Fresh Mandarin, Tangelo and Tangor (*Citrus reticulata*, *Citrus reticulata* × *Citrus paradisi* and *Citrus reticulata* × *Citrus sinensis*) for Human Consumption

MAND-TANG-IHS.FP

20 April 2022
TITLE
Import Health Standard: Fresh Mandarin, Tangelo and Tangor (Citrus reticulata, Citrus reticulata × Citrus paradisi and Citrus reticulata × Citrus sinensis) for Human Consumption

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

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

Dated at Wellington, 20 April 2022

Peter Thomson
Director, Animal and Plant Health
Ministry for Primary Industries
(acting under delegated authority of the Director-General)

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Introduction

This introduction is not part of the Import Health Standard (IHS) but is intended to indicate its general effect.

Purpose

An IHS specifies the requirements for importing risk goods into New Zealand. This IHS specifies the requirements that must be met when importing fresh mandarin, tangelo and tangor fruit for human consumption into New Zealand.

Background

An IHS issued under the New Zealand Biosecurity Act 1993 (the Act) specifies the requirements to be met to effectively manage biosecurity risks associated with importing risk goods, including the risks from incidentally imported new organisms. IHSs include measures that must be applied in the exporting country before the risk goods are exported. IHSs also include requirements that must be met by importers during importation, including while the risk goods are in transit to New Zealand and held in a transitional facility. If a consignment meets the requirements of the IHS, biosecurity clearance may be given at an MPI inspector’s discretion under the Act.

Post-clearance conditions may also be specified in an IHS.

Who should read this?

This IHS should be read by anyone involved in the process of importing fresh mandarin, tangelo and tangor into New Zealand (or who has an interest in importing fresh mandarin, tangelo and tangor).

Why is this important?

It is the responsibility of the importer to ensure that risk goods (i.e. fresh mandarin, tangelo and tangor) comply with the requirements of the relevant IHS. Risk goods that do not comply with the requirements of an IHS may not be cleared for entry into New Zealand and may be directed for treatment, reshipment, destruction or further action deemed appropriate by a chief technical officer. The pathway may be suspended if certain types of viable regulated pests or weed seeds are intercepted on the consignment.

Importers are liable for all associated expenses.

Equivalence

A chief technical officer may consider an application for an equivalent phytosanitary measure to be approved, in accordance with section 27(1)(d)(ii) of the Act, different from that provided for in this IHS, to maintain at least the same level of protection assured by the current measure(s).

Equivalence will be considered with reference to the International Standard for Phytosanitary Measures (ISPM) 24. Guidelines for the determination and recognition of equivalence of phytosanitary measures.
Document history

This IHS replaces the following schedules in the IHS Importation and Clearance of Fresh Fruit and Vegetables into New Zealand:

- Mandarin/Tangerine, *Citrus reticulata*, Australia
- Lime, Lemon, Grapefruit, Mandarin/Tangerine, Tangelo, Pomelo, *Citrus aurantiifolia*, *Citrus limon*, *Citrus paradisi*, *Citrus reticulata*, *Citrus maxima*, Egypt
- Mandarin, *Citrus reticulata*, Japan
- Mandarin/Tangerine, *Citrus reticulata*, United States of America
- Mandarin/Tangerine, *Citrus reticulata*, Vanuatu
- Tangelo/Tangor, *Citrus reticulata* × *Citrus paradisi*, Vanuatu
- Tangelo, *Citrus paradisi* × *Citrus reticulata*, United States of America

This IHS replaces the following:

- Import Health Standard Commodity Sub-class: Fresh Fruit/Vegetables *Citrus, Citrus spp.* from Vanuatu
- Import Health Standard Commodity Sub-class: Fresh Fruit/Vegetables Mandarin, *Citrus reticulata* from Vanuatu

<table>
<thead>
<tr>
<th>Version Date</th>
<th>Section Changed</th>
<th>Change Description</th>
</tr>
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<tbody>
<tr>
<td>20 April 2022</td>
<td>All</td>
<td>New document</td>
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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.

