Ministry for Primary Industries
Manatū Ahu Matua

Guidance Document

Post Entry Quarantine for Plants

MPI.GD.PEQ

21 June 2022

A guidance document issued by the Ministry for Primary Industries

New Zealand Government

Title

Guidance Document: Post Entry Quarantine for Plants

About this document

This document has been developed as a guide to understanding and implementing the requirements set out in the Facility Standard: Post Entry Quarantine for Plants; and was prepared by MPI in collaboration with industry representatives. The document gives examples of how a post entry quarantine (PEQ) facility can meet the requirements of the standard.

Document history

Version Date	Section Changed	Change(s) Description
1 March 2016		
24 August 2017	4.4.1	Added a new section, 4.4.1.2 describing ventilation requirements for Level 3B greenhouses.
21 June 2022	1.5.2(6) 3.4.7 3.6.2 3.10.3 4.2.1.2 4.2.2.3 4.2.2.4	Transitional operator training information removed Mixed consignments and staggered release - updated Plant inspections by MPI Inspector – 20 months row added Technical Supervisor changed to MPI Inspector Anteroom - updated Growing medium - updated Growing medium - updated

Contact Details

For all matters relating to the operation of the PEQ standard, including inspections, audits and treatments contact your local MPI office.

For all matters relating to the review and amendment of the PEQ standard, contact:

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Disclaimer

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Contents

1 General Requirements

1.1 Application

(1) This guidance document should be read in conjunction with the Facility Standard: Post Entry Quarantine for Plants. Post entry quarantine (PEQ) is required for all plant material imported into New Zealand under either the Nursery Stock or Seed for Sowing import health standard (IHS), where the IHS mandates that PEQ is required. Any such material is generally eligible for a biosecurity clearance (i.e., can be released into New Zealand) following a period of growth (and, in some cases testing) in the PEQ facility to check for the presence of regulated pests or diseases.

(2) A PEQ facility may also be used for the temporary quarantine of certain types of plant material which will not be eligible for a biosecurity clearance. This can include holding genetically modified plant species, species that are not present in New Zealand (and classified as New Organisms under the HSNO Act), or species which are not new organisms that are not eligible for biosecurity clearance because they are not covered by a relevant IHS. These types of plant material may be held in a PEQ facility for a period of quarantine before the material is transferred to a Ministry for Primary Industries (MPI) approved containment facility; or is re-exported from New Zealand. Whilst in PEQ, any such material may be required to undergo testing and/or inspection for pests and diseases.

1.2 Incorporation of material by reference

(3) Incorporation by reference means that standards, guidelines, or lists are incorporated into the facility standard, and they form part of the requirements. This is done because technical documents are too large or impractical to include in the standard.

(4) Where the standard states that section 142O(1) of the Act does not apply, this means that importers need to refer to the most recent version of any standards, guidelines or lists that are incorporated by reference in the standard.

1.3 Abbreviations and definitions

No guidance for this section.

1.4 Implementation arrangements

(1) MPI recognise that significant changes may be required for some existing facilities. As such, lead in times to allow facilities to become compliant have been specified in the standard. However, it is expected that all facilities should become compliant with the revised standard as soon as is practicable.

1.5 Facility and operator approval

1.5.1 Facility approval

(1) Before applying for a facility approval, a person or company wishing to have a place approved as a facility should be familiar with the standard and should:

a) contact the local MPI office or MPI Inspector to discuss the general provisions and requirements for approval, including operator training and preparation of the operating manual. This may require an on-site visit by the MPI Inspector.

b) arrange for an on-site meeting with the MPI Inspector after establishment of the facility (and before the approval is granted) to ensure that approval can be met. If required, complete any physical or structural modifications to the facility.

(2) As well as complying with the requirements of the PEQ facility standard, a facility must also comply with any requirements specific to the plant species being imported. This could include conditions in the import health standard, import permit, or any direction from a Chief Technical Officer (CTO) or the Director-General (DG).

(3) Examples of additional requirements that could apply include:

a) a requirement for a consignment to be held within a particular temperature range in order for symptoms of a particular pest or disease to be expressed;
b) specific requirements that arise following a change in the state of knowledge, for example in relation to a specific pest or disease. In some cases, this could result in additional conditions, for example additional testing or environmental requirements, or an extension of the PEQ period or the number of inspections, being imposed on a consignment that is already in PEQ.

1.5.2 Operator approval

(1) The standard states that a facility must be operated by an approved operator and that it is unlawful to operate a facility without an operator.

(2) A main role of the operator is to ensure that processes described in the operating manual are being followed, and hence the requirements of the standard and any other requirements are being met. As such, the operator must have the required authority from the owner of the facility to ensure that the operating standards of the facility will be met.

(3) The operator is responsible for all activities relating to the operation of the facility and must identify and provide the resources needed to meet the requirements of this standard.

Deputy operators

(4) A person with overall responsibility for the facility should be available at all reasonable times in case of emergency. As such, the operator is expected to appoint an individual or individuals as the deputy operator(s) if it is the opinion of the operator that one is needed due to the complexities and particular operating factors of a facility, in the event of the operator's absence, or where contingencies may impact the operator's ability to exercise their responsibilities effectively.

(5) A facility may have a person(s) appointed to assist the operator, or to act as the operator in the absence of the approved operator as follows:

a) a deputy operator who has successfully completed the operator training course may be appointed to act as the operator if the approved operator is absent. It is expected that a deputy operator will be appointed in cases where an operator is responsible for more than one facility, or where the operator responsible for a facility is located at a separate site. A deputy operator should be primarily located at the site of the PEQ facility for which they are responsible and should be named in the operating manual;
b) depending on the level of facility and the length of time an approved operator will be absent, the operator may be able to nominate a suitably qualified person who has not completed the operator training course to act in their absence. This will be at the discretion of the MPI Inspector and must be discussed with the MPI Inspector beforehand.

Operator training

(6) It is important that operators are aware of the different aspects of biosecurity. As such, all operators and deputy operators should successfully complete the transitional facility operator training course developed by MPI.

(7) Refresher training should be undertaken every four years, or as directed by the MPI Inspector, in order to maintain approval. Depending on the compliance history of a facility and operator, an MPI Inspector may alter the training frequency of the operator.

(8) The MPI Inspector must be notified of any proposed changes to the operator or deputy operator at least three weeks in advance of any proposed change.

2 Physical and Structural Requirements

2.1 General

No guidance for this section.

2.2 Site, buildings, and structures

(1) The location of a facility is an important consideration and should be discussed with the MPI Inspector early in the approval process. Approval may be withheld if the MPI Inspector is not satisfied that the facility can be constructed in manner to adequately manage any risks associated with the location in which the facility is to be situated. It is the responsibility of the operator to ensure that such risks are considered.

(2) Facilities should be constructed in a secure and robust fashion that is considered by MPI to be capable of standing up to climatic conditions that may be expected to be encountered at that facility.

(3) Examples of services and systems that may be required depend on the level of PEQ facility, but may include:

a) a reticulated water supply;
b) local body waste, sanitation, and drainage management systems;
c) uninterrupted energy sources;
d) reliable communication services (for example, phone coverage);
e) emergency services (for example, Police, fire service, civil defence); and
f) any other services and/or systems necessary to manage specific biosecurity risks associated with the types of uncleared plant material being handled.

