testing is an individual seedling because of the presence of pollen transmitted viruses for which pre-determined testing is required (denoted by '*' in the table above).

(8) PCR and ELISA need to be validated using positive controls/reference material prior to use in quarantine testing.

(9) Positive, negative, and buffer controls must be used in ELISA tests.

(10) Positive controls must be used in PCR.

(11) *Fragaria* plants in a PEQ facility must be inspected for signs of pest and disease at least once per week.

Guidance
Other internationally recognised testing methods may be accepted by MPI with prior notification.

References:

- Converse, R.H., ed. 1987. Virus Diseases of Small Fruits. USDA Agriculture Handbook No. 631, 277 pp.
- Diekmann M, Frison EA and Putter T. FAO/IPGRI Technical Guidelines for the Safe Movement of Small Fruit Germplasm, www.ipgri.cgiar.org/Publications/pdf/249.pdf.
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- ICTVdB: The Universal Virus Database, version 4. http://www.ncbi.nlm.nih.gov/ICTVdb/ICTVdB
- Johnson, H.A., Converse, R.H., Amorao A., Espejo J., Frazier N.W. (1984) Seed Transmission of Tobacco streak virus in Strawberry. Plant Disease 68: 390-391.
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- Lister, R.M., Murant A.F., (1967) Seed transmission of nematode-borne viruses. Ann. appl. Biol. 59: 49-62.
- Lister, R.M., Murant A.F. (1967) Seed-transmission in the ecology of nematode-borne viruses. Ann. appl. Biol. 59: 63-76.
- MPI Post-Entry Quarantine Testing Manual Fragaria.
- Murant A.F. (1983) Seed and Pollen Transmission of nematode-borne viruses. Seed Science and Technology, 11:973-987.
- Spiegel, S., Martin, R.R., Leggett, F., ter Borg, M. and Postman, J. (1993) Characterization and geographical distribution of a new ilarvirus from Fragaria chiloensis. Phytopathology 83: 991-995.

2.34 Glycine

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Glycine*."

Countries: All

Quarantine pests: *Peronospora manshurica, Trogoderma* spp.

Permit to import: Permit not required, unless seeds are to be grown in PEQ

2.34.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Glycine* seeds have been:

i) inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests, including *Trogoderma* spp".

AND

b) "The *Glycine* seeds have been:

i) sourced from a 'pest free area' free from *Peronospora manshurica;*

OR

ii) sourced from a 'pest free place of production' free from *Peronospora manshurica".*

AND

c) "The *Glycine* seeds have been treated against *Peronospora manshurica* using one of the following fungicide combinations:

i) Metalaxyl at 0.7g a.i. per kg seed and captan at 0.7 g a.i. per kg seed; OR
ii) Metalaxyl at 0.7g a.i. per kg seed and thiram at 1.0g a.i. per kg seed".

(2) With prior approval, MPI may evaluate other treatments and if effective will approve these treatments and add them to this schedule.

2.34.2 GM seed testing

(1) In addition to the phytosanitary requirements above, all consigments of *Glycine max* (soybean) are required to be representatively sampled, tested, and found to be free of unapproved GM seed according to the Protocol (refer to Part 1.5.4: *Genetically Modified Testing Certificate*).

(2) Importers of consignments of *Glycine max* that are not identified appropriately will be offered the options of re-shipment, destruction or testing for the presence of unapproved GM seeds.

2.35 Gossypium

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Gossypium*."

Countries: Australia

Quarantine pests: *Anthonomus grandis, Trogoderma* spp.

Import permit: Not Required

2.35.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The seed has been cleaned and is completely free of lint".

2.35.2 GM seed testing

(1) In addition to the phytosanitary requirements above, all consigments of *Gossypium hirsutum* (cotton) are required to be representatively sampled, tested, and found to be free of unapproved GM seed according to the Protocol (refer to Part 1.5.4: *Genetically Modified Testing Certificate*).

(2) Importers of consignments of *Gossypium hirsutum* that are not identified appropriately will be offered the options of re-shipment, destruction or testing for the presence of unapproved GM seeds.

2.36 Helianthus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Helianthus*."

Countries: Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States of America

Quarantine pests: *Alternaria helianthi, Neolasioptera helianthi (syn. Lasioptera murtfeldtiana), Plasmopara halstedii, Septoria helianthi,* Sunflower mosaic virus*, Trogoderma* spp.

Import permit: Not Required

2.36.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Helianthus* seeds have been sourced from a crop that has been inspected during the growing season according to appropriate procedures and no *Alternaria helianthi, Neolasioptera helianthi, Plasmopara halstedii, Septoria helianth*i or *Sunflower mosaic virus* was detected;

OR

b) "The *Helianthus* seeds have been sourced from an area where *Alternaria helianthi, Neolasioptera helianthi, Plasmopara halstedii, Septoria helianthi* and *Sunflower mosaic virus* are not known to occur";

OR

c) "The *Helianthus* seeds have been sourced from a crop that has been inspected during the growing season according to appropriate procedures and no *Neolasioptera helianthi, Plasmopara halstedii* or *Sunflower mosaic virus was* detected; and

i) have had 600 pure seeds drawn and tested i*n accordance with the general directions for s*eed *health testing in the* current International Rules for Seed Testing and no evidence of contamination with *Alternaria helianthi* or *Septoria helianthi* was found".

2.36.2 Approved treatments

(1) The *Helianthus* seed must be treated with one of the following fungicides:

a) Metalaxyl at 0.7g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
b) Metalaxyl at 0.7g a.i. per kg seed and Tthiram at 1.0g a.i. per kg seed.

i)

2.37 Hordeum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Hordeum*."

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States of America

Quarantine pests: Refer to "Pest List for *Hordeum*"

Import permit: Not Required

2.37.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Hordeum* seeds have been:

i) sourced from a 'pest free area' free from the named regulated bacteria (*Pseudomonas syringae* pv. *striafaciens, Rathayibacter tritici, Xanthomonas campestris* pv. *undulosa*) and virus (*High plains virus*);

OR

ii) sourced from a 'pest free place of production' free from the named regulated bacteria (*Pseudomonas syringae* pv. *striafaciens, Rathayibacter tritici, Xanthomonas campestris* pv. *undulosa*) and virus (*High plains virus*)";

AND

b) "The *Hordeum* seeds have been:

i) sourced from a "pest free area" free from the named regulated fungi (*Cephalosporium gramineum, Fusarium longipes*)";

OR

ii) "treated with one of the fungicide combinations in MPI approved treatments (refer to Part 2.37.2)";

AND

c) "The *Hordeum* seeds have been:

i) sourced from a 'pest free area' free from *Tilletia controversa";*

OR

ii) "sourced from a 'pest free place of production' free from *Tilletia controversa*, and treated with one of the fungicide combinations in MPI approved treatments (refer to Part 2.37.2)";

OR

iii) "had a representative sample of 600 seeds drawn from this consignment according to the International Seed Testing Association's methodology and have been tested for *Tilletia controversa*, and treated with one of the fungicide combinations in MPI approved treatments (refer to Part 2.37.2)."

2.37.2 Approved treatments

(1) The *Hordeum* seed for sowing must be treated with one of the following fungicide combinations:

a) Carboxin at 0.8 g a.i. per kg of seed and Thiram at 0.8 g a.i. per k.g of seed;
b) Carboxin at 0.8 g a.i. per kg of seed and Imazalil at 0.05g a.i. per k.g of seed;
c) Flutriafol at 0.05 g a.i. per kg of seed and Imazalil at 0.05g a.i. per kg of seed;
d) Triadimenol at 0.375g a.i. per kg of seed and Fuberidazole 0.15g a.i per kg of seed;
e) Triadimenol at 0.23g a.i. per kg of seed, Imazalil 0.075g per kg of seed and Fuberidazole 0.15g a.i per kg of seed;
f) Tebuconazole at 0.025g a.i. per kg of seed and Imazalil at 0.05g a.i. per kg of seed.

Guidance
- MPI, as required, may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

2.38 Humulus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Humulus lupulus*."

Countries: All

Quarantine pests: *Pseudoperonospora humuli, Verticillium albo-atrum*

Permit to import: Required

PEQ: Level 3

Minimum Period: 1 growing season

2.38.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.39 Juglans

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Juglans*."

Countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Mexico, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States of America

Quarantine pests: *Gnomonia leptostyla*, Pyralidae; Tortricidae; *Trogoderma* spp., *Cherry leaf roll virus*

Import permit: Required

PEQ: Level 1

Minimum Period: 2 growing seasons

Isolation: 50m exclusion area

2.39.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Juglans* seed have been:

i) inspected during the growing season according to appropriate procedures, and no *Gnomonia leptostyla* or *Cherry leaf roll virus* was detected;

OR

ii) sourced from an area where *Gnomonia leptostyla* and *Cherry leaf roll virus* are not known to occur".

AND

b) "The seed was fumigated with methyl bromide at ___ pressure for ___ hours at ___ g/m³ at a temperature of ___ °C *";*

i) the pressure/time/rate temperature combination used is to be in accordance with the following scale:

Temperature	Rate (g/m³)	Time (hours)	Pressure
15 - 21°C	32	12	Atmospheric
21°C or above	16	12	Atmospheric
15 - 21°C	48	1.5	91 kpa vacuum
21°C or above	48	1.0	91 kpa vacuum

2.40 Lablab

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Lablab*".

Countries: All

Quarantine pests: *Earias vitella, Maruca testulali, Trogoderma* spp.

Import permit: Not Required

For seed in pods:

2.40.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate;

a) "The pods were inspected before export and no caterpillars of *Earias vitella* or *Maruca testulalis* were found in a 600 unit sample".

2.41 Lavandula

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under under *Lavandula*."

Countries: All

Quarantine pests: *Coniothyrium lavandulae, Phoma lavandulae*

Import permit: Not Required

2.41.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Lavandula* seeds have been:

i) sourced from a 'pest free area', free from *Coniothyrium lavandulae* and *Phoma lavandulae*

OR

ii) sourced from a 'pest free place of production', free from *Coniothyrium lavandulae* or *Phoma lavandulae".*

2.41.2 Approved treatments

(1) The *Lavandula* seed must be treated with one of the following fungicides:

a) Benomyl at 2.5g a.i. per kg seed;
b) Carbendazim at 2.5g a.i. per kg seed;
c) Thiophanate methyl at 2.5g a.i. per kg seed.

2.42 Lens

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Lens*."

Countries: All

Quarantine pests: *Trogoderma granarium*

Import permit: Not Required

2.42.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Lens* seeds been inspected in accordance with appropriate official procedures and found to be free of *Trogoderma granarium"*.

2.43 Linum usitatissimum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Linum usitatissimum*."

Countries: All

Quarantine pests: None

Import permit: Not Required

2.43.1 GM seed declaration

(1) There are no specific requirements for *Linum usitatissimum* seeds except for the following GM event which is prohibited entry to New Zealand without HSNO approval:

a) *Linum usitatissimum* var. FP967 (CDC Triffid).

(2) Importers are required to comply with one of the two options listed below:

Option 1:

a) a declaration signed by the exporter and importer must accompany the consignment declaring that the consignment does not contain GM seeds (refer to Appendix 3: Declaration form).

Option 2:

a) samples must be representatively sampled, tested, and found to be free of unapproved GM seed according to the Protocol (refer to Part 1.5.4: *Genetically Modified Testing Certificate*).

2.44 Lithocarpus densiflorus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Lithocarpus densiflorus*."

Countries: Australia, Canada, Germany, India, Israel, Japan, Mexico, Tunisia, United Kingdom, United States of America

Quarantine pests: *Ceratocystis fagacearum*, Tortricidae

Permit to import: Required

PEQ: Level 1

Isolation: 50 m

2.44.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Lithocarpus densiflorus* seed has been:

i) collected from trees that have been officially inspected for disease caused by *Ceratocystis fagacearum* and no disease was detected;

OR

ii) sourced from an area where *Ceratocystis fagacearum* is not known to occur".

2.44.2 Approved Treatments

(1) The *Lithocarpus densiflorus* seeds must be treated with one of the following fungicides:

a) Captan at 2g a.i. per kg seed;
b) Thiram at 2g a.i. per kg seed.

2.45 Livistona

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Livistona*."

Countries: All countries except Guam, the Philippines and the Solomon Islands

Quarantine pests: *Coconut cadang-cadang viroid*

Import permit: Not Required

Guidance
- Seed covered in a fleshy pericarp will not be permitted entry into New Zealand.

2.45.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *Livistona* seeds have been produced in an approved country and have not been produced in Guam, the Philippines or the Solomon Islands".

AND

b) "The *Livistona* seeds have been sourced from a 'pest free area' free from *Coconut cadang-cadang viroid"*.

2.46 Lophophora williamsii

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Lophophora williamsii*."

Countries: All

Import Permit: an import permit is required.

Guidance

- Importers of *Lophophora williamsii* must contact the Ministry of Health prior to importation for advice on licensing:
  Ministry of Health
  PO Box 5013
  Wellington
  Attention: Advisor, Controlled Drug Licensing
  Telephone: 04 496 2018

2.47 Lotus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Lotus*."

Countries: All

Quarantine pests: *Cercospora loti, Trogoderma* spp.