Guidance boxes are included within this IHS for explanatory purposes. The guidance included in these boxes is for information only and has no legal effect.

Within this IHS, terms printed in bold have the same meaning as that set out and defined in ISPM 5. Glossary of phytosanitary terms, the Act or in this IHS (Schedule 1).

The import requirements for other citrus species are stated in separate commodity IHSs.
Part 1: General Requirements

1.1 Application

(1) This import health standard (IHS) applies to fresh mandarin, tangelo and tangor fruit (Citrus reticulata, Citrus reticulata × Citrus paradisi and Citrus reticulata × Citrus sinensis) imported for human consumption (“fresh mandarin, tangelo and tangor”).

(2) Other scientific names used for Citrus reticulata are:
   a) Citrus deliciosa
   b) Citrus unshiu

(3) A single unit for the purpose of this IHS is an individual fresh mandarin, tangelo or tangor fruit.

Guidance
- MPI recognises tangelo (Citrus reticulata × Citrus paradisi) and tangor (Citrus reticulata × Citrus sinensis) as hybrids, separate from mandarin itself (Citrus reticulata). The three are grouped in this commodity standard due to their similar risk profile.
- The fruit may have the calyx attached but not the stem, leaves or other plant parts.
- Hybrids between species can be imported but only when each species is an approved commodity, i.e. each species must have an IHS. The hybrid should meet the requirements specified in the IHS for each species in the hybrid. For example, orangelo (Citrus paradisi × Citrus sinensis) should meet the requirements specified in the standard for grapefruit (Citrus paradisi) and the standard for orange (Citrus sinensis). The exception to this is when specific hybrid species have been assessed and approved for import. In such cases, the approved hybrid species will be listed in an IHS.
- Some processed fresh commodities (commercially manufactured and processed fruits and vegetables of specific commercial brands that have undergone pre-export assessment by the Ministry for Primary Industries (MPI)) can be found on the MPI website in “Processed Fresh Commodities”. These commodities are not considered risk goods and do not need to comply with the requirements of this IHS. To apply to have a processed fresh commodity assessed to be listed, contact PlantImports@mpi.govt.nz.
- Frozen, cooked, pickled, pureed or dried commodities for human consumption are covered by the IHS Stored Plant Products for Human Consumption.
- Import requirements for trade samples for evaluation are covered by the IHS Research samples (excluding animal samples).
- Import requirements for importing private consignments of fresh fruits and vegetables are covered by the IHS Personal Consignments of Products for Human Consumption and Personal Effects.

1.2 Incorporation by reference

(1) The following documents are incorporated by reference under section 142M of the New Zealand Biosecurity Act 1993 (the Act):
   a) ISPM 4. Requirements for the establishment of pest free areas. IPPC, FAO; Rome.
   b) ISPM 5. Glossary of phytosanitary terms. IPPC, FAO; Rome.
   c) ISPM 7. Phytosanitary certification system. IPPC, FAO; Rome.
   d) ISPM 10. Requirements for the establishment of pest free places of production and pest free production sites. IPPC, FAO; Rome.
   f) ISPM 14. The use of integrated measures in a systems approach for pest risk management. IPPC, FAO; Rome.
   g) ISPM 23. Guidelines for inspection. IPPC, FAO; Rome.
h) ISPM 26. Establishment of pest free areas for fruit flies (Tephritidae). IPPC, FAO; Rome.

i) ISPM 28. Phytosanitary treatments for regulated pests. IPPC, FAO; Rome.

j) ISPM 31. Methodologies for sampling of consignments. IPPC, FAO; Rome.

k) Official New Zealand Pest Register (ONZPR). MPI; Wellington.

l) MPI Schedule of Regulated (Quarantine) Weed Seeds. MPI; Wellington.

(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 are listed in Schedule 1.

1.4 General requirements for fresh mandarin, tangelo and tangor

(1) Importers may only import fresh mandarin, tangelo and tangor from a country where the NPPO has provided evidence to the satisfaction of a chief technical officer that the exporting country has a phytosanitary certification system that complies with ISPM 7. Phytosanitary certification system. The phytosanitary certification system (including programmes and standards) must demonstrate the processes used to provide export assurance.