(4) The following factors should be considered when assessing the suitability of a location:

a) the climate and geography of the area:

i) local council plans can often provide information on areas which may experience extreme climatic conditions;
ii) in areas with very strong winds, the facility should be suitably constructed to ensure the structure can stand up to extreme weather events and/or should be located in a position on the property which is protected from wind;
iii) flood prone areas (for example designated flood plain areas) are not suitable for L1 facilities. L2, L3A and L3B facilities built in flood prone areas should be constructed to ensure that the facility is not affected by flooding events (for example watering systems, water waste storage, floor level);
iv) for plants held in L1 PEQ, an inability to produce good growth may result in a delay in the release of any plants, or destruction of the material; as such, climate and geography should be conducive for the growth of the material. Plants in L1 facilities should also be grown under conditions that are conducive to the expression of normal signs and symptoms of any organisms that may be associated with the plants.

b) proximity to areas of production for species being quarantined:

i) facilities should not be located in close proximity to horticultural areas producing the species being quarantined unless the associated risks can be managed effectively by increasing the safeguards (physical or operational) of the facility and its operation.

(5) If a facility is situated within a dwelling place (for example home or marae) it should not be located within the main dwelling, and if possible, should be located in an adjacent building, to which access can easily be restricted to permitted persons.

2.3 Leased facilities

(1) For the standard, a lease agreement does not include a facility where space is leased to another importer if the operator retains overall responsibility for running the facility.

(2) A lease agreement should not interfere with the ability of an operator to meet the requirements of the standard.

(3) A lease contract, or gratis arrangement with the owner should clearly identify who is responsible for maintaining the facility and for meeting the general provisions and requirements for approval of that facility as a PEQ facility.

(4) Operators of leased facilities should have the authority to make any changes that MPI may require to manage biosecurity, including possible structural changes. If this may be a problem it is advisable to discuss this with the MPI Inspector, and to submit a copy of the lease agreement to the Inspector before arranging the lease agreement, to identify whether any changes are likely to be required.

(5) Where a number of transitional facilities are located within a larger shared facility, the main user of the facility will be identified as the overall operator and should be responsible for the maintenance of the facility in relation to the requirements of the standard.

2.4 Physical or structural changes to a facility

(1) Physical or structural changes to a facility may compromise the ability to effectively manage biosecurity risks and comply with the requirements of this standard. Therefore, the MPI Inspector must be informed if an operator intends to make major changes to a facility, or to alter its operations to activities beyond the approved scope. This is to ensure all biosecurity risks continue to be adequately managed if any changes are made.

(2) If in doubt about whether changes are major or minor, the MPI Inspector should be contacted to clarify whether approval is needed. The MPI Inspector should be informed of any minor changes on their next visit to the facility.

(3) If a proposed change in the operation of a facility is beyond the approved scope of that facility, a new facility approval will be required.

(4) If proposed changes remain within the scope of an existing facility approval, the facility approval may need to be amended.

(5) When making major changes to a facility, an operator should complete the following actions:

a) contact the MPI Inspector to discuss the proposed changes and to identify whether compliance will be maintained;
b) once changes have been made, arrange for an on-site inspection by the MPI Inspector (if necessary) to confirm compliance with the facility approval;
c) update the operating manual in line with the modifications to the facility or the operating procedure (if necessary);
d) submit the updated manual to the MPI Inspector for approval.

(6) When discussing proposed changes with the operator, the MPI Inspector will confirm whether the changes are minor or major, and will inform the operator of any changes, additional to those identified by the operator, that are required to maintain compliance with the standard.

(7) Minor changes are those that do not affect the integrity of containment or management of a biosecurity risk. These may include small changes in operating procedures or importing species which are not listed in the current facility approval, but which have the same biosecurity requirements as approved species. Where minor changes are made these should be checked by the MPI Inspector during their next visit to the facility.

(8) Major changes include those that may affect the integrity of containment (for example construction or removal of walls) or change the scope of work conducted in the facility (for example significant changes to operating procedures or import of species with different biosecurity requirements).

(9) The inspector will confirm in writing any changes that are needed before any major modifications are undertaken.

(10) When structural modifications are completed, the MPI Inspector will conduct a site visit to verify that the modifications have been done as signed off by the MPI Inspector beforehand.

2.5 Signage

(1) An example of an appropriate sign is given in the example operating manual.

(2) Signs may specify that the premises are a "PEQ facility as approved by the Ministry for Primary Industries".

(3) Signs must not display the MPI logos as per the Flags, Emblems, and Names Protection Act 1981.

2.6 Decontamination of facilities and/or equipment

(1) A facility, or equipment within a facility, may require decontaminating under the following circumstances:

a) after a regulated organism is detected;
b) after a facility approval is cancelled;
c) before a facility is used for non-quarantine work;
d) before equipment is removed from the facility;
e) before pots, trays or other equipment are re-used between consignments;
f) between quarantine consignments.

(2) The MPI Inspector will inform the operator if decontamination is required and, if necessary, what steps should be taken to decontaminate the facility or equipment.

2.7 Use and maintenance of equipment

No guidance for this section.

3 Operational Requirements

3.1 Operating manual

(1) The following sections describe the information that should be included in the operating manual.

(2) An example operating manual for a hypothetical Level 2 PEQ Facility has been prepared to illustrate how a facility could comply with the requirements of the standard. Requirements for an operating manual for other levels of facility should be discussed with the MPI Inspector during the application process.

(3) The operating manual should:

a) record and illustrate the activities that will be undertaken at the facility to ensure that biosecurity objectives (as defined in the standard and elsewhere) are being met;
b) ensure that an operator has systems in place to verify that biosecurity objectives are being met and that procedures are carried out as agreed with MPI when the facility was approved.

(4) The operating manual should describe all procedures that are used to manage biosecurity risks associated with imported material. The complexity of the procedures described in the manual will depend on the risks associated with the imported plant material, and hence the level of PEQ in which the material is being held.

(5) The operating manual should be viewed as a 'working document' that is referred to for staff training purposes, for facility audits and as a general reference document to ensure that the requirements of the standard, and any other requirements, are being met. It is also an essential document for the MPI Inspector to use when approving and inspecting a facility. As part of approving a facility, the MPI Inspector may require the manual to be reviewed by an independent third party (at the expense of the facility) before it is submitted to MPI.

(6) The operating manual will be approved by the MPI Inspector at the time of facility approval.

3.1.1 Content of operating manual

(1) After hours contact information should be included for the operator and deputy operator (where applicable).

(2) Position titles (rather than person's names) can be referenced in the operating manual, but provisions should be made to ensure that names and employment dates are kept in company records and are readily accessible.

(3) The scope of the facility approval must identify the plant species that will be imported. Whilst each plant type does not need to be identified to the genus and species level, as a minimum, the manual should identify the IHS schedule under which goods are being imported.

For example, if a facility only imports species 'Basic' species the operating manual may state that 'any species with an import specification of 'L2 (Basic)' in the nursery stock IHS may be imported.

Similarly, if a facility intends to import the following species: *Aconitum lycoctonum*, *Amsonia salicifolia*, *Campanula burghaltii*, *Geranium pratense*, *Lobelia anceps* and *Salvia elegans* (all covered by the Delphinium schedule in the nursery stock IHS), and *Boronia clavata*, *Calocephalus brownie*, *Crowea prostrata* and *Penstemon jamesii* (all classified as L2 (Basic) in the IHS). In this case, rather than listing the genus and species of each plant, the operating manual could state that the material to be imported includes all species covered by the Delphinium schedule as well as any species with an import specification of 'L2 (Basic)' in the nursery stock IHS.

(4) The manual should also specify the type of material that will be imported (for example, tissue cultures, bulbs, or unrooted cuttings etc.).

(5) The following information should be included when describing any procedure in the operating manual:

a) a description of the procedure;
b) when the procedure will be carried out;
c) who (position description) will be using the procedure.

3.1.2 Format of operating manual

No guidance for this section.

3.1.3 Manual review and amendment

(1) Any amendments to the operating manual should be clearly identified (for example by describing the changes in a table of amendments at the start of the document) so that they can easily be identified by the MPI Inspector when reviewing the manual. It is also useful to highlight any changes in the body of the text of the version that is provided to the MPI Inspector.