Import permit: Not Required

2.47.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Lotus* seed has been:

i) sourced from from a crop that has been inspected during the growing season according to appropriate procedures and no *Cercospora loti* was detected;

OR

ii) sourced from an area where *Cercospora loti* is not known to occur".

2.48 Macadamia

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Macadamia*."

Countries: All

Quarantine pests: *Cryptophlebia ombrodelta, Deudorix epijarbas, Dichocrocis punctiferalis*

Import permit: Not Required

2.48.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section:

a) "The *Macadamia* seed was fumigated with methyl bromide at _____ pressure for ___ hours at ___ g/m³ at a temperature of ___ °C *"*;

i) the pressure/time/rate temperature combination used is to be in accordance with the following scale:

Temperature	**Rate (g/m³)**	**Time (hours)**	**Pressure**
15 - 21°C	32	12	Atmospheric
21°C or above	16	12	Atmospheric
15 - 21°C	48	1.5	91 kpa vacuum
21°C or above	48	1.0	91 kpa vacuum

2.49 Malus

These requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Malus*."

Countries: All

Quarantine pests: *Apple scar skin viroid, Monilinia fructigena, Tomato bushy stunt virus*

Import permit: Required

2.49.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.49.2 Post-entry quarantine

(1) All Malus seeds must be imported under permit into a Level 2 Post-Entry Quarantine facility, accredited to the MPI.STD.PBC-NZ-TRA-PQCON: *Specification for the registration of a plant quarantine or containment facility and operator.*

2.49.3 Quarantine period

(1) The quarantine period will begin once the plants have entered a period of active growth and have two fully expanded leaves.

(2) Herbaceous indexing and PCR testing must be completed, and if seedlings have tested negative, they may be transferred to Level 1 PEQ for woody indexing.

2.49.4 Inspection and testing requirements

Organism	**MPI acceptable detection methods (listed below)**
Apple scar skin viroid	PCR and woody indexing
Monilinia fructigena	Growing season inspection in PEQ for disease symptom expression
Tomato bushy stunt virus	PCR and herbaceous Indexing

(1) Tests are to be carried out on plants germinated from the imported seeds.

(2) Virus testing is to be conducted on new spring growth. Viroid testing is to be done during the summer period. For each Malus plant, at least two fully-expanded leaves must be sampled from different branches of the main stem, one a younger leaf and one an older leaf.

(3) Polymerase chain reaction (PCR) tests. All PCR tests must be validated using positive and negative controls prior to use in quarantine testing. Positive and form-free controls must be used in all tests. Internal control primers to check the PCR competency of the samples and a negative plant control should also be used in PCR tests.

(4) Herbaceous indexing will use the indicators *Chenopodium quinoa* and *Nicotiana clevelandii (Nc)*.

(5) Woody Indexing will use one of the indicators *Malus* x *domestica* 'Golden Delicious' or 'Red Delicious', and may be completed in Level 1 PEQ facility once PCR testing is negative for ASSVd.

(6) Inspection of the Malus plants by the Operator of the PEQ facility for signs of pest and disease must be at least twice per week for the first 3 months of active growth, and during spring and autumn. All other times of active growth (summer), plants should be inspected once per week. A record of inspections carried out by the Operator is to be kept and made available to the MPI Inspector on request.

Guidance

- Seedlings will be inspected and tested for regulated pests at the expense of the importer. The quarantine period may be extended if material is slow growing, pests are detected, or further testing is required.
- Other internationally recognised testing methods may be accepted by MPI with prior notification.

2.50 Mangifera

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Mangifera*."

Countries: All

Quarantine pests: *Sternochetus mangiferae, Xanthomonas campestris* pv. *mangiferae-indicae*

Import permit: Required

PEQ: Level 1

Minimum Period: 2 growing seasons

Isolation: 50 m exclusion area

2.50.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Mangifera* seeds have been collected from trees which were inspected during the growing season and *Xanthomonas campestris* pv. *mangiferae-indicae* was not detected".

2.51 Medicago

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Medicago*."

Countries: All

Quarantine pests: *Pea early browning virus, Peanut stunt virus, Trogoderma granarium, Xanthomonas campestris* pv. *alfalfae*.

Import permit: Not Required, unless seeds are to be grown in PEQ.

2.51.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Medicago* seeds have been inspected in accordance with appropriate official procedures and found to be free of *Trogoderma granarium".*

AND

b) "The *Medicago* seeds have been:

i) sourced from a 'pest free area' free from *Pea early browning virus, Peanut stunt virus* and *Xanthomonas campestris* pv. *alfalfae;*

OR

ii) sourced from a 'pest free place of production' free from *Pea early browning virus, Peanut stunt virus* and *Xanthomonas campestris* pv. *alfalfae"*.

2.51.2 GM seed testing

(1) In addition to the phytosanitary requirements above, all consigments of *Medicago sativa* (lucerne/ alfalfa) are required to be representatively sampled, tested, and found to be free of unapproved GM seed according to the Protocol (refer to Part 1.5. 4: *Genetically Modified Testing Certificate*).

(2) Importers of consignments of *Medicago sativa* that are not identified appropriately will be offered the options of re-shipment, destruction or testing for the presence of unapproved GM seeds.

2.52 *Nicotiana tabacum*

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Nicotiana tabacum*."

Countries: All

Quarantine pests: *Peronospora tabacina*

Import permit: Not Required, unless seeds are to be grown in PEQ.

(1) Importers are required to comply with one of the three options listed below:

Option 1: Phytosanitary certificate - Additional declaration:

a) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

   i) "The *Nicotiana tabacum* seed in this consignment have been inspected during the growing season and no *Peronospora tabacini* was detected"; or
   ii) "sourced from an area where *Peronospora tabacini* is not known to occur".

b) The *Nicotiana tabacum* seed must be treated with one of the following fungicide combinations:

   i) Metalaxyl at 0.7g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
   ii) Metalaxyl at 0.7g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed.

Option 2:

a) The seed is to be untreated before despatch and consigned to MPI approved seed testing station to test for *Peronospora tabacini*, at the expense of the importer.

b) If the tests are negative the seed is to be treated with one of the following fungicide combinations before release to the importer:

   i) Metalaxyl at 0.7 g a.i. per kg seed and Captan at 0.7 g a.i. per kg seed;
   ii) Metalaxyl at 0.7 g a.i. per kg seed and Thiram at 1.0 g a.i. per kg seed.

c) If the tests are positive the seed is to be reshipped or destroyed.

Option 3:

a) Permit to import: Required
   PEQ: Level 3
   Minimum Period: 1 growing season

2.53 Oxyria

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Oxyria*."

Countries: All

Quarantine pests: *Ustilago vinosa*

Import permit: Not Required

2.53.1 Phytosanitary certificate

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section.

2.53.2 Approved treatments

(1) The *Oxyria* seeds must be treated with one of the following fungicide combinations:

a) Carboxin at 0.8g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed;
b) Carboxin at 0.8g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
c) Imazalil at 80mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
d) Imazalil at 80mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed.

2.54 Panicum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Panicum*."

Countries: All

Quarantine pests: *Peronosclerospora sorghi, Sclerospora graminicola, Trogoderma* spp., Ustilaginales

Import permit: Not Required

2.54.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Panicum* seed has been:

i) sourced from a 'pest free area', free from *Peronoslerospora sorghi* and *Sclerospora graminicola;*

OR

ii) sourced from a 'pest free place of production', free from *Peronoslerospora sorghi* and *Sclerospora graminicola".*

2.54.2 Approved treatments

(1) The *Panicum* seeds must be treated with one of the following fungicide combinations:

a) Carboxin at 0.8g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed;
b) Carboxin at 0.8g a. i. per kg seed and Captan at 0.7g a.i. per kg seed;
c) Imazalil at 80mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
d) Imazalil at 80mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed.

2.55 Papaver somniferum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Papaver somniferum*."

Countries: All

Guidance

- Importers of *Papaver somniferum* must contact the Ministry of Health prior to importation for information on the requirements for importing this seed.
  Ministry of Health
  PO Box 5013
  Wellington
  Attention: Advisor, Controlled Drug Licensing
  Telephone: 04 496 2018

2.56 Persea

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Persea*".

Countries: USA

Quarantine pests: *Avocado sunblotch viroid*, Blackstreak

Permit to import: Required

PEQ: Level 3

Minimum Period: 1 growing season

2.56.1 Phytosanitary certificate

(1) If satisfied the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.57 Phaseolus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Phaseolus*."

Countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, United Kingdom and United States of America.

Quarantine pests: Refer to "Pest List for *Phaseolus*".

Import permit: Not Required

2.57.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Phaseolus* seeds have been:

i) sourced from a 'pest free area' free from the named regulated bacteria (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*) and viruses (*Artichoke yellow ringspot virus, Bean common mosaic virus* [blackeye cowpea mosaic strain], *Broad bean mottle virus, Cowpea severe mosaic virus, Pea early-browning virus, Peanut mottle virus, Peanut stunt virus, Southern bean mosaic virus*);

OR

ii) sourced from a 'pest free place of production' free from the named regulated bacteria (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*) and viruses (*Artichoke yellow ringspot virus, Bean common mosaic virus* [blackeye cowpea mosaic strain], *Broad bean mottle virus, Cowpea severe mosaic virus, Pea early-browning virus, Peanut mottle virus, Peanut stunt virus, Southern bean mosaic virus*)";

AND

b) "The *Phaseolus* seeds have been:

i) sourced from a 'pest free area' free from the named regulated fungi (*Cochliobolus miyabeanus, Elsinoe phaseoli, Phoma exigua* var. *diversispora*)";

OR

ii) "treated with one of the fungicide combinations in MPI approved treatments (refer to Part 2.57.2)".

2.57.2 Approved treatments

(1) One of the following treatments is required:

a) Metalaxyl-M at 0.35 g a.i per kg of seed, Fludioxonil at 0.1g a.i per kg of seed and Cymoxanil 0.2g a.i per kg of seed;

b) Fosetyl aluminium at 1.53g a.i per kg of seed, Thiram at 0.5g a.i per kg of seed and Thiabendazole at 0.37g a.i per kg of seed.

(2) Seed treatments that incorporate one of the following fungicide combinations, which must be applied at maximum label rate may be used, provided a copy of the label is presented with the import documents:

a) Metalaxyl or Mefenoxam, and Captan;
b) Metalaxyl or Mefenoxam, Captan and Thiram;

c) Metalaxyl or Mefenoxam, Captan and Fludioxonil.

(3) As required, MPI may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

2.58 Phoenix

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Phoenix*."

Countries: All countries except Guam, the Philippines and the Solomon Islands

Quarantine pests: *Coconut cadang-cadang viroid, Fusarium oxysporum* f. sp. c*anariensis*

Import permit: Not Required

Guidance
- Seed covered in a fleshy pericarp will not be permitted entry into New Zealand.

2.58.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *Phoenix* seeds have been produced in an approved country and have not been produced in Guam, the Philippines or the Solomon Islands".

(2) If the consignment contains *Phoenix canariensis, Phoenix dactylifera* or *Phoenix reclinata* seeds:

a) "The *Phoenix* seeds have been produced in a 'pest free area' free from *Fusarium oxysporum* f. sp. c*anariensis"*.

2.59 Pinus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Pinus*."

Countries: All

Quarantine pests: Refer to "Pest List for *Pinus*."

Import permit: Required only for seeds sourced from areas not known to be free from *Fusarium circinatum.*

2.59.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Pinus* seeds have been:

i) officially inspected during the growing season according to appropriate procedures and no *Dioryctria abietivorella* or *Conophthorus coniperda* was detected.

OR

ii) inspected for evidence of the presence of insect pests and none was found".

AND

b) "The *Pinus* seeds have been treated with one of the fungicides in MPI approved treatments (refer to Part 2.59.2)*".*

AND [For seeds sourced from areas listed as free of *Fusarium circinatum* ONLY]:

c) "The *Pinus* seeds have been:

i) sourced from pest free areas that are, as verified by pest surveillance methods, free from *Fusarium circinatum* (syn. *Fusarium subglutinans* f sp. *pini*)" .

OR [For seeds sourced from areas not listed as free of *Fusarium circinatum*]:

d) The importer must make prior arrangements for the consignment to undergo post entry quarantine at a registered Level 3 PEQ Facility. A permit to import is required.

Guidance

- A list of MPI approved pest free areas is provided using this link: *Fusarium circinatum*
- Treatment may occur on arrival in New Zealand at a registered Transitional Facility.

2.59.2 Approved Treatments

(1) The *Pinus* seeds for sowing must be treated with one of the following fungicides:

a) Captan at 2g a.i. per kg seed;
b) Thiram at 2g a.i. per kg seed.

2.59.3 Testing requirements

(1) MPI will determine, via the requirements on a permit to import, the testing required for *Pinus* spp. seeds for sowing for quarantine pests. The quarantine period will vary depending on the pests that may be associated with the commodity and the tests required.

2.60 *Pisum*

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Pisum*."

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, Taiwan, United Kingdom and United States of America.

Quarantine pests: Refer to "Pest List for *Pisum*".

Import permit: Not Required

2.60.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Pisum* seeds have been:

i) sourced from a 'pest free area' free from *Broad bean mottle virus, Broad bean stain virus, Clover yellow mosaic virus, Pea early-browning virus, Pea enation mosaic virus, Peanut mottle virus, Peanut stunt virus*.