(2) For commodities which have regulated pests that require Targeted Measures or MPI-Specified Measures, importers may only import those commodities from a country where a bilateral arrangement has been approved by a chief technical officer.

(3) Consignments of fresh mandarin, tangelo and tangor imported into New Zealand must:
   a) meet the specific requirements in Part 2 Specific Requirements;
   b) be washed and brushed in the packhouse prior to export;
   c) be considered to be free from contamination, regulated pests and other extraneous material;
   d) be packaged in clean and either new or refurbished material;
   e) be secured in a manner to prevent contamination; and
   f) be accompanied by documentation that meets the requirements of Part 3 Inspection, Verification and Documentation Requirements.

Guidance

- Countries that meet the requirements in 1.4 (1) and (2) and are approved to trade fresh mandarin, tangelo and tangor are listed in the online pest database.
- Bilateral arrangements are not publicly available because they are government-to-government documents. However, a summary can be provided on request.
- There is a list of pests associated with fresh mandarin, tangelo and tangor in the online pest database.
- The full list of regulated and non-regulated pests for New Zealand is in ONZPR.
Part 2: Specific Requirements

2.1 Basic Measures

(1) Fresh mandarin, tangelo and tangor must be sourced from a production system that uses standard commercial production methods.

2.2 Targeted Measures

(1) The following pests require Targeted Measures:

a) *Brevipalpus californicus* [V]
b) *Brevipalpus obovatus* [V]
c) *Brevipalpus phoenicis sensu lato* [V]
d) *Chaetanaphothrips orchidii*
e) *Diaphorina citri* [V]
f) *Eotetranychus lewisi*
g) *Nipaecoccus viridis*
h) *Phyllosticta citricarpa*
i) *Planococcus kraunhiae*
j) *Planococcus minor*
k) *Scirtothrips dorsalis*
l) *Tetranychus kanzawai*
m) *Trioza erytreae* [V]

(2) At least one of the following Targeted Measures must be applied in relation to fresh mandarin, tangelo and tangor to manage each of the pests listed in 2.2 (1):

a) **Country freedom:** A chief technical officer is satisfied that a country is free of the pest in accordance with ISPM 4. *Requirements for the establishment of pest free areas* or ISPM 8. *Determination of pest status in an area.*
b) **Pest-free area:** The fresh mandarin, tangelo or tangor is sourced from a pest-free area established in accordance with ISPM 4. *Requirements for the establishment of pest free areas* or ISPM 8. *Determination of pest status in an area.*
c) **Pest-free place of production:** The fresh mandarin, tangelo or tangor is sourced from a pest-free place of production established in accordance with ISPM 10. *Requirements for the establishment of pest free places of production and pest free production sites.*
d) **Appropriate pest control activities:** Pest control activities are applied when/where appropriate in the production and/or post-harvest system for the effective management of a pest.
e) **Phytosanitary treatments:** A phytosanitary treatment that is effective for managing a pest is applied prior to export or in transit to New Zealand. This includes treatments specified in relevant annexes of ISPM 28. *Phytosanitary treatments for regulated pests.*
f) **Systems approach:** Different measures, at least two of which act independently, are integrated and have a cumulative effect that is effective for managing the pest(s) in accordance with ISPM 14. *The use of integrated measures in a systems approach for pest risk management.*

**Guidance**

- To manage the risk of introducing vector-transmitted pathogens to New Zealand, MPI regulates the entry of pests acting as vectors (marked with [V] in 2.2 (1)). On their own, vector pests may be managed by Targeted Measures or Basic Measures or they may be present in New Zealand and categorised as a non-regulated pest. However, if a vector-transmitted pathogen is present in the exporting country, additional measures may be required for vector pests on exports from that country.
- Schedule 2 has a list of the pathogens transmitted by vectors and the vectors that transmit them.
2.3 MPI-Specified Measures