(2) If significant changes are made to a manual and it is not practical to easily identify these changes, the table of amendments can specify that a full revision of the manual has been undertaken without identifying individual changes. A new version of the manual should be submitted to the inspector.

3.1.4 Document control

(1) Having adequate document control procedures in place is important because this helps to ensure that all procedures in use at the facility are those that have been most recently approved by the operator and the MPI Inspector, so all biosecurity requirements continue to be met.

3.1.5 Access to operating manual

No guidance for this section.

3.2 Records

(1) Keeping a record of consignments and any associated documentation is important for the effective management of goods and for audit purposes. The facility should maintain an effective record keeping system that allows easy access to all records by relevant staff and by the MPI Inspector. All documents relating to each consignment should be kept together. This will make it easier for records to be assessed at the time of audit.

(2) Keeping the records as described in the standard helps to ensure that traceability of plant material is maintained throughout PEQ. Maintaining traceability is an essential part of the quality system for plant species which require pre-determined testing and is particularly important when composite samples are taken for bulk testing of quarantine material.

(3) Records may be retained either as hard copies or electronically. A robust record keeping system with appropriate back up should be maintained.

3.3 Security and access

No guidance for this section.

3.3.1 Access by an MPI Inspector

No guidance for this section.

3.3.2 Access by staff and visitors

(1) Controlling access helps to ensure that imported plant material is securely held, and that any risk organisms associated with the plants are not spread accidentally.

(2) Only permitted persons responsible for delivering functions within the facility should be allowed routine access. Permitted persons include the operator and staff who undertake the following activities:

a) maintenance of plants (for example propagation, watering, applying approved treatments etc.);
b) inspections for plant health, sampling, or audit purposes;
c) maintenance of the facility (for example structural checks and repairs).

(3) Visitors may include tradesmen, agricultural contractors, or importers with material in the facility. All visitors should be made aware that they must follow any instructions given by a permitted person. If clear instructions or training are not provided for visitors, the visitor should be under the direct supervision of the operator (or delegate) at all times.

(4) The location of the visitor logbook must be recorded (for example 'at reception', or 'in the PEQ facility'), so that the operator, permitted persons and MPI Inspector know where it is at all times.

(5) In addition to the mandatory signage (section 2.5), operators should consider placing signs at the facility entrance that identify all permitted persons, and remind staff that all visitors need to be recorded in the logbook.

3.4 Dealing with plant material

3.4.1 Containment of plant material

(1) It is an offence under the Act to remove plants from PEQ without receiving a biosecurity clearance (in the form of a BACC) from an MPI Inspector. The BACC must state that all biosecurity requirements have been met and that the goods have been cleared for entry into New Zealand (or directed to another facility).

(2) Plants will not be eligible for a biosecurity clearance until the MPI Inspector is satisfied that all requirements have been met. This includes (but is not limited) to the following:

a) the goods comply with the requirements of the IHS; or, as specified in section 27(1) of the Act, the goods do not comply with the IHS, but the CTO has given directions different to those in the IHS which effectively manage the risk;
b) all documentation is compliant;
c) all required treatments have been applied;
d) the nursery stock is not infected or infested with a new organism (unless this has been determined by MPI to be a non-regulated incidentally imported new organism);
e) the nursery stock is not infected or infested with an unwanted organism, or showing signs of being infected or infested with an unwanted organism;
f) the plants have been actively growing in the PEQ facility for the minimum quarantine period (or for an extended period as determined by MPI), and all required inspections have been completed;
g) for nursery stock which requires pre-determined testing the plants must have been tested in accordance with the IHS and found free of regulated organisms.

(3) For consignments that cannot be given a biosecurity clearance, the importer will be given the option to reship or destroy the material.

3.4.2 Receiving plant material into the facility

(1) The operator should take all reasonable steps to ensure that plant material is securely packaged when being moved to a facility. This is to ensure that there is no loss of material, or release of any pests and diseases that may be associated with a consignment whilst consignments are in transit.

(2) Following arrival in New Zealand plant material must be transferred directly to the facility authorised on the BACC or movement authorisation form and must not be opened before arrival at the facility.

(3) On arrival in New Zealand all consignments will be inspected at the border by an MPI Inspector. This will include:

a) an inspection of the documentation to verify that all pre-export requirements (such as phytosanitary certification and treatments) comply with the requirements of the relevant IHS;
b) an inspection of the plant material to verify that it is free from visual signs of pests or disease.

(4) If non-compliances are identified (for example incorrect or missing phytosanitary certification, or pests or diseases present within a consignment), where possible the importer will be given options to remedy the non-compliance (for example by reissuance of certification, or treatment of the consignment).

(5) When the MPI Inspector is satisfied that the goods comply with the requirements of the IHS and import permit, the inspector will authorise the movement of the plant material to the PEQ facility listed on the import permit. The authorisation to transfer and hold the material at the PEQ facility will be in the form of a Biosecurity Authority / Clearance Certificate (BACC) or movement authorisation form.

(6) For facilities where the importer is also the operator (i.e., importing your own plant material into your own PEQ facility), the following information should be included in the operating manual:

a) who in the facility (aside from the operator) is authorised to collect plant material;
b) how the plants will be packaged for transport to the facility, including the types of equipment which will be required when collecting the plants (for example plastic wrap, gloves, etc.).

(7) Some facilities lease space to a third party or private importer, and the third party or importer may assume responsibility for collecting the material. In this case, the operating manual should also identify how the operator will communicate to the third party or importer their responsibility for ensuring that the material remains securely packaged, is unopened during transport, and is transported directly to the PEQ facility. Timeframes for arrival of the material should be agreed upon before transport of material to the PEQ facility.

(8) The operating manual should clearly identify processes that will be followed when receiving material at a facility. This may include the following:

a) when and where deliveries are normally received;
b) who is responsible for receiving deliveries;
c) how the operator (or nominated delegate) is notified when the material arrives at the facility;
d) where material is to be stored on arrival at the facility;
e) who is responsible for opening packages to inspect the material and documentation;
f) the fields to be checked on the BACC to ensure that the correct information is included;
g) the process for contacting the MPI Inspector to notify them of consignment arrival and inform the MPI Inspector of any discrepancies with the consignment;
h) procedures that will be used to control any pests or diseases that are detected when material arrives at a facility. A list of suitable knockdown sprays that can be used if mobile pests are identified on arrival at a facility can be found at https://www.mpi.govt.nz/import/border-clearance/transitional-and-containment-facilities-for-border-clearance/find-treatment-options-and-provider/information-for-treatment-providers/;
i) where material that does not have a correct BACC should be stored until approval is given by the MPI Inspector to process the material.

3.4.3 Keeping track of plant material

(1) There is a potential for biosecurity failure if plant material cannot be easily traced throughout the entire PEQ process. Any plant tracking system must use a unique code that is retained for each consignment, lot, or individual plant (depending on the level of PEQ) until a biosecurity clearance is given. It is recommended that the code should remain as simple as possible to avoid confusion.

(2) An example of a unique code that could be assigned to each consignment is to use the year of import, followed by the consignment number for that year, followed by a lot number, for example 2015-01-01

(for the first lot within the first consignment for the year), 2015-01-02 (for the second lot within the first consignment) etc.

(3) A similar system can be used to keep track of individual plants in L3A or L3B facilities, however for these plants additional records must be retained for each plant (as described in Part 4 of the standard).

3.4.4 Facility hygiene

(1) A facility should be big enough to ensure that plants from different consignments, and from different lots within the same consignment, do not touch each other, and that the MPI Inspector and staff can move freely between plants.

(2) If an MPI Inspector considers that too much plant material has been placed in the facility and that the excess plant material poses a biosecurity risk or impedes plant inspections, the MPI Inspector may require the excess material to be re-shipped, destroyed, or transferred to another approved PEQ facility.

(3) Examples of specific hygiene procedures are given in the example operating manual.