OR

ii) sourced from a 'pest free place of production' free from *Broad bean mottle virus, Broad bean stain virus, Clover yellow mosaic virus, Pea early-browning virus, Pea enation mosaic virus, Peanut mottle virus, Peanut stunt virus*";

AND

b) "The *Pisum* seeds have been:

i) sourced from a 'pest free area' free from *Cladosporium cladosporioides* f. sp. *Pisicola";*

OR

ii) "treated with one of the fungicide combinations in MPI approved treatments (refer to Part 2.60.3)".

2.60.2 Testing on arrival in New Zealand

(1) For lots of pea seed over 2kg, a small sample of pea seeds (approx 100 grams per lot) will be taken and soaked with water on arrival to verify that the seed is free from any regulated pests (e.g. pea weevil larvae).

Guidance

- Small samples of pea seed (< 2kg) for research purposes do not require the soak test but still require dry inspection.

2.60.3 Approved Treatments

(1) The *Pisum* seeds must be treated with one of the following combinations:

a) Metalaxyl-M at 0.35g a.i per kg of seed, Fludioxonil at 0.1g a.i per kg of seed and Cymoxanil 0.2g a.i per kg of seed;

b) Fosetyl aluminium at 1.53g a.i per kg of seed, Thiram at 0.5g a.i per kg of seed and Thiabendazole at 0.37g a.i per kg of seed.

(2) Seed treatments that incorporate one of the following fungicide combinations, which must be applied at maximum label rate may be used, provided a copy of the label is presented with the import documents:

a) Metalaxyl or Mefenoxam, and Captan.
b) Metalaxyl or Mefenoxam, Captan and Thiram.
c) Metalaxyl or Mefenoxam, Captan and Fludioxonil.

Guidance

- MPI, as required, may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

2.61 Populus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Populus*."

Countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States of America

Quarantine pests: *Marssonina* spp.

Import permit: Required

PEQ: Level 2 and Level 1

Minimum Period: 2 growing seasons as follows:

a) in a Level 2 quarantine facility for the first season;
b) in a Level 1 quarantine facility subsequently.

Isolation: 50m exclusion area when planted outside.

2.62 Prunus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Prunus*."

Countries: All

Quarantine pests: *Eurytoma amygdali, Cherry leaf roll virus* [strains not in New Zealand], *Cherry rasp leaf virus, Prune dwarf virus* [strains not in New Zealand], *Prunus necrotic ringspot virus* [strains not in New Zealand], *Plum pox virus, Tomato bushy stunt virus, Cucumber green mottle mosaic virus* (CGMMV)

Import permit: Required

PEQ: Level 3

Minimum Period: 6 months

2.62.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Prunus* seeds have been inspected in accordance with appropriate official procedures and found to be free of *Eurytoma amygdali*."

2.62.2 Inspection and testing requirements

Organism	MPI acceptable detection methods (listed below)
Monilinia fructigena	Growing season inspection in PEQ for disease symptom expression.
*Cherry leaf roll virus**	ELISA (Agdia) or PCR AND herbaceous indicators Cq, Cs.
Cherry rasp leaf virus	ELISA or PCR using the method of James et al. (1991) AND herbaceous indicators Cq, Cs.
Plum pox virus	Durviz ELISA (Agdia) or PCR using the method of Wetzel et al. (1991) AND herbaceous indicators Nc and Cf.
*Prunus necrotic ringspot virus**	ELISA (Agdia) or PCR using the method of Spiegel et al. (1996) AND herbaceous indicators Cs.
*Tomato bushy stunt virus**	ELISA (Agdia) or PCR AND herbaceous indicators Cq, Nc.
Cucumber green mottle mosaic virus	ELISA or PCR

Indicator hosts: *Chenopodium foetidum* (Cf), *Chenopodium quinoa* (Cq), *Cucumis sativus* (Cs) and *Nicotiana clevelandii* (Nc).

(1) With prior notification, MPI will accept other internationally recognised testing methods.

(2) For bioassay and ELISA, plants shall be sampled from at least two positions on every stem including a young, fully expanded leaflet at the top of each stem and an older leaflet from a midway position.

(3) Indicator plants must be grown under appropriate temperatures.

(4) Indicator plants must be shaded for 12-24 hrs prior to inoculation.

(5) Maintain post-inoculated indicator species under appropriate glasshouse conditions for at least 4 weeks.

(6) Inspect plants at least once per week for signs of pest and disease.

(7) Inspect inoculated herbaceous indicator plants at least twice per week for symptoms of virus infection.

(8) At least two plants of each indicator species unless otherwise stated must be used in mechanical inoculation tests.

(9) Positive and negative controls must be used in ELISA tests.

(10) Testing must be carried out on plants while they are in active growth.

(11) Positive and negative controls (including a blank water control) must be used in PCR. Ideally positive internal controls and a negative plant control should be used. Internal controls in PCR tests are important to avoid the risk of false negatives.

(12) For ELISA tests, the unit for testing is an individual seedling because of the presence of pollen transmitted viruses for which pre-determined testing is required (denoted by '*' in the table above).

(13) ELISA or PCR for PPV must test negative before herbaceous indicator tests are conducted.

References:

- James D, Howell WE, Mink GI, 2001.Molecular evidence of the relationship between a virus associated with flat apple disease and Cherry rasp leaf virus as determined by RT-PCR. Plant Disease 85, 47-52.
- Spiegel S, Scott SW, BowmanVance V, Tam Y, Galiakparov NN, Rosner A, 1996. Improved detection of prunus necrotic ringspot virus by the polymerase chain reaction. European Journal of Plant Pathology 102, 681-685.
- Wetzel T, Candresse T, Ravelonandro M, Dunez J, 1991. A polymerase chain-reaction assay adapted to plum pox potyvirus detection. Journal of Virological Methods 33, 355-365.

2.63 *Pseudotsuga menziesii*

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Pseudotsuga menziesii*."

Countries: All

Quarantine pests: Refer to "Pest List for *Pseudotsuga menziesii*".

Import permit: Required only for seeds sourced from areas not known to be free from *Fusarium circinatum*

2.63.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Pseudotsuga menziesii* seeds have been:

i) collected from trees that have been officially inspected during the growing season according to appropriate procedures and no *Dioryctria abietivorella* was detected.

OR

ii) inspected for evidence of the presence of insect pests and none was found".

AND

b) "The *Pseudotsuga menziesii* seeds have been treated for regulated pests".

AND [For seeds sourced from areas listed as free of *Fusarium circinatum* ONLY]:

c) The *Pseudotsuga menziesii* seeds for sowing have been:

i) sourced from pest free areas that are, as verified by pest surveillance methods, free from *Fusarium circinatum* (syn. *Fusarium subglutinans* f sp. *pini*).

OR [For seeds sourced from areas not listed as free of *Fusarium circinatum*]:

d) The Importer must make prior arrangements for the consignment to undergo post entry quarantine at a registered Level 3 PEQ Facility. A Permit to Import is required.

Guidance

- A list of MPI approved pest free areas is provided using this link: *Fusarium circinatum*
- Treatment may occur on arrival in New Zealand at a registered Transitional Facility.

2.63.2 Approved Treatment

(1) The *Pseudotsuga menziesii* seeds must be treated with one of the following fungicides:

a) Captan at 2g a.i. per kg seed;
b) Thiram at 2g a.i. per kg seed.

2.63.3 Testing requirements

(1) MPI will determine, via the requirements on a permit to import, the testing required for *Pseudotsuga menziesii* seeds for sowing for quarantine pests. The quarantine period will vary depending on the pests that may be associated with the commodity and the tests required.

2.64 Psophocarpus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Psophocarpus*."

Countries: All

Quarantine pests: *Etiella spp., Maruca testulali, Trogoderma* spp.

Import permit: Not Required

For Seed in Pods ONLY:

2.64.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Psophocarpus* pods have been inspected before export and no caterpillars of *Etiella* spp. or *Maruca testulalis* were found in a 600 unit sample".

2.65 Pyrus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Pyrus*."

Countries: All

Quarantine pests: *Apple scar skin viroid, Monilinia fructigena, Tomato bushy stunt virus,* Pear bark measle

Import permit: Required

PEQ: Level 3

Minimum Period: 6 months

2.65.1 Phytosanitary requirements

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must provide the certifying statement as per Part 1.5.2 of this import health standard.

2.65.2 Inspection and testing requirements

Organism	MPI acceptable detection methods (listed below)
Monilinia fructigena	Growing season inspection in PEQ for disease symptom expression.
Apple scar skin viroid	PCR using the method of Hadidi et al. (1990).
*Tomato bushy stunt virus**	ELISA (Agdia) or PCR AND herbaceous indicators Cq, Nc.
Pear bark measle	Growing season inspection in PEQ for disease expression.

Indicator hosts: *Chenopodium quinoa* (Cq) and *Nicotiana clevelandi* (Nc).

(1) For bioassay and ELISA, plants shall be sampled from at least two positions on every stem including a young, fully expanded leaflet at the top of each stem and an older leaflet from a midway position.

(2) Indicator plants must be grown under appropriate temperatures.

(3) Indicator plants must be shaded for 12-24 hrs prior to inoculation.

(4) Maintain post-inoculated indicator species under appropriate glasshouse conditions for at least 4 weeks.

(5) Inspect plants at least once per week for signs of pest and disease.

(6) Inspect inoculated herbaceous indicator plants at least twice per week for symptoms of virus infection.

(7) PCR and ELISA need to be validated using positive controls/reference material prior to use in quarantine testing.

(8) At least two plants of each indicator species unless otherwise stated must be used in mechanical inoculation tests.

(9) Positive and negative controls must be used in ELISA tests.

(10) Testing must be carried out on plants while they are in active growth.

(11) Positive and negative controls (including a blank water control) must be used in PCR. Ideally positive internal controls and a negative plant control should be used. Internal controls in PCR tests are important to avoid the risk of false negatives.

(12) For ELISA tests, the unit for testing is an individual seedling because of the presence of pollen transmitted viruses for which pre-determined testing is required (denoted by '*' in the table above).

Guidance

- With prior notification, MPI will accept other internationally recognised testing methods.

References:

- Hadidi A, Yang X, 1990. Detection of pome fruit viroids by enzymatic cDNA amplification. Journal of Virological Methods 30, 261-269.

2.66 Quercus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Quercus*."

Countries: Australia, Canada, Germany, India, Israel, Japan, Mexico, Spain, Tunisia, United Kingdom and United States of America

Quarantine pests: *Ceratocystis fagacearum, Cryphonectria parasitica*, Curculionidae

Import permit: Required

PEQ: Level 3

Minimum Period: 2 years

Isolation: 50m exclusion area when planted outside

2.66.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *Quercus* seeds have been:

i) collected from trees that have been officially inspected during active growth and no diseases caused by *Ceratocystis fagacearum* or *Cryphonectria parasitica* were detected;

OR

ii) sourced from an area where *Ceratocystis fagacearum* and *Cryphonectria parasitica* are not known to occur".

AND

b) "The *Quercus* seeds have been fumigated with methyl bromide at ___ pressure for ___ hours at ___ g/m³ at a temperature of ___°C";

i) the pressure/time/rate temperature combination used is to be in accordance with the following scale:

Temperature	Rate (g/m³)	Time (hours)	Pressure
15 - 21°C	32	12	Atmospheric
21°C or above	16	12	Atmospheric
15 - 21°C	48	1.5	91 kpa vacuum
21°C or above	48	1.0	91 kpa vacuum

2.66.2 Inspection and testing requirements

Organism	MPI acceptable detection methods
Ceratocystis fagacearum	Growing season inspection in PEQ for disease symptom expression.
Cryphonectria parasitica	Growing season inspection in PEQ for disease symptom expression.

2.67 Ribes

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "See 155.02.05 under *Ribes*."

Countries: All

Quarantine pests: Refer to pest list for *Ribes*

Import permit: Required

PEQ: Level 3

Minimum Period: 6 months

2.67.1 Phytosanitary requirements

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.67.2 Inspection and testing requirements

Organism	**MPI acceptable detection methods (listed below)**
For both "Currant type" and "Gooseberry types" *Ribes*	
*Raspberry ringspot virus**	ELISA or PCR and herbaceous indexing with Ca and Cq or Cq, Cs and Nc
For "Currant type" Ribes only	
Tobacco rattle virus [strains not in New Zealand]	Herbaceous indexing with Ca and Cq OR Cq , Cs and Nc.

Indicators: *Chenopodium amaranticolor*, Ca - *Chenopodium quinoa*, Cq – *Cucumis sativus*, Cs – *Nicotiana clevelandii*, Nc.

(1) Tests are to be carried out on plants germinated from the imported seeds.

(2) Testing must be carried out on plants while they are in active growth.

(3) Indicator plants must be grown under appropriate temperatures.

(4) Indicator plants must be shaded for 12-24 hrs prior to inoculation.

(5) For each *Ribes* plant, at least two fully-expanded leaves must be sampled from different branches of the main stem, one a younger leaf and one an older leaf.

(6) Post-inoculated indicator plants must be maintained under appropriate glasshouse conditions for at least 4 weeks.

(7) Post-inoculated indicator plants must be inspected at least twice per week for signs of virus infection with observations being recorded on a weekly basis.