(1) The following pests require MPI-Specified Measures:
   a) Anastrepha fraterculus
   b) Anastrepha ludens
   c) Anastrepha obliqua
   d) Anastrepha serpentina
   e) Anastrepha suspensa
   f) Bactrocera aquilonis
   g) Bactrocera carambolaef
   h) Bactrocera correcta
   i) Bactrocera curvipes
   j) Bactrocera dorsalis
   k) Bactrocera frauenfeldi
   l) Bactrocera jarvisi
   m) Bactrocera kirkii
   n) Bactrocera kraussi
   o) Bactrocera latifrons
   p) Bactrocera melanoctus
   q) Bactrocera minax
   r) Bactrocera species near passiflorae
   s) Bactrocera neohumeralis
   t) Bactrocera passiflorae
   u) Bactrocera psidii
   v) Bactrocera trilineolae
   w) Bactrocera trivialis
   x) Bactrocera tryoni
   y) Bactrocera tsuneonis
   z) Bactrocera xanthonodes
   aa) Bactrocera zonata
   bb) Ceratitis capitata
   cc) Zeugodacus cucurbitae (Bactrocera cucurbitae)
   dd) Zeugodacus tau

(2) At least one of the following MPI-Specified Measures must be applied in relation to fresh mandarin, tangelo and tangor to manage each of the pests listed in 2.3 (1):
   a) Country freedom: A chief technical officer is satisfied that a country is free of the pest in accordance with ISPM 4. Requirements for the establishment of pest free areas or ISPM 8. Determination of pest status in an area.
   b) Pest-free area: The fresh mandarin, tangelo or tangor is sourced from a pest-free area established in accordance with ISPM 4. Requirements for the establishment of pest free areas or ISPM 26. Establishment of pest free areas for fruit flies (Tephritidae).
   c) Phytosanitary treatments: A phytosanitary treatment is applied prior to export or in transit to New Zealand. The treatment must be in accordance with a treatment specified in a relevant annex of ISPM 28. Phytosanitary treatments for regulated pests or any other treatment specified in Schedule 3.
   d) Systems approach: Different measures, at least two of which act independently, are integrated and have a cumulative effect that is effective for managing the pest(s) in accordance with
ISPM 14. *The use of integrated measures in a systems approach for pest risk management* and ISPM 35. *Systems approach for pest risk management of fruit flies (Tephritidae).*

**Guidance**
- The [online pest database](#) has country-specific pest lists for each commodity. It also lists the phytosanitary measures that MPI and the NPPO of the exporting country have agreed on to manage each pest.
Part 3: Inspection, Verification and Documentation Requirements

3.1 Phytosanitary inspection

(1) The NPPO of the exporting country must:
   a) sample each homogeneous grower lot of fresh mandarin, tangelo or tangor. The minimum sample size for inspection must be based on a 95% confidence level that no more than 0.5% of the units in the lot are infested as set out in ISPM 31. Methodologies for Sampling of Consignments Appendix 2;
   b) visually inspect each sample unit according to official phytosanitary procedures in accordance with ISPM 23. Guidelines for Inspection;
   c) verify that the requirements of Part 1 General Requirements have been met and verify that the phytosanitary measures in Part 2 Specific Requirements have been applied;
   d) reconcile that the number of packages presented for inspection is consistent with documentation;
   e) verify that traceability labelling is complete; and
   f) verify that phytosanitary security is maintained for the consignment.

(2) The NPPO must contact MPI to establish the regulatory status of any pests not listed in ONZPR and found during an inspection.

3.2 Phytosanitary certification

(1) Each consignment must meet the requirements set out in Part 3.1 Phytosanitary inspection and be accompanied by a phytosanitary certificate issued by the NPPO in accordance with ISPM 12. Phytosanitary Certificates.