(4) Using appropriate hygiene measures will ensure that any pests or diseases that may be present in a consignment are contained as much as possible, and are not unintentionally spread between plants or lots, or allowed to exit from the facility.

(5) It is important to control weeds because they may be an alternative host for some pathogens, act as reservoirs for certain viruses and/or viroids or may conceal the presence of pests or diseases.

(6) Any disinfectants must be known to be effective against the target organisms. Disinfectants suitable for use in quarantine include (but are not limited to) TriGene, SteriGENE, Virkon solution (all prepared according to manufacturer's directions) or sodium hypochlorite (bleach) to a final strength of 1% chlorine.

(7) Sodium hypochlorite solution is effective against most organisms and is recommended for use in quarantine, however it should not be used in footbaths. Sodium hypochlorite is unstable and should be prepared freshly each day. Sodium hypochlorite and Virkon are corrosive to many surfaces.

(8) All work areas should be kept clean and tidy. This helps to ensure that material which may attract or conceal pests or diseases does not accumulate. Non-essential equipment should not be stored in a facility, and paperwork should be restricted to that essential for the operation of the quarantine units.

3.4.5 Moving or exporting plant material from the facility

(1) Material may be transferred to another facility for a number of reasons, including:

a) movement of material between a PEQ tissue culture laboratory and a PEQ greenhouse for deflasking and growing season inspection of quarantine material;
b) movement of material between PEQ greenhouses to complete diagnostic testing;
c) movement of material between PEQ tissue culture laboratories for multiplication during the quarantine period;
d) movement of plant material from a PEQ facility to a containment facility;
e) movement of plant material to another transitional facility before re-export.

(2) The requirement for all plants to remain within a PEQ facility unless the MPI Inspector gives written approval for plants to be removed applies regardless of whether plants are being moved to another facility within New Zealand or are being re-exported.

(3) Movement request forms which must be completed before the transfer of material can be found on MPI's website at http://www.mpi.govt.nz/document-vault/3135.

(4) The method of transport must ensure the containment of the risk good(s) (see AS/NZS 2243:3 and IATA Dangerous Goods Regulations, if applicable). Plant material must be double-bagged and tracked and traced if using a courier service.

(5) Appropriate documentation showing that a consignment has left New Zealand may include a phytosanitary certificate, or other evidence such as invoices or packing slips.

3.4.6 Multiplying uncleared plant material

(1) The operator should be aware of the potential drawbacks when multiplying plant material in PEQ facilities. For example, if a regulated organism is detected in a consignment, any management actions will apply to all progeny as well as the original material.

(2) In addition, if traceability of any progeny is not adequately maintained, the progeny could require treatment or testing (or destruction) in the event that quarantine issues arise within the consignment.

(3) In some instances, multiplication may not be allowed in PEQ facilities. For example, this could apply under the following circumstances:

a) if PEQ material requires pre-determined testing and the required samples have not yet been collected;
b) if the propagation process means that no actively growing material remains for inspection (in which case the PEQ period would have to stop and be restarted after active growth commenced);
c) if there is inadequate space within a facility.

(4) In some instances (for example if the propagation process requires the introduction of new root stocks from outside the facility) propagation would be considered unwise, as this could introduce new pests or diseases into the facility which may result in symptoms on the plants, and hence additional testing and/or treatment.

3.4.7 Mixing consignments

(1) If a regulated organism is detected when multiple consignments are being held in the same quarantine unit, actions for the affected plants may apply to all consignments within the unit. Such actions could include treatment, extension of the PEQ period, additional inspections, extra testing, re-shipment, or destruction of the consignment.

(2) Operators should be aware that the above may also apply when multiple species imported as a single consignment are held in the same quarantine unit.

(3) When considering mixing of consignments, the regulated organism for each consignment along with the environmental requirements for the PEQ period need to be taken into account.

(4) Staggered release of mixed consignments held within the same unit of a facility can only occur with MPI approval, generally in accordance with the import health standard or a CTO decision. Final biosecurity release decisions remain at the discretion of the MPI Inspector.

3.5 Managing waste

(1) Examples of quarantine waste that will require destruction include:

a) dead plant material or plants that will not be given a biosecurity clearance;
b) plant containers;
c) used gloves, disposable shoe covers, protective clothing etc.;
d) waste paper;
e) any material swept from the floor of the facility.

(2) Generally, disposal is done by securely transferring the waste material to a transitional facility approved by MPI for decontamination or treatment. A list of MPI-approved facilities for destruction of waste can be found on the MPI website at http://www.mpi.govt.nz/document-vault/1381.

(3) Alternative methods of destruction (for example autoclaving or on-site incineration) may be approved on application to the inspector and must be documented in the operating manual. Such methods may not be able to be used in all cases (for example if a regulated organism is detected, material may need

to be destroyed at a facility approved for the destruction of quarantine waste, or by another approved method (for example by deep burial).

3.6 Inspecting plants

3.6.1 Plant inspections by the operator

(1) The aim of plant inspections by an operator (or delegate) is to allow any pests and disease to be detected and appropriately managed as soon as possible. An operator is expected to be able to identify signs or symptoms of pests and disease, however it is not expected that the operator will be able to identify all such pests or diseases. When symptoms are noted, they should be recorded and the MPI Inspector informed as soon as possible (and within 24 hours of detection).

(2) It is not anticipated that an in-depth inspection of individual plants will be done by the operator; rather the operator should be regularly examining all plants (at least once per week) for obvious symptoms of pests or disease; and selecting a small number of plants for a more detailed inspection (for example using a hand lens).

3.6.2 Plant inspections by the MPI Inspector

(1) All plant material must be regularly inspected by the MPI Inspector for pests and diseases as follows:

PEQ period as identified on import permit	Minimum number of inspections required
4 weeks	1
3 months	2
6 months	4
9 months	5
12 months	6
16 months	10
20 months	10

(2) Plant inspections by the MPI Inspector will consist of a general overview of the consignment, as well as an intensive inspection of part of the consignment, for example using a hand lens to inspect for symptoms that may not be visible to the naked eye.

(3) The first inspection should be carried out within four weeks of plants entering a state of active growth.

(4) The number and frequency of inspections will depend on the length of the quarantine period, on the occurrence of any non-compliance, and on whether pests or diseases are identified within the consignment.

(5) The first inspection by an MPI inspector will not be completed until plants are in a state of active growth, with foliage (at least two fully expanded leaves) present on a minimum of 50% of plants within each lot. The first inspection of plants by the MPI Inspector may be delayed in cases where 50% of plants are not in a state of active growth.

(6) For species which require pre-determined testing, every plant should be actively growing before the PEQ period will begin; in cases where some plants do not enter a state of active growth this should be discussed with the inspector before the first inspection.

(7) 95% of plants should be in active growth for the final inspection.

(8) When conducting plant inspections, the MPI inspector may also verify that:

a) the identity of the plants in the facility correlates with the species specified on the permit(s) to import;
b) all appropriate records are being kept;
c) any post-arrival requirements specified in the import health standard have been, or are being complied with;
d) the facility continues to comply with all physical, structural and operational requirements of the standard.

3.7 Pests and diseases

3.7.1 Reporting of organisms or symptoms in facilities

(1) The presence of any pests or diseases (or symptoms of pests or disease), detected either during a regular plant inspection, or at any other time, must be reported to the MPI Inspector. The only exception is for insect pests, or signs of insect damage on plants growing in L1 PEQ, unless it is suspected that these may be new or unwanted organisms.

(2) Under section 44 of the Act a person must inform MPI (via the MPI Inspector or on the MPI pest and disease hotline [0800 80 99 66]) as soon as is practicable in the circumstances of what appears to be an organism not normally seen or detected in New Zealand.

(3) Under section 46 of the Act, any person who suspects the presence of a notifiable organism (and believes that the organism is not established in New Zealand) must report that presence to the MPI.