(8) For ELISA tests, the unit for testing is an individual seedling because of the presence of pollen transmitted viruses for which pre-determined testing is required (denoted by '*' in the table above).

(9) PCR and ELISA need to be validated using positive controls/reference material prior to use in quarantine testing;

(10) Positive, negative, and buffer controls must be used in ELISA tests.

(11) Positive controls must be used in PCR.

(12) Inspection of the *Ribes* plants by the operator of the PEQ facility for signs of pest and disease must be at least once per week.

Guidance

- Other internationally recognised testing methods may be accepted by MPI with prior notification.

References:

- Converse, R.H., ed. 1987. Virus Diseases of Small Fruits. USDA Agriculture Handbook No. 631, 277pp.
- Diekmann M, Frison EA and Putter T (). FAO/IPGRI Technical Guidelines for the Safe Movement of Small Fruit Germplasm, www.ipgri.cgiar.org/Publications/pdf/249.pdf
- Hanada, K. and Harrison, BD. (1977). Effects of virus genotype and temperature on seed transmission of nepoviruses. Ann. appl. Biol. 85: 79-92
- ICTVdB: The Universal Virus Database, version 4. http://www.ncbi.nlm.nih.gov/ICTVdb/ICTVdB/
- Lister R.M. (1960) Transmission of soil-borne viruses through seed. Virology. 10: 4, 547-549
- Lister, R.M., Murant A.F., (1967) Seed transmission of nematode-borne viruses. Ann.appl. Biol.59:49-62
- Lister, R.M., Murant A.F. (1967) Seed-transmission in the ecology of nematode-borne viruses. Ann. appl. Biol. 59: 63-76
- MPI Post-Entry Quarantine Testing Manual – Ribes.

2.68 Rubus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Rubus"*.

Countries: All

Quarantine pests: Refer to pest list for *Rubus*

Import permit: Required

PEQ: Level 2

Minimum Period: 3 months

2.68.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.68.2 Inspection and testing requirements

Organism	MPI acceptable detection methods (listed below)
Raspberry ringspot virus	ELISA or PCR and herbaceous indexing with Cq, Cs and Nc
Tomato ringspot virus	ELISA or PCR and herbaceous indexing with Cq, Cs and Nc

Indicators: *Chenopodium quinoa*, Cq – *Cucumis sativus*, Cs – *Nicotiana clevelandii*, Nc.

(1) Tests are to be carried out on plants germinated from the imported seeds.

(2) The quarantine period will begin once the plants have entered a period of active growth and have two fully expanded leaves.

(3) Virus testing needs to be conducted on new spring growth. For each *Rubus* plant, at least two young fully- expanded leaves must be sampled from different branches of the main stem, one a younger leaf and one older leaf.

(4) Herbaceous Indicator plants must be grown under appropriate temperatures at 18-25 ºC.

(5) Indicator plants must be shaded for 24 hrs prior to inoculation.

(6) For each *Ribes* plant, at least two fully-expanded leaves must be sampled from different branches of the main stem, one a younger leaf and one an older leaf.

(7) Post-inoculated indicator plants must be maintained under appropriate glasshouse conditions for at least 4 weeks.

(8) Post-inoculated indicator plants must be inspected at least twice per week for signs of virus infection with observations being recorded on a weekly basis.

(9) Positive and negative (buffer solution) controls must be used on all herbaceous indexing tests.

(10) PCR and ELISA tests need to be validated using positive controls/reference material prior to use in quarantine testing;

(11) Positive, negative, and buffer controls must be used in ELISA tests.

(12) Positive and negative controls must be used in PCR.

(13) Inspection of the *Rubus* plants by the operator of the PEQ facility for signs of pest and disease must be at least twice per week during periods of active growth.

Guidance

- Other internationally recognised testing methods may be accepted by MPI with prior notification.

2.69 Sesamum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Sesamum*."

Countries: All

Quarantine pests: *Alternaria sesami, Cercoseptoria sesami, Xanthomonas campestris* pv. *sesami, Trogoderma* spp.

Import permit: Not Required

2.69.1 Phytosanitary certificate - Additional declaration

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Sesamum* seeds have been:

i) sourced from a 'pest free area' free from *Alternaria sesami, Cercoseptoria sesami* and *Xanthomonas campestris* pv. *sesami;*

OR

ii) sourced from a 'pest free place of production' free from *Alternaria sesami, Cercoseptoria sesami* or *Xanthomonas campestris* pv. *sesami".*

2.69.2 Approved treatment

(1) The *Sesamum* seeds for sowing must be treated with Iprodione at 2.5 g a.i. per kg of seed.

2.70 Solanum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Solanum*." For *Solanum lycopersicum* and *Solanum tuberosum*, please refer to the individual schedules which follow.

Countries: All

Quarantine pests: *Potato spindle tuber viroid*.

Import permit: Not Required

2.70.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *[insert species name]* seeds for sowing have been:

i) sourced from an 'pest free area' free from *Potato spindle tuber viroid;*

OR

ii) sourced from a 'pest free place of production' free from *Potato spindle tuber viroid";*

OR

b) "The *[insert species name]* seeds for sowing have been officially tested, on a representative sample and using appropriate methods, and found to be free from *Potato spindle tuber viroid"*.

2.71 Solanum lycopersicum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Solanum lycopersicum*."

Countries: All

Quarantine pests: *Pepino mosaic virus, Potato spindle tuber viroid*, *Tomato chlorotic dwarf viroid*.

Import permit: Not Required

2.71.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declarations to the phytosanitary certificate:

a) "The *Solanum lycopersicum* seeds have been prepared to industry standards with thorough cleaning to remove all traces of flesh from the seeds".

AND

b) "The *Solanum lycopersicum* seeds have been:

i) sourced from a 'pest free area' free from *Pepino mosaic virus*.

OR

ii) sourced from a pest free place of production' free from *Pepino mosaic virus*.

OR

iii) officially tested, on a representative sample, and using appropriate methods, and found to be free from *Pepino mosaic virus"*.

AND

c) "The *Solanum lycopersicum* seeds have been:

i) sourced from a 'pest free area' free from *Potato spindle tuber viroid*.

OR

ii) sourced from a 'pest free place of production' free from *Potato spindle tuber viroid*.

OR

iii) officially tested, on a representative sample, and using appropriate methods, and found to be free from *Potato spindle tuber viroid"*.

AND

d) " The *Solanum lycopersicum* seeds have been:

i) sourced from a 'pest free area' free from *Tomato chlorotic dwarf viroid*.

OR

ii) sourced from a 'pest free place of production' free from *Tomato chlorotic dwarf viroid*.

OR

iii) officially tested, on a representative sample, and using appropriate methods, and found to be free from *Tomato chlorotic dwarf viroid"*.

2.72 Solanum tuberosum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Solanum tuberosum*."

Countries: All

Quarantine pests: *Andean potato latent virus, Andean potato mild mosaic virus, Potato black ring virus, Potato spindle tuber viroid, Potato virus T, Tobacco ringspot virus*

Import permit: Required

PEQ: Level 3

Minimum Period: 1 growing season

2.72.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.73 Sorghum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Sorghum*."

Countries: Australia, USA

Quarantine pests: *Peronosclerospora sorghi, Sclerospora graminicola, Trogoderma* spp., Ustilaginales

Import permit: Not Required

2.73.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Sorghum* seeds have been:

i) sourced from a 'pest free area' free from *Peronosclerospora sorghi* and *Sclerospora graminicola.*

OR

ii) sourced from a 'pest free place of production' free from *Peronosclerospora sorghi* and *Sclerospora graminicola".*

2.73.2 Approved treatments

(1) The *Sorghum* seeds must be treated with one of the following fungicide combinations:

a) Carboxin at 0.8g a.i. per kg seed and Thiram at 1.0g a.i. per kg seed;
b) Carboxin at 0.8g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
c) Imazalil at 80mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
d) Imazalil at 80mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed.

2.74 Stenotaphrum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Stenotaphrum*."

Countries: All

Quarantine pests: *Panicum mosaic virus*

Import permit: Required

PEQ: Level 3

Minimum Period: 1 growing season

2.74.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.75 Trigonella foenum-graecum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Trigonella foenum-graecum*."

Countries: All

Quarantine pests: *Cercosporidium traversiana, Trogoderma* spp.

Import permit: Not Required

2.75.1 Phytosanitary certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Trigonella foenum-graecum* seeds have been:

i) sourced from a 'pest free area' free from *Cercosporidium traversiana;*

OR

ii) sourced from a 'pest free place of production' free from *Cercosporidium traversiana* was detected.

2.75.2 Approved treatments

(1) The *Trigonella foenum-graecum* seeds for sowing must be treated with one of the following fungicides:

a) Benomyl at 2.5g a.i. per kg seed;
b) Carbendazim at 2.5g a.i. per kg seed;
c) Thiophanate methyl at 2.5g a.i. per kg seed.

2.76 Triticum

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Triticum*."

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States of America.

Quarantine pests: Refer to "Pest List for *Triticum*".

Import permit: Not Required

2.76.1 Phytosanitary Certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declaration to the phytosanitary certificate:

a) "The *Triticum* seeds have been:

i) sourced from a 'pest free area' free from the named regulated bacteria (*Rathayibacter tritici, Xanthomonas campestris* pv. *undulosa*) and viruses (*High plains virus, Indian peanut clump virus*)";

OR

ii) "sourced from a 'pest free place of production' free from the named regulated bacteria (*Rathayibacter tritici, Xanthomonas campestris* pv. *undulosa*) and viruses (*High plains virus, Indian peanut clump virus*)".

AND

b) "The *Triticum* seeds have been:

i) sourced from a 'pest free area' free from *Anguina tritici"*,

OR

ii) "sourced from a 'pest free place of production' free from *Anguina tritici"*,

OR

iii) "inspected microscopically for *Anguina tritici* in accordance with appropriate official procedures, and no *Anguina tritici* spores were detected".

AND

c) "The *Triticum* seeds have been:

i) sourced from a 'pest free area' free from the named regulated fungi (*Alternaria triticina, Cephalosporium gramineum, Curvularia verruculosa*)";

OR

ii) "treated with one of the fungicide combinations in MPI approved treatments (refer to Part 2.76.2)";

AND

d) "The Triticum seeds have been:

i) sourced from a 'pest free area' free from *Tilletia controversa* and *Tilletia indica"*;

OR

ii) "sourced from a 'pest free place of production' free from *Tilletia controversa* and *Tilletia indica* and treated with an approved fungicide treatment";

OR

iii) "a representative sample of 600 seeds, drawn from this consignment according to the International Seed Testing Associations methodology, has been tested for *Tilletia controversa* and *Tilletia indica* (and no spores of *Tilletia controversa* or *Tilletia indica* were found in a representative sample of 600 seeds drawn from this consignment) AND treated with an approved fungicide treatment".

2.76.2 Approved treatments

(1) One of the following treatments is required:

a) Carboxin at 0.8g a.i. per kg of seed and Thiram at 0.8g a.i. per k.g of seed;
b) Flutriafol at 0.05g a.i. per kg of seed and Imazalil at 0.05g a.i. per kg of seed;
c) Triadimenol at 0.375g a.i. per kg of seed and Fuberidazole 0.15g a.i per kg of seed;
d) Triadimenol at 0.23g a.i. per kg of seed, Imazalil 0.075g per kg of seed and Fuberidazole 0.15g a.i per kg of seed;
e) Tebuconazole at 0.025g a.i. per kg of seed and Imazalil at 0.05g a.i. per kg of seed.

Guidance

- MPI, as required, may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

2.77 Ulmus

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Ulmus*."

Countries: All

Quarantine pests: *Cherry leaf roll virus, Elm mottle virus*

Import permit: Not Required

2.77.1 Phytosanitary Certificate - Additional declaration

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the following additional declaration to the phytosanitary certificate:

a) "The *Ulmus* seeds have been:

i) sourced from trees which were officially inspected during the growing season and no *Cherry leaf roll virus* or *Elm mottle virus* was detected;

OR

ii) sourced from an area where *Cherry leaf roll virus* and *Elm mottle virus* are not known to occur".

2.78 Vaccinium

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Vaccinium*."

Countries: All

Quarantine pests: Refer to pest list for *Vaccinium*

Import permit: Required.

PEQ: Level 3

Minimum Period: 6 months

2.78.1 Phytosanitary cerificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.78.2 Inspection and testing requirements

Organism	MPI acceptable detection methods (listed below)
Diaporthe vaccinii	Growing season inspection in PEQ for disease symptom expression.
Botryosphaeria vaccinii	Growing season inspection in PEQ for disease symptom expression.
Monilinia fructigena	Growing season inspection in PEQ for disease symptom expression.
Monilinia vaccinii-corymbosi	Growing season inspection in PEQ for disease symptom expression.
*Blueberry shock virus**	ELISA (Agdia) or PCR AND herbaceous indicators Nb, Nc.
*Blueberry leaf mottle virus**	ELISA (Agdia) or PCR AND herbaceous indicators Cq, Nc.
*Peach rosette mosaic virus**	ELISA (Agdia) or PCR AND herbaceous indicators Ca, Cq
*Tomato ringspot virus**	ELISA (Agdia) or PCR AND herbaceous indicators Cq, Nc.