(2) The phytosanitary certificate must include the following where applicable:
   a) Sufficient detail to enable identification of the consignment and its component parts. Information must include country/place of origin.
   b) The scientific name of fresh mandarin, tangelo or tangor (Citrus reticulata, Citrus reticulata × Citrus paradisi or Citrus reticulata × Citrus sinensis) or, if appropriate, one of the following other used names:
      i) Citrus deliciosa
      ii) Citrus unshiu
   c) Full details of any phytosanitary treatments applied to fresh mandarin, tangelo or tangor in the “Disinfestation and/or Disinfection Treatment” section of the phytosanitary certificate or as an NPPO-endorsed attachment to the phytosanitary certificate. All details of the treatment applied must be recorded, e.g. minimum irradiation dose, duration and temperature, chemical (active ingredient) and concentration.
   d) The following certifying statement, or a variation that is compliant with ISPM 12. Phytosanitary certificates and has been approved by a chief technical officer:
      i) “This is to certify that the plants, plant products or other regulated articles described herein have been inspected and/or tested according to appropriate official procedures and are considered to be free from the quarantine pests specified by the importing contracting party to conform with the current phytosanitary requirements of the importing contracting party, including those for regulated non-quarantine pests.”
   e) Any additional declaration specified in Part 3.3 Additional declarations.
(3) When the consignment is treated in transit:
   a) the phytosanitary certificate must state “Treated in transit” in the “Disinfestation and/or Disinfection Treatment” section of the phytosanitary certificate; and
   b) the importer must provide evidence of the in-transit treatment record (including temperature and duration).

(4) If a consignment of fresh mandarin, tangelo or tangor is opened, split up or has its packaging changed before it arrives in New Zealand, a phytosanitary certificate for re-export is required from the transiting country, in accordance with ISPM 12. Phytosanitary certificates, and must accompany each consignment.

Guidance
- If the phytosanitary requirements are not met, a phytosanitary certificate should not be issued. The bilateral arrangement may list remedial actions that can be taken for different problems. Exporting countries may apply a remedial action to remove a viable regulated pest or contamination from a consignment prior to certification. The details of the remedial action do not need to be recorded on the phytosanitary certificate unless recording these details has been specified in the bilateral arrangement.

3.3 Additional declarations

(1) If there is a pest listed in 2.2 (1) or 2.3 (1) where a country does not have country freedom from the pest (2.2 (2) a) or 2.3 (2) a)), the phytosanitary certificate must contain the following additional declaration:
   a) “This consignment was produced and prepared for export in accordance with the agreed bilateral arrangement.”

(2) The phytosanitary certificate must contain the following additional declaration for each pest listed in 2.3 (1) where the country does not have country freedom from the pest(s):
   a) “This consignment [insert name of approved measure from bilateral arrangement] for [name of pest].”

(3) The additional declaration required under 3.3 (2) a) must be repeated for each pest listed in 2.3 (1) and its approved measure as outlined in the bilateral arrangement.

Guidance
- Some examples of the additional declaration mentioned in 3.3 (2) a) are “This consignment was sourced from a pest-free area for Bactrocera dorsalis,” and “This consignment was cold-treated for Bactrocera dorsalis.”
Schedule 1: Definitions

Derived forms of terms defined in ISPM 5. *Glossary of phytosanitary terms* or the New Zealand Biosecurity Act 1993 (for example *inspect* from *inspection*) are considered to have the same meaning as the defined term.

**additional declaration**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**arrive in New Zealand**
Definition as per the Act

**bilateral arrangement**
An export plan, bilateral quarantine arrangement or official assurance programme, negotiated between MPI and the NPPO of an exporting country, that details how the exporting country will meet the import requirements (Targeted Measures and/or MPI-Specified Measures) for New Zealand

**biosecurity clearance** (including clearance/cleared)
Definition as per the Act

**chief technical officer (CTO)**
Definition as per the Act

**commercial production**
A process (system) where activities, such as in-field monitoring, general pest control activities, harvesting, cleaning, sorting, and grading have been undertaken. These activities are carried out to minimise:

- a) the presence of regulated pests; and
- b) damage which may be a result of the presence of a regulated pest or could expose the commodity to regulated pests.