3.7.2 Diagnosing pests and diseases

(1) A list of MPI-approved suppliers of pest identification services can be found at http://www.mpi.govt.nz/document-vault/1047.

(2) Even if an operator identifies a pest or disease, or symptoms of a pest or disease that they believe is of New Zealand origin, or is already present in New Zealand, the MPI Inspector must confirm that this is the case. The Inspector may need to visit the facility to verify the identity of the pest or disease. If so, the usual costs associated with a visit by an inspector will apply. The Inspector may be able to verify the identity of the disease by other means (for example by photographic records) or may ask the operator to collect a sample and submit it for diagnostic testing. The method of verification will be on a case-by-case basis depending on the circumstances (for example the experience of the operator, the facility history, an on-going history of a particular non-regulated disease associated with a particular plant species in that facility).

(3) Because weeds may be alternative hosts for various pests and diseases, if a weed is found within a facility and shows obvious signs or symptoms of pests or disease, diagnostic testing may be required to identify the causal agent.

(4) If an MPI Inspector verifies that a pest or disease is present in New Zealand (and is non-regulated), no further action is required, although the operator may choose to treat the plant material for phytosanitary purposes. Treatment of plants in PEQ may result in an extension of the PEQ period; the inspector will notify the operator if this is necessary when treatment options are discussed. The reason that the quarantine period may need to be extended is because application of a treatment (for example fungicide spray) could suppress the symptoms of other diseases that may be present on the imported plant material.

(5) If the MPI Inspector cannot confirm the identity of the pest or disease; or does not believe that the causal agent is present in New Zealand; or does not believe that the pest or disease has been recorded on that host species in New Zealand, a sample must be sent to an MPI approved diagnostic facility as described in section 3.8.2 of the standard.

(6) Many pests and diseases are highly infectious and can be easily transmitted by infected plant material on hands, tools, footwear, or clothing. Therefore, strict hygiene must be observed when collecting samples for diagnosis. The following process should be used when collecting samples:

a) wear a powder free disposable glove (powder can interfere with diagnostic procedures) when taking samples. Do not touch plants with bare hands;
b) avoid brushing against plants;
c) collect each sample using gloved hand and transfer the sample directly to a zip-lock bag;
d) wear a new disposable glove for each cultivar or species;
e) place the sampled leaves in a zip-lock plastic bag with the air pressed out before sealing;
f) clearly label the bag with details of the permit number, consignment number and lot number (if applicable) and the full genus and species name of the plant material. For plants which are individually labelled ensure that each sample is easily traceable to the individual plant from which it was collected.

(7) It is very important that bags containing samples are kept cool at all times, but are not frozen. Samples should not be left in the sun, and bagged samples should be transferred to a polystyrene box with an ice pack wrapped in bubble wrap or newspaper as soon as possible. Wrapping the ice pack in bubble wrap or newspaper prevents samples from freezing.

(8) Each plant that is sampled should be clearly labelled so that if re-sampling is necessary the plant can be identified. For consignments where each plant is not individually labelled/uniquely identified, the plant should be marked in such a way that the sample can readily be traced back (for example by putting an obvious sticker on the pot).

(9) The method of transport to the diagnostic facility must ensure the containment of the risk good(s) (see AS/NZS 2243:3:and IATA Dangerous Goods Regulations, if applicable). Plant material must be double-bagged and tracked and traced if using a courier service.

(10) Once samples have been collected hands should be washed thoroughly with soap and water, and any equipment (for example secateurs) should be decontaminated.

Management options following identification of pests or diseases in PEQ

(1) When a pest or disease is identified within a consignment, the operator will be given options on how to manage the consignment. The following table describes some of these options. Options are subject to change and will depend on the circumstances of the specific consignment, and the biology of the specific pest or disease.

Category	Options for the consignment
Non-regulated organism	No action required. The operator may choose to treat plants for phytosanitary purposes.
Regulated insect	Treatment, re-shipment, or destruction. Although treatment will often be considered as an option when a regulated insect is detected this may not always be possible. For example, for high impact insects, or insects such as scale, which are difficult to treat, the only option may be to reship or destroy the consignment.
Regulated fungus	Treatment, re-shipment, or destruction. Although treatment will often be considered as an option when a regulated fungus is detected this may not always be possible. For high impact fungi, or species which are difficult to treat the only options may be to reship or destroy the consignment.
Regulated bacterium, virus, viroid, phytoplasma or disease of unknown aetiology	Re-shipment or destruction. Treatment is not an option for these classes of regulated organism.

(2) In some cases, an organism may be identified that is not present in New Zealand, and which does not have a regulatory status assigned to it (i.e., is not classified as either regulated or non-regulated). MPI will assess the risk associated with that organism to ascertain the regulatory status. If such an organism is determined by MPI to be non-regulated (on the basis that it does not pose a significant threat to the environment or economy), that organism will be regarded as an 'incidentally imported new organism' as defined in the HSNO Act 1996. Treatment options will be the same as for non-regulated organisms, and the inspector will be able to give a biosecurity clearance to the consignment once all other biosecurity requirements are met. The decision to classify a new organism as an incidentally imported new organism is made by the CTO.

(3) Where MPI directs that consignment infected by a regulated organism must be reshipped or destroyed, this decision will be made by the CTO.

3.8 Treatments

(1) Treatments can be applied by an approved treatment technician or by an approved treatment supplier.

(2) When a non-regulated organism is detected within a consignment the operator may choose to treat the consignment for phytosanitary purposes (i.e., to maintain plants in a healthy state). The MPI Inspector must still be informed and must authorise the treatment before application.

(3) Applying treatments to plants in PEQ may mean that the quarantine period is extended, and/or additional plant inspections are required. This is because some treatments (for example fungicides) can mask or suppress symptoms of other pests or diseases, or the treated pest or disease may re-occur after treatment. As such, plants must remain in quarantine for a sufficient amount of time after treatment to ensure that any such symptoms would become evident before a biosecurity clearance is given.

(4) As a general rule of thumb, plants should remain PEQ for a minimum of 6 weeks after a fungicide treatment is applied. Hence, if a treatment is applied to a consignment within the final six weeks of quarantine, the PEQ period is likely to be extended. Similarly, after insecticide treatment, plants should remain PEQ for a minimum of 4 weeks after treatment. The MPI Inspector will inform the operator whether an extension of the PEQ period is required when approving the treatment programme.

(5) Recognised training programs for treatment technicians include:

a) GROWSAFE Programme (Application of Chemicals); or
b) An appropriate New Zealand Qualifications Authority approved course.

(6) Records must be kept of all treatments applied to plants in a PEQ facility. An example of records that should be kept is given in the example operating manual.

3.9 Staff

3.9.1 Operator

See section 1.5.1 of this document.

3.9.2 Training

(1) The aim of staff training programmes as required by the standard is to ensure that all staff:

a) are familiar with the basic principles of plant quarantine and with the biosecurity risks that may be associated with imported plant material;
b) are familiar with and capable of following all procedures that have been put in place to manage biosecurity risks;
c) understand the potential consequences of failing to comply with the requirements of the standard.

(2) Operators should ensure that robust methods are in place to assess competencies of all staff undergoing training.

(3) When training multiple staff, a ratio of one supervisor to three trainees is considered to be adequate for supervisory purposes.

3.10 Inspections of facilities and operations

3.10.1 Checks of the facility by the operator

(1) For L1 facilities, the operator (or delegate) should ensure that signage remains in place, and that any fences etc. around a facility are intact.

(2) For L2, 3A and 3B facilities, the operator (or delegate) should assess the following:

a) equipment (such as lights, sticky traps, heating, autoclaves etc.) is in working order;
b) structural integrity is maintained (for example the walls, roof and any screens are intact, drains are not blocked etc.);
c) the facility is being maintained according to the requirements of the standard (for example foot baths are filled, the facility is free from weeds, mosses, lichens etc., floors are clean with no unnecessary material present, protective clothing is available etc.).