Indicator hosts: Chenopodium amaranticolor (Ca), C. quinoa (Cq), Nicotiana benthamiana (Na), and N. clevelandi (Nc).

(1) With prior notification, MPI will accept other internationally recognised testing methods.

(2) For bioassay and ELISA, plants shall be sampled from at least two positions on every stem including a young, fully expanded leaflet at the top of each stem and an older leaflet from a midway position.

(3) Indicator plants must be grown under appropriate temperatures.

(4) Indicator plants must be shaded for 12-24 hrs prior to inoculation.

(5) Maintain post-inoculated indicator species under appropriate glasshouse conditions for at least 4 weeks.

(6) Inspect plants at least once per week for signs of pest and disease.

(7) Inspect inoculated herbaceous indicator plants at least twice per week for symptoms of virus infection..

(8) PCR and ELISA need to be validated using positive controls/reference material prior to use in quarantine testing.

(9) At least two plants of each indicator species unless otherwise stated must be used in mechanical inoculation tests.

(10) Positive and negative controls must be used in ELISA tests.

(11) For ELISA tests, the unit for testing is an individual seedling because of the presence of pollen transmitted viruses for which pre-determined testing is required (denoted by '*' in the table above).

(12) Testing must be carried out on plants while they are in active growth.

(13) Positive and negative controls (including a blank water control) must be used in PCR. Ideally positive internal controls and a negative plant control should be used. Internal controls in PCR tests are important to avoid the risk of false negatives.

2.79 Vicia

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Vicia*."

Countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, United Kingdom and United States of America.

Quarantine pests: Refer to pest list for *Vicia*

Import permit: Not Required.

2.79.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section, and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Vicia* seeds have been:

i) sourced from a 'pest free area' free from the named regulated viruses (*Artichoke yellow ringspot virus, Broad bean mottle virus, Broad bean stain virus, Broad bean true mosaic virus, Clover yellow mosaic virus, Pea early-browning virus, Pea enation mosaic virus, Peanut stunt virus, Red clover vein mosaic virus*)".

OR

ii) "sourced from a 'pest free place of production' free from the named regulated viruses (*Artichoke yellow ringspot virus, Broad bean mottle virus, Broad bean stain virus, Broad bean true mosaic virus, Clover yellow mosaic virus, Pea early-browning virus, Pea enation mosaic virus, Peanut stunt virus, Red clover vein mosaic virus*)".

2.79.2 Approved treatments

(1) The *Vicia* seeds must be treated with one of the following combinations:

a) Metalaxyl-M at 0.35g a.i per kg of seed, Fludioxonil at 0.1g a.i per kg of seed and Cymoxanil 0.2g a.i per kg of seed;

b) Fosetyl aluminium at 1.53g a.i per kg of seed, Thiram at 0.5g a.i per kg of seed and Thiabendazole at 0.37g a.i per kg of seed.

(2) As required, MPI may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

2.80 Vigna

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Vigna*."

Countries: All

Quarantine pests: *Curtobacterium flaccumfaciens* pv. *flaccumfaciens, Xanthomonas campestris* pv. *vignicola, Earias vitella, Maruca testulalis, Trogoderma* spp.

Import permit: Not Required

2.80.1 Phytosanitary certificate - Additional declarations

(1) In addition to the certifying statement in Part 1.5.2 of this import health standard, if satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording providing the following additional declaration to the phytosanitary certificate:

a) "The *Vigna* seed have been:

i) collected from trees which were inspected during the growing season according to appropriate procedures and no *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* or *Xanthomonas campestris* pv. *vignicola* was detected.

OR

ii) sourced from an area where *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* and *Xanthomanas campestris* pv. *vignicola* are not known to occur".

AND [For seed in pods]:

b) "The *Vigna* seed pods were inspected before export and no caterpillars of *Earias vitella* or *Maruca testulalis* were found in a 600 unit sample".

2.81 Vitis

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Vitis*."

Countries: All

Quarantine pests: *Grapevine angular mosaic virus, Grapevine Bulgarian latent virus, Grapevine chrome mosaic virus, Grapevine fanleaf virus* [strains not in New Zealand], *Grapevine line pattern virus, Peach rosette mosaic virus, Tomato ringspot virus*.

Import permit: Required

PEQ: Level 2

Minimum period: 3 months; the quarantine period will begin once the plants have entered a period of active growth and have two fully expanded leaves.

2.81.1 Phytosanitary certificate

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by providing the certifying statement as per Part 1.5.2 of this import health standard.

2.81.2 Inspection and testing requirements

Organism	MPI acceptable detection methods (listed below)
Grapevine angular mosaic virus	Growing season inspection
Grapevine Bulgarian latent virus	Herbaceous indicators (Ca and Cq)
Grapevine chrome mosaic virus	Herbaceous indicators (Ca, Cq, Cs and Nt)
Grapevine fanleaf virus [strains not in New Zealand]	ELISA or PCR AND herbaceous indicators (Ca, Cq and Cs)
Grapevine line pattern virus	Growing season inspection
*Peach rosette mosaic virus**	ELISA or PCR AND herbaceous indicators (Ca, Cq, Cs and Nt)
*Tomato ringspot virus**	ELISA or PCR AND herbaceous indicators (Ca and Cq)

Herbaceous indexing will use the indicators Ca - *Chenopodium amaranticolor*, Cq - *Chenopodium quinoa*, Cs - *Cucumis sativus* and Nt - *Nicotiana tabacum*.

(1) Tests are to be carried out on plants germinated from the imported seeds.

(2) The quarantine period will begin once the plants have entered a period of active growth and have two fully expanded leaves.

(3) Virus testing is to be conducted on new spring growth. For each plant, at least two fully-expanded leaves must be sampled from different branches of the main stem, one a younger leaf and one an older leaf.

(4) For ELISA tests, the unit for testing is an individual seedling because of the presence of pollen transmitted viruses for which pre-determined testing is required (denoted by '*' in the table above).

(5) All PCR and ELISA tests must be validated using positive controls prior to use in quarantine testing. Positive and negative controls (including a blank water control for PCR) must be used in all tests. Ideally positive internal controls and a negative plant control should also be used in PCR tests.

(6) At least two plants of each herbaceous indicator species must be used in each test. Herbaceous indicator plants must be grown under appropriate temperatures and must be shaded for 24 hrs prior to inoculation. Maintain post-inoculated indicator species under appropriate glasshouse conditions for at

least 4 weeks. Inspect inoculated indicator plants at least twice per week for symptoms of virus infection.

(7) Inspection of the *Vitis* plants by the operator of the PEQ facility for signs of pest and disease must be at least twice per week while in active growth. A record of inspections carried out by the Operator is to be kept and made available to the MPI Inspector on request.

(8) Other internationally recognised testing methods may be accepted by MPI with prior notification.

2.82 Zea mays

The following requirements only apply to species in the Plant Biosecurity Index listed under Import Specifications for Seed as "see 155.02.05 under *Zea*."

Approved Countries: Australia, Austria, Canada, Chile, Finland, France, Germany, Greece, Hungary, Japan, the Netherlands, Norway, South Africa, Sweden, Switzerland, the United Kingdom and United States of America.

Quarantine Pests: *Acidovorax avenae* subsp. a*venae*, *Clavibacter michiganensis* subsp. *nebraskensis, Pantoea stewartii, High plains virus*, *Maize dwarf mosaic virus*, *Maize chlorotic mottle virus, Sugarcane mosaic virus, Botryosphaeria zeae*, *Cochliobolus pallescens*, *Cochliobolus tuberculatus*, *Claviceps gigantea*, *Gloeocercospora sorghi, Ustilago maydis*, *Peronosclerospora heteropogoni*, *P. maydis*, *P. philippinensis*, *P. sacchari*, *P.sorghi*, *Phaeocytostroma ambiguum*, *Sclerophthora rayssiae* var. *zeae*, *Rhizopus maydis*, *Stenocarpella macrospora* and *Cephalosporium maydis.*

Regulated pests: Refer to pest list for *Zea mays*

Permit to import: Not Required, unless seeds are to be grown in PEQ.

2.82.1 Phytosanitary certificate - Additional declarations

(1) If satisfied that the pre-shipment activities have been undertaken, the exporting country NPPO must confirm this by recording the treatments applied in the disinfestation and/or disinfection treatment section (if applicable), and by providing the following additional declarations to the phytosanitary certificate:

a) "The *Zea mays* seeds have been inspected in accordance with appropriate official procedures and found to be free of any visually detectable regulated pests, including the regulated insects, mites and weed seeds on MPI's regulated pest list for *Zea mays*".

AND

b) "The *Zea mays* seeds have been:

i) sourced from a 'pest free area' free from the named regulated bacteria *Acidovorax avenae subsp. avenae, Clavibacter michiganensis subsp. nebraskensis, Pantoea stewartii and viruses High plains virus* and *Maize dwarf mosaic virus";*

OR

ii) "sourced from a 'pest free place of production' free from the named regulated bacteria *Acidovorax avenae* subsp. *avenae, Clavibacter michiganensis* subsp. *nebraskensis, Pantoea stewartii* and viruses *High plains virus* and *Maize dwarf mosaic virus";*

OR

iii) "a representative sample, officially drawn from this consignment according to ISTA or AOSA methodology, has been tested for the presence of and found free from the named regulated bacteria *Acidovorax avenae* subsp. *avenae, Clavibacter michiganensis* subsp. *nebraskensis, Pantoea stewartii* and viruses *High plains virus* and *Maize dwarf mosaic virus".*

AND

c) "The *Zea mays* seeds have been:

i) sourced from a 'pest free area' free from the named regulated viruses *Maize chlorotic mottle virus* and S*ugarcane mosaic virus";*

OR

ii) "a representative sample, officially drawn from this consignment according to ISTA or AOSA methodology, has been tested for and found free from the named regulated viruses *Maize chlorotic mottle virus* and S*ugarcane mosaic virus";*

Guidance

- Countries that MPI recognise endorsing "Pest free area" as an additional declaration for Sugarcane mosaic virus are as follow:
  Australia, Austria, Canada, Finland, France, Germany, Greece, Hungary, Japan, the Netherlands, Norway, South Africa, Sweden, Switzerland, the United Kingdom and United States of America

AND

d) "The *Zea mays* seeds have been:

i) sourced from a 'pest free area' free from the named regulated fungi *Botryosphaeria zeae, Cochliobolus pallescens, Cochliobolus tuberculatus, Claviceps gigantea, Gloeocercospora sorghi, Ustilago maydis, Peronosclerospora heteropogoni, Peronosclerospora maydis, Peronosclerospora philippinensis, Peronosclerospora sacchari, Peronosclerospora sorghi, Phaeocytostroma ambiguum, Sclerophthora rayssiae var. zeae, Rhizopus maydis, Stenocarpella macrospora* and *Cephalosporium maydis";*

OR

ii) "treated with one of the fungicide combinations in MPI approved treatments (refer to Part 2.82.3)*".*

2.82.2 GM seed testing

(1) In addition to the phytosanitary requirements above, all consigments of *Zea mays* (sweet corn, maize) are required to be representatively sampled, tested, and found to be free of unapproved GM seed according to the Protocol (refer to Part 1.5.4: *Genetically Modified Testing Certificate*). More information can also be found at https://www.mpi.govt.nz/importing/plants/seeds-for-sowing/genetically-modified-seeds/

Guidance

- The Protocol for testing for the presence of genetically modified plant material can be found at http://www.mpi.govt.nz/document-vault/10250
- Popcorn does not require GM testing. The full scientific name must be specified on the phytosanitary certificate (e.g. *Zea mays* var. *everta*) to enable popcorn to be given clearance without a GM testing certificate.

2.82.3 Approved treatments

(1) The *Zea mays* seed must be treated with one of the following fungicide combinations;

a) The active ingredients in one of the following treatments are required:

i) Carboxin at 0.8 g a.i. per kg seed and Thiram at 0.8g a.i. per kg seed;
ii) Carboxin at 0.8 g a.i. per kg seed and Captan at 0.7g a.i. per kg seed;
iii) Fludioxonil at 0.025 g a.i.per kg seed and Metalaxyl at 0.02g a.i. per kg seed;
iv) Imazalil at 80 mg a.i. per kg seed and Triadimenol at 220mg a.i. per kg seed;
v) Imazalil at 80 mg a.i. per kg seed and Flutriafol at 80mg a.i. per kg seed;
vi) Difenoconazole at 0.12 g a.i per kg seed and Mefenoxam at 0.01g a.i per kg seed;
vii) Fludioxonil at 0.025 g a.i.per kg seed and Mefenoxam at 0.01g a.i. per kg seed.

(2) As required, MPI may evaluate other treatments and if effective, will approve these treatments and add them to this schedule.

2.82.4 Testing requirements

(1) Testing for all quarantine pests and diseases specified in the pest list is required to be completed offshore prior to export, or on arrival in New Zealand by an MPI-approved testing laboratory if testing cannot be provided offshore.