**commodity**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**consignment**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**contamination**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**entry (of a consignment)**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**entry (of a pest)**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**equivalence**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**extraneous material**
Any plant material that is not part of the commodity description

**FAO**
Food and Agriculture Organization of the United Nations

**free from (of a consignment, field or place of production)**
Definition as per ISPM 5. *Glossary of phytosanitary terms*
fresh
Definition as per ISPM 5. *Glossary of phytosanitary terms*

fruits and vegetables
Fresh parts of plants intended for consumption or processing and not for planting

import
Definition as per the Act

import health standard (IHS)
Definition as per the Act

importation
Definition as per the Act

importer
Definition as per the Act

in transit
Refers to risk goods (consignments) in the process of being shipped to New Zealand, for example risk goods in sea containers on board a vessel (these risk goods or consignments may have treatments applied while the risk goods are en route to New Zealand)

incidentally imported new organism
Definition as per the Act

infestation
Definition as per ISPM 5. *Glossary of phytosanitary terms*

inspection
Definition as per ISPM 5. *Glossary of phytosanitary terms*

inspector
Definition as per the Act

interception (of a pest)
Definition as per ISPM 5. *Glossary of phytosanitary terms*

IPPC
International Plant Protection Convention

irradiation
Definition as per ISPM 5. *Glossary of phytosanitary terms*

ISPM

lot
Definition as per ISPM 5. *Glossary of phytosanitary terms*

national plant protection organisation (NPPO)
Definition as per ISPM 5. *Glossary of phytosanitary terms*

non-regulated pest
A pest identified as non-regulated in ONZPR
official
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**Official New Zealand Pest Register (ONZPR)**
The searchable database of pests regulated in New Zealand, including general information about each pest as well as specific details for importers and exporters, available at [https://pierpestregister.mpi.govt.nz/](https://pierpestregister.mpi.govt.nz/)

**online pest database**
ePest, the database that gives users a list of pests and associated phytosanitary measures specific to a commodity from a specific country, available at [https://www.mpi.govt.nz/import/food/fresh-fruit-vegetables/requirements/epest/](https://www.mpi.govt.nz/import/food/fresh-fruit-vegetables/requirements/epest/)

**organism**
Definition as per the Act

**packaging**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**pathogen**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**pathway**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**pest**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**pest control activities**
Activities (such as cultural, chemical, biological, physical and behavioural) for the purpose of pest control including phytosanitary measures such as pest-free area or phytosanitary treatment

**pest-free area**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**pest-free place of production**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**phytosanitary certificate**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**phytosanitary certification**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**phytosanitary measure**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**phytosanitary procedure**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**phytosanitary security**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**place of production**
Definition as per ISPM 5. *Glossary of phytosanitary terms*
plants
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**production system**
The procedures and arrangements for growing, harvesting, packing, and treatment, which include all functions required to produce fresh fruits and vegetables for export

**quarantine**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**re-export (consignment)**
Definition as per ISPM 5. *Glossary of phytosanitary terms*

**regulated pest**
A pest identified as regulated in ONZPR

**risk goods**
Definition as per the Act

**systems approach**
Definition as per ISPM 5. *Glossary of phytosanitary terms*.

**transitional facility**
Definition as per the Act

**treatment (including treated)**
Definition as per *ISPM 5. Glossary of phytosanitary terms*

**vector**
An organism which can carry or harbour another organism capable of causing harm to human, animal, or plant health, or the environment in New Zealand

**vector-transmitted pathogen**
A disease-causing regulated pest that is able to enter New Zealand via a vector associated with an imported commodity

**viable (regulated pest)**
Any regulated pest that is capable of reproduction and development, including insects, plants, seeds and other organisms

**weed seeds**
Schedule 2: Vector-transmitted pathogens associated with pests of fresh mandarin, tangelo and tangor

Pests requiring Targeted Measures on exports from countries where associated vector-transmitted pathogens are present

<table>
<thead>
<tr>
<th>Pests acting as vectors</th>
<th>Associated vector-transmitted pathogens</th>
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<tbody>
<tr>
<td><em>Brevipalpus californicus</em></td>
<td>Citrus leprosis viruses</td>
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<td><em>Brevipalpus obovatus</em></td>
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<td><em>Brevipalpus phoenicis sensu lato</em></td>
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<tr>
<td><em>Diaphorina citri</em></td>
<td>Causative agents of huanglongbing disease: <em>Candidatus Liberibacter species</em></td>
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<td><em>Trioza erytreae</em></td>
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Schedule 3: Phytosanitary treatments approved as MPI-Specified Measures for pests of fresh mandarin, tangelo and tangor