(3) Examples of check lists that can be used for checks of the facility are given in the example operating manual.

3.10.2 Internal audits

(1) The purpose of an audit is to verify that systems used at the facility are working effectively to manage any biosecurity risk.

(2) Audits should aim to identify where any processes can be improved (regardless of whether any non-compliance is noted), and to correct or prevent any problems that are identified.

(3) Internal audits may be completed by the operator or by a suitably qualified delegate. However, if possible, it is preferable to have someone who is not directly involved in the operation of the facility, but who has sufficient knowledge of processes and procedures used at the facility and has familiarity with the facility standard and relevant import health standards, to complete the audit.

(4) The objectives of internal audits are to:

a) ensure that processes continue to comply with the requirements of the operating manual (and therefore with the requirements of the standard and any other requirements specified by MPI);
b) identify areas where the system can be improved;
c) make recommendations where weaknesses or inefficiencies are observed.

(5) Internal audits should take into consideration the outcomes of previous audits, and should check items including (but not limited to) the following:

a) that all relevant records for every consignment received are being kept and maintained in an accessible location;
b) that quarantine procedures are being followed correctly;
c) that any records of waste disposal are being kept;
d) that staff training is effective and training records are being kept;
e) that equipment maintenance and calibration programmes are up to date;
f) that the facility continues to comply with the structural requirements of the standard;
g) that the operating manual is still relevant in its current form; if not then changes may need to be made (and approved by the MPI Inspector).

(6) Examples of check lists that can be used for internal audits are given in the example operating manual.

3.10.3 External MPI inspection

(1) PEQ facilities are inspected by the MPI Inspector to ensure the requirements of the standard, and any other requirements, are met. External inspections are distinct from plant inspections, which are carried out to ensure the requirements for the plant material as specified in the IHS are met.

(2) An external inspection should also identify areas where the system may be improved; and should correct and prevent the recurrence of any problems that are identified.

(3) External inspections will involve inspecting the facility, and procedures in use at the facility, to make sure they meet the requirements of the standard and approved operating manual, and any additional conditions required by MPI.

(4) An operating manual may include procedures or processes that exceed the requirements of the standard. Failure to meet such requirements will still be regarded as a non-compliance. This is because a facility approval is granted on the basis that the facility will meet all requirements listed in the operating manual in order to adequately manage biosecurity risk.

(5) The frequency of MPI inspections will depend on the compliance history of a facility, however at least one assessment will be conducted every six months (unless a dispensation has been granted as described below). Where MPI identifies a need, for example if a facility has a history of non-compliance with the standard, unscheduled surveillance assessments may also be conducted.

(6) Inspection frequencies may increase if critical or major non-compliances are identified, depending on the circumstances and history of the PEQ facility. Detection of minor non-compliances will usually not generate a higher inspection frequency.

(7) MPI may cancel or suspend the approval of a PEQ facility or an operator as result of scheduled or unscheduled inspections if critical or major non-compliances are found.

(8) An MPI Inspector may also check aspects such as facility structure, the operating manual, and operating procedures at times other than when a scheduled inspection is due (for example when visiting a facility to conduct plant health inspections). If any non-compliances are found, the normal non-compliance procedure would apply as described in section 3.11.

External inspection frequency reduction

(1) A dispensation to allow reduced frequency of external MPI inspections may be granted to extend the frequency of these inspections in six-monthly increments up to a maximum period of two years.

(2) The operator may apply in writing to the MPI Inspector for a dispensation to be granted to allow reduced frequency of external inspections. Requests for a dispensation will be assessed by MPI. Following this assessment, the outcome of the application will be notified in writing and a dispensation may be granted for a specified or unspecified time and additional conditions may be attached.

(3) After the revised standard is issued a facility will be expected to undergo two successful six-monthly external MPI inspections before an extension dispensation will be granted. A dispensation will initially be granted to require the next inspection be done in 12 months' time, and provided this inspection is successful, the frequency may subsequently be extended to 18 and then 24 months between audits.

(4) The external inspection frequency may be increased, or the dispensation may be cancelled if at any time an MPI Inspector identifies a critical non-compliance, a major non-compliance, or more than two minor non-compliances, or where there a significant change in the scope of a facility approval.

(5) In some cases, MPI may consider that a non-compliance is beyond the control of the operator or facility staff (for example loss of material resulting from a facility being broken in to, or damage to a facility during a storm). If an operator takes appropriate follow up actions to manage the situation in such cases, there will not necessarily be an automatic penalty (i.e., loss of inspection frequency dispensation) provided that the operator has complied with all requirements set out in the standard and the operating manual, and has done everything they could reasonably be expected to do to manage the risk

(6) Criteria that may be taken into account when considering whether a dispensation will be granted include:

a) the compliance history over the previous two years - facilities must have no critical non-compliances or major non-compliances, and fewer than two minor non-compliances (promptly resolved) over the previous two years;
b) confidence of MPI in the operator and key personnel to comply with the requirements of this standard;
c) the ability of the operator to monitor, evaluate and improve the management system;
d) the frequency of visits to the facility by the MPI Inspector for the purpose of conducting plant inspections. Dispensations will only be given for facilities that are regularly visited by the MPI Inspector (at least once every six months) for the purpose of plant inspections;
e) demonstrated commitment to good industry practice (for example as evidenced by participation in the Nursery and Garden Industry Association of New Zealand Nursery Production Farm Management System programme or a similar scheme).

3.11 Non-compliance

(1) Non-compliances are generally identified during audits (either internal or external), although they may be notified to the MPI Inspector at any time.

(2) When an MPI Inspector identifies a non-compliance, they will send a non-compliance report (NCR) to the operator, which will describe the non-compliance and list the required corrective actions, as well as giving a timeframe within which the corrective actions must be implemented.

(3) Further information about critical, major, or minor non-compliances is included below. Examples of non-compliances are indicative only, and the nature of the specific situation (for example if there are multiple non-compliances) may result in an escalation of the non-compliance rating.

Critical non-compliance

(1) Examples of critical non-compliances include (but are not limited to) the following:

a) releasing plants from a facility without approval from the MPI Inspector (for example no BACC);
b) a significant structural failure in the containment provisions of a facility while plants are in quarantine;
c) operating a facility without an approved operator;
d) making modifications to buildings without MPI approval;
e) failure of the operator to conduct and record required inspections;
f) failure of the operator to detect significant and obvious non-compliances;
g) failure to operate the facility to the specifications of this standard, the operating manual and relevant IHS or import permit;
h) unreported breaches of quarantine (for example broken glass panels etc.).

(2) The MPI Inspector must investigate a critical non-compliance and lodge an investigation report with MPI as soon as practicable.

(3) Critical non-compliances may require further investigation and possibly lead to prosecution or cancellation or suspension of approval for the operator or facility, depending on the nature and circumstances of the event. It is expected that at least one revisit audit will be required to ensure that a critical non-compliance has been effectively resolved and that measures have been taken to prevent its recurrence.

Major non-compliance

(1) Examples of major non-compliances include (but are not limited to) the following:

a) moving plants between facilities, or re-exporting plant material, without a transfer approval from the inspector;

b) non-authorised people working in a quarantine area;
c) footbath missing or empty;
d) birds or rodents found in a quarantine area (excluding L1 facilities);
e) vermin control programme absent (excluding L1 facilities);
f) failure to keep appropriate records and copies of quarantine documents and MPI directions/approvals;
g) failure to operate the transitional facility to the specifications of the approved version of the operating manual;
h) use of untrained/incompetent staff for specific quarantine activities.