(2) ***Pantoea stewartii****:* A negative result from testing a representative sample of a minimum of 400 seeds, using the immunosorbent assay test described by Lamka *et al.* (1991), may be used to show the consignment is free of *Pantoea stewartii* subsp. *stewartii*.;

(3) ***Clavibacter michiganensis subsp. nebraskensis***: A negative result from testing a representative sample of a minimum of 400 seeds, using the sCNS Culture Plate Method (Shepherd, 199*9; www*.seedhealth.org), may be used to show the consignment is *free of Clavibacter michiganensis* subsp. *Nebraskensis****;***

(4) ***Acidovorax avenae subsp. avenae***: A negative result from testing a representative sample of a minimum of 400 seeds, using the methodology of Dange *et al*. (1978), may be used to show the consignment is free of *Acidovorax avenae* subsp*. Avenae;*

(5) ***High plains virus:*** A negative result from testing a representative sample of seeds using greenhouse grow-out tests and ELISA testing as described by Forster *et al*. (2001) and Crop Plant Compendium 2003, or a representative sample of a minimum of 3000 seeds, using a PCR NPPO approved method, such as Lebas *et al*. (2005), may be used to show that the consignment is free *of High plains virus;*

(6) ***Maize dwarf mosaic virus:*** A negative result from testing a representative sample of a minimum of 2000 seeds, using an NPPO approved method, may be used to show the consignment is free of *Maize dwarf mosaic virus;*

(7) ***Maize chlorotic mottle virus:*** A negative result from testing a representative sample of a minimum of 3000 seeds, using ELISA or PCR testing, may be used to show the consignment is free from *Maize chlorotic mottle virus;*

(8) ***Sugarcane mosaic virus*****:** A negative result from testing a representative sample of a minimum of 2000 seeds, using an NPPO approved method, may be used to show the consignment is free of *Sugarcane mosaic virus*.

Guidance

- MPI may, upon request, consider alternative virus and bacterial testing methods from those described in this schedule.

References:

- Dange SRS, Payak MM, Renfro BL, 1978. Seed transmission of *Pseudomonas rubrilineans*, the incitant of bacterial leaf stripe of maize. *Indian Phytopathology* 31(4):523-524.
- Forster RL, Seifers DL, Strausbaugh CA, Jensen SG, Ball EM, Harvey TL, 2001. Seed transmission of the *High Plains virus* in sweet corn. Plant Disease 85(7):696-699
- Lamka, G L; Hill, J H; McGee, D C; and Braun, E J. 1991: Development of an immunosorbent assay for seedborne *Pantoea stewartii* subsp. *stewartii* in corn seeds. Phytopathology 81:839-846
- Lebas, B.S.; Ochoa-Corona, F.M.; Elliot, D.R.; Tang, Z. and Alexander, B.J.R. 2005. Development of an RT-PCR for High Plains virus indexing scheme in New Zealand post entry quarantine. *Plant Disease*, 89:1103-1108.
- Shepherd, L.M. 1999: Detection and transmission of *Clavibacter michiganensis* subsp. *nebraskensis* of corn. Ms Thesis, Iowa State University, Ames, IA.

Appendix 1: Definitions

Definitions have the same meaning as defined by the Act and ISPM 5: Glossary of Phytosanitary Terms (2012), unless set out below:

a.i.
Active ingredient.

AOSA
The Association of Official Seed Analysts is an organisation comprised of member laboratories which are staffed by certified seed analysts. Such seed testing facilities include official state, federal, and university seed laboratories across the United States of America and Canada.

Basic seed
Refers to seed listed in the Plant Biosecurity Index under " Import Specification for Seed for Sowing".

BORIC
Biosecurity Organisms Register for Imported Commodities: MPI database which informs on the quarantine status for an organism as either regulated or non- regulated for New Zealand.

ELISA
Enzyme linked immunosorbent assay.

EPA
Environmental Protection Authority is responsible for administering the Hazardous Substances and New Organisms (HSNO) Act 1996.

Fleshy fruit
Any fruit (matured ovary) that is succulent or semi-succulent e.g. a berry, drupe, pome.

Genetically modified organism (GM)
Any organism in which any of the genes or any of the other genetic material has been modified by in-vitro techniques; or is inherited or otherwise derived, through any number of replications, from any genes or other genetic material which has been modified by *in-vitro* techniques. [as defined by the HSNO Act 1996]

Herbaceous Indexing
Virus detection and identification technique where plant viruses are transmitted mechanically or via a vector to a number of herbaceous indicator plants for the observation of characteristic symptoms.

ISTA
International Seed Testing Association.

IPPC
International Plant Protection Convention, as deposited with FAO in Rome in 1951 and as subsequently amended [FAO, 1990].

ISPM
International Standard for Phytosanitary Measures are the international standards adopted by the Conference of FAO, the Interim Commission on Phytosanitary Measures or the Commission on Phytosanitary Measures, established under the IPPC [CEPM, 1996; revised CEPM, 1999].

Level 1, Level 2 or Level 3 post-entry quarantine
A system of post entry quarantine screening whereby seed is grown under certain specified conditions on a property approved to the MPI operational standard PBC-NZ-TRA-PQCON.

NPPO
National Plant Protection Organisation is the official service established by Government to discharge the functions specified by the IPPC. [FAO, 1990; formerly Plant Protection Organisation (National)].

Pelleted seed
Seed encased in a man-made nutritive or protective covering.

Permit
A permit to import issued by MPI that specifies the conditions under which a particular commodity may be imported into New Zealand.

Pest
Any species, strain or biotype of animal or pathogenic agent (fungi, bacteria, viruses, viroids) injurious to plants or plant products.

Note: For the purpose of this import health standard "pest" includes an organism sometimes associated with the pathway, which poses a risk to human or animal or plant life or health (SPS Article 2).

PCR
Polymerase chain reaction.

Plant Biosecurity Index
MPI search system for identifying the status of plant species for importing to New Zealand.

Pre-Germinated Seed
Seed with only the radicle (embryonic root) emerged.

Quarantine Pest
A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled [FAO, 1990; revised FAO 1995; IPPC 1997].

Quarantine Weed Seeds
An invasive plant species as set out in the MPI Schedule of Regulated (Quarantine) Weed Seeds.

Regulated Pest
A quarantine pest or a regulated non- quarantine pest listed in BORIC as being regulated for New Zealand.
Note: If an intercepted organism is not listed in BORIC, the NPPO must contact MPI to establish the regulatory status.

Seed
A unit of reproduction used for sowing. This includes spores but excludes vegetative propagules.

Appendix 2: Amendment Record

Amendments to this IHS will be given a consecutive number and dated. The following table provides a summary of the main changes to this IHS for the previous five years.

No:	Details:	Date:
26	Revised schedules of special conditions for *Hordeum* and *Triticum*.	7/05/2009
27	Addition of schedule for *Linum usitatissimum*. Revised schedule of special conditions for *Fragaria* and *Ribes*. Removal of *Echinacea angustifolia* from section 1.5.2	19/03/2010
28	Removal of *Xanthomonas translucens* pv. *translucens* from the *Hordeum* and *Triticum* schedules. Revised schedule of *Zea*, including Japan as an approved country with the addition of *Gloeocercospora sorghi* to the pest list. Addition of a pea seed soak test on arrival in the Pisum schedule.	22/09/2010
29	Revised schedules of special conditions for *Acer, Carpinus, Carya ovata, Castanea* and *Quercus* to manage *Cryphonectria parasitica*.	16/09/2011
30	Addition of section 2.2.7 'Importation of Seed Products', section 2.2.8 "Seed for Sowing of New Zealand Origin' and section 2.4 'Equivalence'.	5/12/2011
31	Revised schedule for *Rubus*, and removal of [strains not present in New Zealand] from all listings of *Tomato ringspot virus* in *Fragaria, Rubus*, and *Vaccinium* schedules.	20/03/2012
32	Revised schedule of special conditions for *Citrus*.	3/04/2012
33	Updated fungicide treatment option for *Avena, Hordeum* and *Triticum*.	7/05/2012
34	Reformat of complete IHS, including all schedules.	29/06/2012
35	Correction to the *Zea* schedule: removal of *Maize mottle chlorotic stunt virus* from the quarantine requirements.	24/07/2012
36	Revision of Section 8 'Equivalence' and Section 9 "Biosecurity clearance'.	27/08/2012
37	New schedule for tomato (*Solanum lycopersicum*) and minor correction of *Macadamia* schedule.	19/10/2012
38	New schedule for *Brassica* (urgent amendment) and minor amendment to *Acrocomia* schedule.	19/04/2013
39	Revised schedule for *Malus* (apple) seed for sowing.	24/04/2013
40	Removal of schedule for *Brassica*, retaining schedule for *Brassica napus*.	02/08/2013
41	New schedule for grape (*Vitis* spp.), incorporated as an urgent amendment.	08/08/2013
42	Addition of section 6 (Part A), 'Seed for sowing imported as laboratory specimens'. Revised schedule of special conditions for *Arabidopsis thaliana* (removal of requirement for a phytosanitary certificate). Revised schedules of special conditions for *Fragaria, Phaseolus, Ribes, Rubus idaeus* and *Vitis* (removal of *Tomato black ring virus* from the quarantine requirements).	12/12/2013
43	Addition of further approved fungicide treatments to the *Phaseolus* and *Pisum* schedules	19/6/2014
44	Revised schedule for *Zea mays*, specifying a seed sample size for *Maize dwarf mosaic virus*.	18/8/2014
45	New schedule for *Capsicum* and *Solanum*	19/8/2014
46	New schedule for Cucurbitaceae and changes to *Zea mays* (urgent amendment)	1/12/2014
47	Revised schedule for *Zea mays*, clarifying the requirements for *Sugarcane mosaic virus* and *Maize chlorotic mottle virus*	7/8/2015
48	Publication of the CTO direction for all *Zea mays* consignment originated from Chile.	11/09/2015
49	New IHS format. Added section 1.6 (pre-determined testing in PEQ), amended phytosanitary certificate requirements and GM testing requirements.	26/11/2015

50	Reinstating section 6 (Part A) now section 1.9 Part 1: "Seed for sowing imported as laboratory specimens". Minor amendment for *Beta* and *Zea* schedule. Removal of *Barley mosaic virus* from the pest list of *Hordeum* and revised the schedule.	21/12/2015
51	Reinstating and revision of the requirements for species of Rubus and clarification of Section 1.9	21/01/2016
52	Addition to a paragraph related to importation of GMO seeds for reseach purposes and also the addition of the pathogen Andean potato mild mosaic virus (APMMV) to the Solanum tuberosum schedule as a regulated pest.	02/03/2016
53	Revised the Capsicum schedule: addition of PCFVd as a quarantine pest	09/10/2016
54	Orthographic corrections under Zea, Triticum and Lavandula schedules and amendment to the Zea schedule to allow for testing onshore for all quanrantine pests listed in the Zea mays pest list, reformatting of Appendix 3: Declaration form to facilitate its use and the addition of a hyperlink to the protocol for GMO testing under the Zea schedule.	25/11/2016
55	Review of the Cucurbitaceae schedule: new measures for CGMMV and addition of KGMMV as a quarantine pest. Update of the Capsicum schedule.	26/01/2017

Appendix 3: Declaration Form

To be completed and signed by the exporter and importer.

As defined by the New Zealand HSNO Act 1996, Genetically modified organism means, unless expressly provided otherwise by regulations, any organism in which any of the genes or any other genetic material (a) have been modified by in vitro techniques; or (b) are inherited or otherwise derived, through any number of replications, from any genes or other genetic material which has been modified by in vitro techniques.

Note that under the Hazardous Substances and New Organisms (HSNO) Act 1996. The import and release of any genetically modified crop without approval from the Environmental Protection Authority (EPA) it is unlawful.

I,. (Exporter's name and address)…

declare that according to the requirements set out in the Seed for Sowing Import Health Standard (MPI Import Health Standard: 155.02.05: Importation of Seed for Sowing - http://www.mpi.govt.nz/document-vault/1151,

Insert species name and lot/line number or unique identifier as stated on all the other import documentation

was produced neither "from" nor "by" genetically modified crops.

I undertake to inform immediately the importer and the Ministry for Primary Industries, MPI, New Zealand of any information that can undermine the accuracy of this declaration.

Note that MPI may request evidence as to how production, handling and transport of these seeds is performed in the field, or require and audit as a way to provide quality to the production system.

I (Importer's name and address)…

declare to the best of my knowledge that according to the requirements set out in the Seed for Sowing Import Health Standard (MPI Import Health Standard: 155.02.05: Importation of Seed for Sowing - http://www.mpi.govt.nz/document-vault/1151,

Insert species name and lot/line number or unique identifier as stated on all the other import documentation

was produced neither "from" nor "by" genetically modified crops.

Signed by **Exporter** and Company Name (details) and date	Signed by **Importer** and Company Name (details) and date

Warning: Any person who knowingly makes a statement of information or a declaration that is false or misleading in a material particular may on summary conviction, be sentenced to a term of imprisonment and/or fined not exceeding $500,000.00

Appendix 4: Regulated Pest List for Importation of Seed for Sowing

For organisms intercepted that are not listed within this pest list refer to the Biosecurity Organisms Register for Imported Commodities (BORIC) to determine the New Zealand regulatory status.