**Cold treatments**

<table>
<thead>
<tr>
<th>Pest</th>
<th>Maximum fruit core temperature kept at</th>
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<tbody>
<tr>
<td>Anastrepha fraterculus</td>
<td>1.11 °C or below for 15 continuous days OR 1.67 °C or below for 17 continuous days</td>
</tr>
<tr>
<td>Anastrepha obliqua</td>
<td>1.11 °C or below for 15 continuous days OR 1.67 °C or below for 17 continuous days</td>
</tr>
<tr>
<td>Anastrepha serpentina</td>
<td>1.11 °C or below for 15 continuous days OR 1.67 °C or below for 17 continuous days</td>
</tr>
<tr>
<td>Anastrepha ludens</td>
<td>0.56 °C or below for 18 continuous days OR 1.11 °C or below for 20 continuous days OR 1.67 °C or below for 22 continuous days</td>
</tr>
<tr>
<td>Bactrocera carambolae</td>
<td>0.56 °C or below for 18 continuous days OR 1.11 °C or below for 20 continuous days OR 1.67 °C or below for 22 continuous days</td>
</tr>
<tr>
<td>Bactrocera correcta</td>
<td>0.56 °C or below for 18 continuous days OR 1.11 °C or below for 20 continuous days OR 1.67 °C or below for 22 continuous days</td>
</tr>
<tr>
<td>Anastrepha suspensa</td>
<td>1.67 °C or below for 14 continuous days</td>
</tr>
<tr>
<td>Bactrocera aquilonis</td>
<td>1 °C or below for 16 continuous days</td>
</tr>
<tr>
<td>Bactrocera frauenfeldi</td>
<td>1 °C or below for 16 continuous days</td>
</tr>
<tr>
<td>Bactrocera jarvisi</td>
<td>1 °C or below for 16 continuous days</td>
</tr>
<tr>
<td>Bactrocera kraussi</td>
<td>1 °C or below for 16 continuous days</td>
</tr>
<tr>
<td>Bactrocera neohumeralis</td>
<td>1 °C or below for 16 continuous days</td>
</tr>
<tr>
<td>Bactrocera trivialis</td>
<td>1 °C or below for 16 continuous days</td>
</tr>
<tr>
<td>Bactrocera dorsalis</td>
<td>1.7 °C or below for 15 continuous days</td>
</tr>
<tr>
<td>Bactrocera tryoni</td>
<td>3 °C or below for 16 continuous days</td>
</tr>
<tr>
<td>Bactrocera zonata</td>
<td>1.7 °C or below for 18 continuous days</td>
</tr>
<tr>
<td>Ceratitis capitata</td>
<td>1.11 °C or below for 14 continuous days OR 2 °C or below for 16 continuous days OR 2.22 °C or below for 18 continuous days OR 3 °C or below for 20 continuous days</td>
</tr>
</tbody>
</table>

**Irradiation treatments**

<table>
<thead>
<tr>
<th>Pest</th>
<th>Minimum absorbed dose to prevent the emergence of adults of the pest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anastrepha ludens</td>
<td>70 Gy</td>
</tr>
<tr>
<td>Anastrepha obliqua</td>
<td>70 Gy</td>
</tr>
<tr>
<td>Anastrepha serpentina</td>
<td>100 Gy</td>
</tr>
<tr>
<td>Bactrocera jarvisi</td>
<td>100 Gy</td>
</tr>
<tr>
<td>Bactrocera tryoni</td>
<td>100 Gy</td>
</tr>
<tr>
<td>Ceratitis capitata</td>
<td>100 Gy</td>
</tr>
<tr>
<td>Fruit flies of the family Tephritidae</td>
<td>150 Gy</td>
</tr>
</tbody>
</table>