(2) Where the MPI Inspector is satisfied that actions taken by the operator have addressed the non-compliance, no further action will be taken. If the steps listed above are not completed as required or the actions do not fully address the non-compliance, the inspector may issue a non-compliance report including any corrective actions required. The issuing of a non-compliance report by the inspector may result in an escalation in the number of audits.

Minor non-compliance

(1) Examples of minor non-compliances may include (but are not limited to) the following:

a) presence of spider webs or moss in a PEQ facility;
b) required lights broken or ineffective;
c) failure to maintain equipment calibration records but equipment working correctly.

Escalation of non-compliances

(1) Non-compliances will be managed by MPI through an escalation pathway based on the level and frequency of non-compliance. The principles of natural justice will be followed however, such that any non-compliance may be appealed by the operator to an MPI CTO.

(2) Appropriate, timely and competent management of non-compliances will not usually result in non-compliance escalation. This includes non-compliances that are reported by the operator or facility staff and managed according to the standard.

(3) An escalation pathway will generally incorporate an increased number of external MPI inspections until the MPI Inspector is confident that the facility is fully compliant with the standard. Where applicable, the escalation pathway will operate as follows:

a) operators that receive a critical NCR will be inspected by the MPI Inspector as frequently as is required (this may be daily, weekly or at some other frequency depending on the circumstances) for the MPI Inspector to gain confidence that the non-compliances will not recur, or until the operator and facility approval is suspended or cancelled. The frequency and duration of the increased inspections is set at the discretion of the Inspector in consultation with MPI;
b) if a second critical non-compliance occurs within a period of 12 months, the MPI Inspector may recommend to the DG that the facility approval is suspended or cancelled;
c) operators that receive a major NCR may be subject to 2 extra unscheduled inspections in the following 12 months conducted while the facility is being used to hold uncleared goods. If a second major non-compliance occurs within 3 months the MPI Inspector may recommend to the DG that the approval for the operator and/or facility is suspended or cancelled;
d) operators who receive five minor NCR's or a second major NCR within 12 months will be subject to extra external MPI inspections at the discretion of the MPI Inspector in consultation with MPI;
e) where operators or facilities that are already subject to an increased external inspection regime receive further NCR's the inspection regime will be further extended or the number of audits increased at the discretion of the MPI Inspector in consultation with MPI.

Corrective action requests (CARs)

(1) Corrective action requests (CARs) are issued when failure to follow an approved procedure is noted. This is usually as a result of an audit but may occur at any time.

3.12 Contingency planning and preventative actions

(1) Contingency plans are important so that biosecurity risks are not inadvertently neglected in an emergency situation, and so that the consequences of any potential breaches of quarantine can be minimised. Situations that might require contingency plans to be developed include:

a) loss of electrical power;
b) broken panels in a glasshouse;
c) earthquake or fire;
d) plant material exiting the facility without authorisation from the MPI Inspector (for example with no BACC for release);
e) a pest escaping from the facility;
f) decontamination of a facility after detecting a regulated organism;
g) loss of material during transport to or from a facility.

(2) Examples of specific contingency plans are given in the example operating manual.

4 Specific Additional Requirements for Different Types of Facility

4.1 Level 1 (L1) open field facilities

Level 1 (open field) facilities are intended for plant material that may harbour quarantine pests which are unlikely to disperse naturally (for example organisms that are solely graft transmitted) and/or which are likely to have a very low impact if they escape from quarantine. Material eligible for Level 1 quarantine is generally restricted to seeds and dormant bulbs of certain plant species that are imported from approved countries.

4.1.1 Site, buildings, and structures

4.1.1.1 Area surrounding the facility

(1) The isolation distances specified in section 4.1.1.1 (4) of the standard may be reduced if barriers such as a waterway, sealed road, or solid fence are present around the facility, or if a greenhouse or screenhouse is used as a L1 facility. Application to use a greenhouse or screenhouse should be made to the MPI Inspector.

No guidance for this section.

4.1.2 Operation

4.1.2.1 Receiving material

No guidance for this section.

4.1.2.2 Keeping track of plant material

(1) See section 3.4.3 of this document.

4.1.2.3 Facility hygiene

(1) It is important to control weeds within a level 1 facility because they may be an alternative host for some pathogens; or may conceal the presence of pests or diseases.

4.1.2.4 Managing waste

No guidance for this section.

4.1.2.5 Pests and diseases

No guidance for this section.

4.1.2.6 Treatments

(1) Fungal and insecticidal protectants can be applied to healthy plants growing in L1 facilities unless this has been specifically prohibited. This may be done without seeking approval from the MPI Inspector before applying the treatment. However, any treatments that are applied must have been pre-approved by the MPI Inspector when the facility operating manual was developed, and must be recorded and listed in the operating manual.

(2) It is recognised that physical damage associated with handling plants during transport and on arrival at a facility may cause fungal infections resulting in unnecessary plant loss. Therefore, a single on-arrival fungicide treatment can be applied to some plants entering L1 facilities. Only approved fungicides and treatment procedures documented in the operating manual can be used. When approving treatments

for on-arrival application, the inspector will also identify the length of any withholding period that may apply before the start of the PEQ period.

4.1.2.7 Plant inspections by an operator

(1) See section 3.6.1 of this document.

4.2 Level 2 (L2) greenhouse facilities

(1) Level 2 greenhouse facilities are intended for plant material that may harbour quarantine pests which are likely to have low to moderate impacts should they escape from PEQ. These pests may be naturally dispersed (for example by water, insects, or other vectors), but are expected to be adequately contained based on the proposed physical and structural requirements of Level 2 facilities. Material eligible for entry into Level 2 quarantine includes whole plants and cuttings of many ornamental species and some species of dormant bulbs. High value species from certain MPI-approved offshore facilities may also be eligible for entry into Level 2 facilities, although this will be on a case-by-case basis depending on the particular offshore facility and on what testing been completed prior to import.

4.2.1 Site, buildings, and structures

4.2.1.1 Construction

(1) When designing a L2 facility, the following should be taken into account:

a) the space required by the plants when in full leaf;
b) the need for the MPI Inspector and staff to move freely between plants, and to avoid unnecessary contact with plants when in the facility;
c) the space required to enable physical separation between different consignments, or lots, if housed within the same room.

(2) If the MPI Inspector considers that too much plant material has been placed in the facility and that it poses a biosecurity risk or makes the inspections difficult, the inspector may require the excess material to be re-shipped, destroyed, or moved to another transitional facility.

(3) It is recognised that for some existing facilities it may be impractical or expensive to convert from single to twin skin. Depending on the pests and diseases that may be associated with plant material to be held in a particular facility, a single skin facility may be able to be modified to provide a level of physical security that is considered equivalent to that of a twin skin design. For example, cladding the lower layer of a facility with rigid material (for example plywood) would be sufficient to prevent any damage caused when mowing around a facility.

(4) As identified in the standard, polythene facilities must be replaced at regular intervals. This should be done when the structure reaches the end of its service life. The MPI Inspector will direct the operator to replace the polythene when they consider that it is no longer sufficiently structurally sound (for example as is evidenced by numerous repairs to the structure or observed weakness of the polythene).

4.2.1.2 Anteroom

(1) An anteroom should be big enough to allow entry of people, planting material and other equipment (for example spray equipment) with one door being closed at all times. It should not be possible for staff to reach from one door to the other in the anteroom unless an interlocking door system (that prevents both doors from being opened at the same time) is fitted.

(2) The anteroom comprises part of the facility. A facility may have an additional entrance, lobby or vestibule outside the facility which leads to the anteroom but does not comprise part of the facility.

(3) Personal items such as coats and bags may not be stored in anterooms.

(4) Where the anteroom is used to don or doff PPE, there should be separation of “clean” and “dirty” areas, and dedicated storage for clean/new PPE, and dirty PPE or waste.