***Actinidia* REGULATED PESTS (actionable)**

Virus

Capillovirus	Apple stem grooving virus [Actinidia infecting strain]

***Avena* REGULATED PESTS (actionable)**

Insect

Insecta

Blattodea

Blattidae

Blatta orientalis	oriental cockroach

Coleoptera

Bostrichidae

Prostephanus truncatus	larger grain borer

Cryptophagidae

Cryptophagus schmidti	

Cucujidae

Cathartus quadricollis	squarenecked grain beetle

Curculionidae

Caulophilus oryzae	broadnosed grain weevil

Dermestidae

Trogoderma granarium	khapra beetle
Trogoderma inclusum	trogoderma beetle
Trogoderma ornatum	trogoderma beetle
Trogoderma simplex	dermestid beetle
Trogoderma sternale	dermestid beetle
Trogoderma variabile	warehouse beetle

Mycetophagidae

Mycetophagus quadriguttatus	spotted hairy fungus beetle

Nitidulidae

Carpophilus obsoletus	dried fruit beetle

Ptinidae

Gibbium psylloides	shiny spider beetle
Mezium americanum	american spider beetle
Niptus hololeucus	golden spider beetle
Pseudoeurostus hilleri	spider beetle
Ptinus clavipes	brown spider beetle

Ptinus fur	whitemarked spider beetle
Ptinus villiger	hairy spider beetle
Tipnus unicolor	spider beetle
Trigonogenius globulus	
Tenebrionidae	
Alphitobius laevigatus	black fungus beetle
Alphitophagus bifasciatus	two-banded fungus beetle
Blaps mucronata	cellar beetle
Gnatocerus maxillosus	slenderhorned flour beetle
Latheticus oryzae	longheaded flour beetle
Palorus ratzeburgi	smalleyed flour beetle
Palorus subdepressus	depressed flour beetle
Tribolium audax	american black flour beetle
Tribolium destructor	dark flour beetle
Trogossitidae	
Lophocateres pusillus	siamese grain beetle
Hemiptera	
Lygaeidae	
Elasmolomus sordidus	seed bugs
Lepidoptera	
Cosmopterigidae	
Pyroderces rileyi	pink scavenger caterpillar
Oecophoridae	
Anchonoma xeraula	grain moth
Pyralidae	
Corcyra cephalonica	rice moth
Ephestia figulilella	raisin moth
Paralipsa gularis	stored nut moth
Tineidae	
Nemapogon variatella	corn moth
Mite	
Arachnida	
Acarina	
Eriophyidae	
Aceria tosichella	wheat curl mite
Aceria tulipae [vector]	wheat curl mite
Siteroptidae	
Siteroptes cerealium	asparagus spider mite
Tarsonemidae	
Steneotarsonemus spirifex	oat spiral mite
Nematode	
Secernentea	
Tylenchida	

Anguinidae		
	Anguina tritici [vector]	seed gall nematode
Fungus		
Hyphomycetales		
Moniliaceae		
	Cephalosporium gramineum	
Bacterium		
Pseudomonadaceae		
	Xanthomonas campestris pv. undulosa	leaf streak
Virus		
High plains virus		

Cannabis **REGULATED PESTS (actionable)**

Insect		
	Pyrrhocoris apterus	fire bug
	Episyrphus balteatus	
	Ischiodon scutellaris	syrphid fly
	Metasyrphus latifasciatus	syrphid fly
	Sphaerophoria scripta	hover fly
	Syritta pipiens	hover fly
Mite		
	Aculops cannabicola	hemp russett mite
Fungus		
	Curvularia cymbopogonis	
	Leptosphaeria woroninii	
	Septoria cannabis	yellow leaf spot
Bacterium		
	Pseudomonas syringae pv. cannabina	
	Xanthomonas campestris pv. cannabis	
Virus		
	Hemp mosaic virus	
	Hemp streak virus	
Weed		
	Orobanche ramosa	branched broomrape

Cucurbitaceae **REGULATED PESTS (actionable)**

Virus		
	Cucumber green mottle mosaic virus	CGMMV

Fragaria **REGULATED PESTS (actionable)**

Virus

Fragaria chiloensis latent virus

Raspberry ringspot virus

Strawberry latent ringspot virus (strains not in New Zealand)

Tobacco streak virus

Tomato ringspot virus (strains not in New Zealand)

Helianthus* REGULATED PESTS (actionable*)

Insect

Insecta

Coleoptera

Dermestidae

Trogoderma granarium	khapra beetle
Trogoderma variabile	warehouse beetle

Diptera

Asteraceae

Neolasioptera helianthi (syn. Lasioptera murtfeldtiana)	midge

Fungus

Ascomycota

Pleosporales

Pleosporaceae

Alternaria helianthi

Dothideales

Leptosphaeriaceae

Leptosphaeria lindquistii	leaf spot

Mitosporic fungi (Coelomycetes)

Sphaeropsidales

Sphaerioidaceae

Septoria helianthi	septoria leaf spot

Mitosporic fungi *(Hyphomycetes)*

Hyphomycetales

Moniliaceae

Aspergillus parasiticus	mould

Oomycota

Peronosporales

Peronosporaceae

Plasmopara halstedii	downy mildew

Bacterium

Pseudomonadaceae

Pseudomonas syringae pv. aptata	bacterial spot
Pseudomonas syringae pv. tagetis	bacterial leaf spot

Virus
Potyviridae
Potyvirus
Sunflower mosaic virus

Hordeum **REGULATED PESTS (actionable)**

Insect	
Insecta	
Blattodea	
Blattidae	
Blatta orientalis	oriental cockroach
Coleoptera	
Curculionidae	
Caulophilus oryzae	broadnosed grain weevil
Dermestidae	
Trogoderma granarium	khapra beetle
Trogoderma grassmani	trogoderma beetle
Trogoderma inclusum	trogoderma beetle
Trogoderma irroratum	trogoderma beetle
Trogoderma ornatum	trogoderma beetle
Trogoderma simplex	dermestid beetle
Trogoderma sternale	dermestid beetle
Trogoderma variabile	warehouse beetle
Languriidae	
Pharaxonotha kirschii	mexican grain beetle
Tenebrionidae	
Embaphion muricatum	false wireworm
Latheticus oryzae	longheaded flour beetle
Palorus ratzeburgi	smalleyed flour beetle
Palorus subdepressus	depressed flour beetle
Tribolium audax	american black flour beetle
Tribolium destructor	dark flour beetle
Lepidoptera	
Tineidae	
Haplotinea insectella	casemaking moth
Tinea fictrix	casemaking moth
Mite	
Arachnida	
Acarina	
Acaridae	
Acarophenax tribolii [Animals Biosecurity]	grain mite
Eriophyidae	

Aceria tosichella	wheat curl mite
Aceria tulipae [vector]	wheat curl mite
Pyemotidae	
Pyemotes herfsi	straw itch mite
Fungus	
Basidiomycota: Ustomycetes	
Tilletiaceae	
Tilletia controversa	dwarf bunt
Mitosporic fungi (Hyphomycetes)	
Hyphomycetales	
Moniliaceae	
Cephalosporium gramineum	stripe
Tuberculariales	
Tuberculariaceae	
Fusarium longipes	fusarium head blight
Bacterium	
Corynebacteriaceae	
Rathayibacter tritici	yellow ear rot
Pseudomonadaceae	
Pseudomonas syringae pv. striafaciens	bacterial stripe blight
Xanthomonas campestris pv. undulosa	leaf streak
Virus	
High plains virus	

Phaseolus **REGULATED PESTS (actionable)**

Insect	
Insecta	
Coleoptera	
Bostrichidae	
Prostephanus truncatus	larger grain borer
Bruchidae	
Acanthoscelides argillaceus	bean weevil
Acanthoscelides obvelatus	bruchid beetle
Bruchidius atrolineatus	seed beetle
Bruchidius incarnatus	seed beetle
Bruchus pisorum	pea weevil
Callosobruchus analis	cowpea weevil
Callosobruchus maculatus	cowpea weevil
Callosobruchus phaseoli	cowpea weevil
Zabrotes subfasciatus	mexican bean weevil
Lepidoptera	

Pyralidae	
Etiella grisea	pod borer
Etiella grisea drososcia	pod borer
Etiella zinckenella	limabean pod borer
Tortricidae	
Cydia fabivora	pod moth
Matsumuraeses phaseoli	adzuki pod worm
Fungus	
Ascomycota	
Dothideales	
Elsinoaceae	
Elsinoe phaseoli	scab
Pleosporaceae	
Cochliobolus miyabeanus (anamorph Bipolaris oryzae)	
mitosporic fungi (Coelomycetes)	
Sphaeropsidales	
Sphaerioidaceae	
Phoma exigua var. diversispora	ascochyta leaf spot
Bacterium	
Corynebacteriaceae	
Curtobacterium flaccumfaciens pv. flaccumfaciens	bacterium wilt
Virus	
Artichoke yellow ringspot virus	
Bean common mosaic virus [blackeye cowpea mosaic strain]	
Broad bean mottle virus	
Cowpea severe mosaic virus	
Pea early-browning virus	
Peanut mottle virus	
Peanut stunt virus	
Southern bean mosaic virus	

Pinus **REGULATED PESTS (actionable)**

Insect	
Insecta	
Coleoptera	
Anobiidae	
Ernobius punctulatus	borer
Cerambycidae	
Xylotrechus schaefferi	longhorn beetle
Curculionidae	

Conotrachelus neomexicanus	cone borer, curculio
Scolytidae	
Conophthorus coniperda	white pine cone beetle
Conophthorus ponderosae	lodgepole cone beetle
Conophthorus resinosae	red pine cone beetle
Diptera	
Cecidomyiidae	
Cecidomyia bisetosa	gall midge
Resseliella silvana	gall midge
Heteroptera	
Coreidae	
Lepispilus sulcicollis	seed eater
Leptoglossus corculus	leaffooted pine seed bug
Leptoglossus occidentalis	coreid bug
Scutelleridae	
Tetyra bipuctata	shield backed pine seed bug
Hymenoptera	
Torymidae	
Megastigmus albifrons	seed chalcid
Lepidoptera	
Pyralidae	
Dioryctria abietivorella	fir coneworm, pine knothorn moth
Dioryctria amatella	southern pine coneworm
Dioryctria auranticella	pyralid moth
Dioryctria clarioralis	coneworm
Dioryctria disclusa	webbing coneworm
Dioryctria merkeli	loblolly pine coneworm
Dioryctria rossi	cone borer, pyralid moth
Tortricidae	
Commophila fuscodorsana	tortricid moth
Cydia anaranjada	slash pine seedworm
Cydia ingens	logleaf pine seed worm
Cydia miscitata	cone borer, tortricid moth
Cydia piperana	cone borer, ponderosa pine seed moth
Cydia toreuta	cone borer, eastern pine seedworm
Fungus	
Ascomycota	
Diaporthales	
Melanconidaceae	
Melanconis stilbostoma (anamorph Melanconium bicolor)	mould
Dothideales	

Dothioraceae	
Sydowia polyspora (anamorph Sclerophoma pythiophila)	pine leaf blight, tip dieback
Mycosphaerellaceae	
Mycosphaerella dearnessii (anamorph Lecanosticta acicola)	brown needle spot
Pleosporaceae	
Setosphaeria rostrata (anamorph Exserohilum rostratum)	leaf blight, black mould
Hypocreales	
Hypocreaceae	
Nectria inventa (anamorph Verticillium tenerum)	verticillium rot
Pezizales	
Otideaceae	
Caloscypha fulgens (anamorph Geniculodendron pyriforme)	cold fungus
Pyronemataceae	
Pyronema omphalodes	mould
Mitosporic fungi	
Coniosporium aterrimum	mould
Lacellina graminicola	mould
Mitosporic fungi (Coelomycetes)	
Sphaeropsidales	
Sphaerioidaceae	
Botryodiplodia acicola	mould
Coniothyrium quercinum	mould
Unknown (Coelomycetes)	
Melanconium apiocarpon	mould
Pestalotia breviseta	mould
Pestalotia foedans	mould
Pestalotiopsis glandicola	mould
Sirococcus conigenus	shoot blight
Mitosporic Fungi (Hyphomycetes)	
Hyphomycetales	
Hyphomycetales	
Cladosporium cucumerinum	black mould
Cladosporium naumovi	black mould
Curvularia inaequalis	black mould
Stemphylium piriforme	leaf mould
Moniliaceae	
Acremonium subverticillatum	mould
Aspergillus funiculosus	mould

Penicillium arenarium	penicillium mould rot
Penicillium aurantiogriseum	penicillium mould rot
Penicillium brevicompactum	penicillium mould rot
Penicillium canadense	penicillium mould rot
Penicillium chrysogenum	penicillium mould rot
Penicillium divergens	penicillium mould rot
Penicillium fuscum	penicillium mould rot
Penicillium gladioili	penicillium mould rot
Penicillium oxalicum	penicillium mould rot
Penicillium viridicatum	penicillium mould rot
Torula convoluta	mould
Verticillium albo-atrum [severe strain]	mould

Tuberculariales

Tuberculariaceae

Fusarium arthrosporoides	dry rot
Fusarium chlamydosporum	root and stem rot
Fusarium circinatum (syn. Fusarium subglutinans f. sp. pini)	pine pitch canker
Fusarium moniliforme var. intermedium	mould
Fusarium polyphialidicum	fusarium mould

Unknown (Hyphomycetes*)*

Oidium verticilloides	mould

Oomycota

Pythiales

Pythiaceae

Pythium aphanidermatum	root and seed rot

Zygomycota: Zygomycetes

Mucorales

Mucoraceae

Mucor hiemalis	mucor fruit rot
Mucor mucedo	mucor fruit rot
Mucor plumbeus	mould
Mucor racemosus	storage rot
Mucor ramanianus	mould

Syncephalastraceae

Syncephalastrum racemosum	mould

Pisum **REGULATED PESTS (actionable)**

Insect

Insecta

Coleoptera

Bruchidae	
Acanthoscelides zeteki	bruchid beetle
Bruchidius atrolineatus	seed beetle
Bruchidius incarnatus	seed beetle
Bruchidius quinqueguttatus	bruchid beetle
Bruchus affinis	bruchid beetle
Bruchus emarginatus	Mediterranean pulse beetle
Bruchus ervi	bruchid beetle
Bruchus lentis	bruchid beetle
Bruchus pisorum	pea weevil
Bruchus rufimanus	broad bean weevil
Bruchus tristis	bruchid beetle
Callosobruchus analis	cowpea weevil
Callosobruchus chinensis	oriental cowpea weevil
Callosobruchus maculatus	cowpea weevil
Dermestidae	
Trogoderma granarium	khapra beetle
Lepidoptera	
Lycaenidae	
Euchrysops cnejus	blue butterfly
Noctuidae	
Spodoptera praefica	western yellowstriped armyworm
Pyralidae	
Etiella zinckenella	limabean pod borer
Tortricidae	
Cydia nigricana	pea moth
Mitosporic fungi (Hyphomycetes)	
Hyphomycetales	
Dematiaceae	
Cladosporium cladosporioides f. sp. pisicola	cladosporium blight
Virus	
Broad bean mottle virus	
Broad bean stain virus	
Clover yellow mosaic virus	
Pea early-browning virus	
Pea enation mosaic virus	
Peanut mottle virus	
Peanut stunt virus	

Pseudotsuga menziesii **REGULATED PESTS (actionable)**

Insect

Insecta

Coleoptera	
Anobiidae	
Ernobius punctulatus	borer
Curculionidae	
Lepesoma lecontei	weevil
Scarabaeidae	
Melolontha melolontha	cockchafer
Diptera	
Cecidomyiidae	
Asynapta keeni	gall midge
Contarinia constricta	gallmidge
Contarinia cuniculator	gall midge
Contarinia oregonensis	douglas fir cone gall midge
Contarinia pseudotsugae	gall midge
Contarinia washingtonensis	gall midge
Lonchaeidae	
Earomyia aquilonia	fir seed maggot
Earomyia barbara	fir seed maggot
Hemiptera	
Coreidae	
Leptoglossus occidentalis	coreid bug
Lepidoptera	
Blastobasidae	
Holcocera augusti	blastobasid moth
Geometridae	
Eupithecia albicapitata	looper
Eupithecia spermaphaga	looper
Pyralidae	
Dioryctria abietivorella	fir coneworm
Tortricidae	
Barbara colfaxiana	douglas fir cone moth
Chionodes periculella	gelechiid moth
Commophila fuscodorsana	tortricid moth
Endopiza piceana	tortricid moth
Laspeyresia bracteatana	leafroller
Zeiraphera diniana	douglas fir cone moth
Fungus	
Ascomycota	
Pezizales	
Otideaceae	
Caloscypha fulgens	cold fungus
Mitosporic Fungi (Hyphomycetes)	
Hyphomycetales	

Moniliaceae

Penicillium chrysogenum	penicillium mould rot

Tuberculariales

Tuberculariaceae

Fusarium circinatum (syn. Fusarium subglutinans f. sp. pini)	pine pitch canker

Ribes REGULATED PESTS (actionable)

Virus

Raspberry ringspot virus

Tobacco rattle virus (strains not in New Zealand)

*For organisms intercepted that are not listed within this pest list refer to Biosecurity Organisms Register for Imported Commodities (BORIC) to determine the regulatory status.

Rubus REGULATED PESTS (actionable)

Virus

Raspberry ringspot virus

Tomato ringspot virus

*For organisms intercepted that are not listed within this pest list refer to Biosecurity Organisms Register for Imported Commodities (BORIC) to determine the regulatory status.

Triticum REGULATED PESTS (actionable)

Insect

Insecta

Blattodea

Blattidae

Blatta orientalis	oriental cockroach

Coleoptera

Bostrichidae

Dinoderus distinctus	bostrichid beetle
Prostephanus truncatus	larger grain borer

Bruchidae

Callosobruchus chinensis	oriental cowpea weevil

Curculionidae

Caulophilus oryzae	broadnosed grain weevil

Dermestidae

Trogoderma glabrum	khapra beetle
Trogoderma granarium	khapra beetle
Trogoderma grassmani	trogoderma beetle
Trogoderma inclusum	trogoderma beetle
Trogoderma ornatum	trogoderma beetle
Trogoderma simplex	dermestid beetle

Trogoderma sternale	dermestid beetle
Trogoderma variabile	warehouse beetle
Languriidae	
Pharaxonotha kirschii	Mexican grain beetle
Tenebrionidae	
Cynaeus angustus	larger black flour beetle
Latheticus oryzae	longheaded flour beetle
Palorus ratzeburgi	smalleyed flour beetle
Palorus subdepressus	depressed flour beetle
Tribolium audax	american black flour beetle
Tribolium freemani	flour beetle
Ulomoides dermestoides	darkling beetle
Diptera	
Cecidomyiidae	
Contarinia pisi	pea midge
Lepidoptera	
Noctuidae	
Faronta albilinea	wheat head armyworm
Pyralidae	
Corcyra cephalonica	rice moth
Paralipsa gularis	stored nut moth
Tineidae	
Cephitinea colonella	grain moth
Haplotinea insectella	casemaking moth
Psocoptera	
Liposcelidae	
Troctes minutus	psocid
Mite	
Arachnida	
Acarina	
Acaridae	
Caloglyphus krameri	
Michaelopus macfarlanei	
Eriophyidae	
Aceria tulipae (vector)	wheat curl mite
Aceria tosichella	wheat curl mite
Tarsonemidae	
Tarsonemus granarius	
Tuckerellidae	
Tuckerella ablutus	
unknown Acarina	
Paratriophtydeus coineaurius	
Nematode	

Secernentea	
Tylenchida	
Anguinidae	
Anguina tritici [vector]	seed gall nematode
Fungus	
Basidiomycota: Ustomycetes	
Ustilaginales	
Tilletiaceae	
Tilletia controversa	dwarf bunt
Tilletia indica	karnal bunt
Mitosporic fungi (Hyphomycetes)	
Hyphomycetales	
Dematiaceae	
Alternaria triticina	
Curvularia verruculosa	
Moniliaceae	
Cephalosporium gramineum	stripe
Corynebacteriaceae	
Rathayibacter tritici	yellow ear rot
Pseudomonadaceae	
Xanthomonas campestris pv. undulosa	leaf streak
Virus	
High plains virus	
Indian peanut clump virus	

Vaccinium **REGULATED PESTS (actionable)**

Fungus	
Ascomycota	
Diaporthales	
Valsaceae	
Diaporthe vaccinii (anamorph Phomopsis vaccinii)	twig blight
Dothideales	
Botryosphaeriaceae	
Botryosphaeria vaccinii (anamorph Phyllosticta elongata)	
Leotiales	
Sclerotiniaceae	
Monilinia fructigena (anamorph Monilia fructigena)	european brown rot
Monilinia vaccinii-corymbosi	brown rot
Virus	

Bromoviridae
Ilarvirus
Blueberry shock virus
Comoviridae
Nepovirus
Blueberry leaf mottle virus
Peach rosette mosaic virus
Tomato ringspot virus [strains not in New Zealand]

Vicia **REGULATED PESTS (actionable)**

Insect	
Insecta	
Coleoptera	
Bruchidae	
Bruchidius incarnatus	seed beetle
Bruchidius quinqueguttatus	bruchid beetle
Bruchus atomarius	bruchid beetle
Bruchus dentipes	bruchid beetle
Bruchus pisorum	pea weevil
Bruchus rufimanus	broad bean weevil
Callosobruchus chinensis	oriental cowpea weevil
Callosobruchus maculatus	cowpea weevil
Callosobruchus phaseoli	cowpea weevil
Dermestidae	
Trogoderma granarium	khapra beetle
Tenebrionidae	
Tribolium destructor	dark flour beetle
Diptera	
Cecidomyiidae	
Contarinia pisi	pea midge
Lepidoptera	
Lycaenidae	
Virachola livia	pomegranate butterfly
Virus	
Artichoke yellow ringspot virus	
Broad bean mottle virus	
Broad bean stain virus	
Broad bean true mosaic virus	
Clover yellow mosaic virus	
Pea early-browning virus	
Pea enation mosaic virus	
Peanut stunt virus	

Red clover vein mosaic virus

***Zea mays* REGULATED PESTS (actionable)**

Insect

Insecta

Bostrichidae

Dinoderus distinctus	bostrichid beetle
Dinoderus minutus	bamboo powderpost beetle
Prostephanus truncatus	larger grain borer

Cucujidae

Cathartus quadricollis	squarenecked grain beetle

Curculionidae

Caulophilus oryzae	broadnosed grain weevil

Dermestidae

Attagenus unicolor	black carpet beetle
Trogoderma glabrum	khapra beetle
Trogoderma granarium	khapra beetle
Trogoderma inclusum	trogoderma beetle
Trogoderma variabile	warehouse beetle

Histeridae

Teretriosoma nigrescens

Languriidae

Pharaxonotha kirschil	Mexican grain beetle

Melyridae

Nitidulidae

Carpophilus freemani	dried fruit beetle
Carpophilus lugubris	dusky sap beetle
Glischrochilus quadrisignatus	four-spotted sap beetle

Ptinidae

Gibbium psylloides	shiny spider beetle

Scolytidae

Pagiocerus frontalis	bark borer

Tenebrionidae

Alphitobius laevigatus	black fungus beetle
Cynaeus angustus	larger black flour beetle
Gnatocerus maxillosus	slenderhorned flour beetle
Latheticus oryzae	longheaded flour beetle
Palorus ratzeburgi	smalleyed flour beetle
Palorus subdepressus	depressed flour beetle
Tribolium freemani	flour beetle

Diptera

Otitidae

Euxesta stigmatias

Hemiptera	
Coreidae	
Leptoglossus zonatus	coreid bug
Lepidoptera	
Cosmopterigidae	
Pyroderces rileyi	pink scavenger caterpillar
Noctuidae	
Sesamia calamistis	pink stalk borer
Sesamia nonagrioides	pink borer
Pyralidae	
Corcyra cephalonica	rice moth
Doloessa viridis	
Mussidia nigrivenella	pyralid moth
Paralipsa gularis	stored nut moth
Tortricidae	
Cryptophlebia leucotreta	false codling moth
Psocoptera	
Liposcelidae	
Liposcelis bostrychophilus	booklouse
Liposcelis entomophilus	grain psocid
Liposcelis paetus	booklouse
Trogiidae	
Lepinotus reticulatus	
Mite	
Arachnida	
Acarina	
Pyemotidae	
Acaropsellina sollers	
Fungus	
Ascomycota	
Dothideales	
Botryosphaeriaceae	
Botryosphaeria zeae (anamorph macrophoma zeae)	grey ear rot
Pleosporaceae	
*Cochliobolus pallescens (*anamorph *Curvularia pallescens)*	-
*Cochliobolus tuberculatus (*anamorph *Curvularia tuberculata)*	leaf spot
Gloeocercospora sorghi	zonate leaf spot
Hypocreales	
Clavicipitaceae	

Claviceps gigantea	ergot
Basidiomycota	
Ustomycetes	
Ustilaginales	
Ustilaginaceae	
Ustilago maydis	boil smut
Mitosporic Fungi (Coelomycetes)	
Sphaerioidales	
Sphaerioidaceae	
Stenocarpella macrospora	dry rot of maize
Phaecytostroma ambigum	-
Mitosporic Fungi (Hyphomycetes)	
Hyphomycetales	
Moniliaceae	
Cephalosporium maydis	
Oomycota	
Sclerosporales	
Sclerosporaceae	
Peronosclerospora heteropogoni	
Peronosclerospora maydis	Java downy mildew
Peronosclerospora philippinensis	Philippine downy mildew
Peronosclerospora sacchari	
Peronosclerospora sorghi	sorghum downy mildew
Phaeocytostroma ambiguum	
Verrucalvaceae	
Sclerophthora rayssiae var. *zeae*	
Zygomycota	
Zygomycetes	
Mucorales	
Mucoraceae	
Rhizopus maydis	rhizopus seed rot
Sclerophthora rayssiae var. zeae	
Stenocarpella macrospora	dry rot
Ustilago maydis	boil smut
Bacterium	
Pseudomonadaceae	
Acidovorax avenae subsp. avenae	bacterial blight
Corynebacteriaceae	
Clavibacter michiganensis subsp. nebraskensis	Goss' bacterial wilt

Enterobacteriaceae	
Pantoea stewartii	Stewart's bacterial wilt
Virus	
High plains virus	
Potyviridae	
Potyvirus	
Maize chlorotic mottle virus	MCMV
Maize dwarf mosaic virus	MDMV
Sugarcane mosaic virus	SCMV
Weed	
Angiospermae	
Scrophulariales	
Scrophulariaceae	
Striga asiatica	witch-weed
Striga hermonthica	witch-weed