(5) Anterooms may include benches, cupboards, or shelves to hold PPE, if they conform to the requirements for furniture in the Standard, and do not pose a hiding place for pests and pathogens.

(6) Preventing the accumulation of equipment and debris reduces the likelihood of insects or other mobile pests entering or exiting the facility. As such, the anteroom should not be used as a general storage

area, and should be kept free from items other than those specified in the standard unless specific approval has been given by the MPI Inspector to store additional items.

(7) All L2 PEQ facilities must contain hand washing facilities in the anteroom. Ideally, these should consist of a plumbed in hand basin, ideally with a hands-free or elbow-operated mechanism. However, alternatives such as a refillable water container with a tap and a bucket underneath to collect wash water will be considered in cases where it is impractical to fit a hand basin.

4.2.1.3 Area surrounding the facility

(1) The facility and surrounding area should be kept clean and tidy to minimise the presence of pests, diseases, and vermin in and around the facility, and to enable easy access when doing checks of the exterior of the facility.

(2) It is recommended that the area surrounding the facility is covered (for example by concrete, asphalt, or gravel, or weed mat) in order to prevent (or minimise) the growth of plants.

4.2.1.4 Lighting for plant inspection

No guidance for this section.

4.2.2 Operation

4.2.2.1 Receiving material into the facility

No guidance for this section.

4.2.2.2 Insect monitoring

(1) The purpose of sticky traps is to detect and monitor flying insects such as whiteflies, thrips and aphids. Because bright yellow is highly attractive to these insects, if possible, traps should not be visible from outside the facility.

(2) Traps are required to be placed close to the crop canopy because this is where insects are most likely to be trapped.

4.2.2.3 Growing medium

(1) Using pasteurised or inert growing medium instead of potting mix reduces the likelihood of introducing New Zealand-origin organisms such as soil-borne fungi into the facility. These organisms may cause disease on the imported material, which could lead to testing and increased costs to the importer.

(2) For growing medium pasteurised during composting (including commercially prepared compost) the manufacturer should be accredited to an appropriate standard, such as *AS 4454:2012 – Compost, soil conditioners and mulches*, and hold records demonstrating that temperature and time requirements for pasteurisation have been met.

(3) Growing medium may be pasteurised on-site (prior to use), or before it enters the facility.

(4) Growing medium may pasteurised and/or stored in areas outside of the designated PEQ facility, provided that the growing media is stored in a manner that protects it from recontamination, external elements, and degradation.

(5) An inert growing medium is not required to be pasteurised. Examples of inert medium include perlite, vermiculite, or baled peat.

(6) Facilities using growing medium pasteurised during composting, or inert medium, may choose to undertake an additional pasteurisation step to further reduce the potential for plant pathogens in the growing medium.

(7) To prevent contamination:

a) growing medium that is not in use should be stored away from imported plant material; and
b) pasteurised and unpasteurised growing medium should be stored separately

(8) Details which should be recorded in the operating manual include:

a) brand name and type of medium, or (if prepared onsite), the composition and preparation details of the medium;
b) where and how the medium will be stored to avoid contact with soil or other material.

4.2.2.4 Water

(1) All water should be of sufficient quality to minimise the likelihood of introducing soil or waterborne pests or diseases into the facility. Depending on the water source, it may be necessary to treat the water (for example by chlorination or using a UV system) before use.

4.2.2.5 Keeping track of plant material

No guidance for this section.

4.2.2.6 Facility hygiene

(1) For L2 facilities it is recommended that plants are grown on raised benches rather than on the floor. This will help to stop the spread of diseases that are dispersed in water (for example *Pythium* spp.).

(2) Because wooden benches can harbour pathogens (for example *Pythium* spp.) and may provide an environment for algal growth (which can lead to the presence of certain insects) the use of wooden benches should be avoided.

4.2.2.7 Managing waste

No guidance for this section.

4.2.2.8 Treatments

(1) MPI recognise that physical damage arising during transport and processing of plants may lead to infection by opportunistic fungi that are present in New Zealand. To prevent unnecessary plant loss by such infections, a single on-arrival fungicide treatment can be applied to some plants entering L2 facilities.

(2) When approving treatments for on-arrival application, the inspector will also identify the length of any withholding period that may apply before the start of the PEQ period. A withholding period will generally only be required if the quarantine period is less than six weeks.

4.2.2.9 Plant inspections by the operator

(1) See section 3.6.1 of this document.

4.3 Level 3A (L3A) facilities

(1) Level 3A facilities are intended for plant material that may harbour quarantine pests that could have moderate to high consequences should they escape from PEQ. These pests may disperse naturally (for example by water, insects, or other vectors), but are expected to be adequately contained within a L3A facility based on the proposed physical and operational requirements given in the standard. High value species from certain MPI-approved offshore facilities may be eligible for entry into Level 3A facilities, although this will be on a case-by-case basis depending on the particular offshore facility and on what testing been completed prior to import.

4.3.1 Site, buildings, and structures

(1) The more rigorous requirements for some of the aspects of building, maintenance, and operation of L3A facilities relative to L2 facilities reflect the higher biosecurity risk associated with the types of material allowed to be imported into L3A facilities.

4.3.1.1 Construction

(1) See parts 4.2.1.1 (1) and (2) of this document for guidance on requirements of the standard that are in common with L2 facilities.

(2) Because of the greater level of risk likely to be associated with material imported into Level 3A facilities (relative to Level 2 facilities), Level 3A facilities must be constructed of more durable materials. This includes a requirement for all mesh to be made of stainless steel, and precludes the use of polythene construction in Level 3A facilities.

4.3.1.2 Anteroom

(1) See section 4.2.1.2 of this document for requirements that are in common with L2 facilities.

(2) All L3A PEQ facilities must contain hand washing facilities in the anteroom. These should consist of a plumbed in hand basin, with a hands-free mechanism. An elbow-operated mechanism is acceptable, however, sensor or foot operated is preferable.

4.3.1.3 Area surrounding the facility

(1) See section 4.2.1.3 of this document for requirements that are in common with L2 facilities. proximity

4.3.1.4 Lighting for plant inspections

No guidance for this section.

4.3.2 Operation of facilities

4.3.2.1 Records

No guidance for this section.

4.3.2.2 Receiving material

No guidance for this section.

4.3.2.3 Insect monitoring

(1) See section 4.2.2.2 of this document.

4.3.2.4 Growing medium

(2) Using pasteurised or inert growing medium instead of potting mix reduces the likelihood of introducing New Zealand-origin organisms such as soil-borne fungi into the facility. These organisms may cause disease on the imported material, which could lead to testing and increased costs to the importer.

(3) For growing medium pasteurised during composting (including commercially prepared compost) the manufacturer should be accredited to an appropriate standard, such as *AS 4454:2012 – Compost, soil conditioners and mulches*, and hold records demonstrating that temperature and time requirements for pasteurisation have been met.

(4) The growing medium may be pasteurised on-site (prior to use), or before it enters the facility.

(5) The growing medium may be pasteurised and/or stored in areas outside of the designated PEQ facility, provided that the growing medium is stored in a manner that protects it from recontamination, external elements, and degradation.

(6) An inert growing medium is not required to be pasteurised. Examples of inert medium include perlite, vermiculite, or baled peat.

(7) Facilities using growing medium pasteurised during composting, inert medium, or other commercially prepared growing medium, may choose to undertake an additional pasteurisation step to further reduce the potential for plant pathogens in the growing medium.

(8) Pathogen testing on growing medium (inert, pre-pasteurised or pasteurised on-site) is recommended to ensure that growing medium is pathogen free.

(9) To prevent contamination:
- a) growing medium that is not in use should be stored away from imported plant material
- b) pasteurised and unpasteurised growing medium should be stored separately

(10) Details which should be recorded in the operating manual include:
- a) brand name and type of medium (if commercially prepared);
- b) the composition and preparation details of the medium;
- c) where and how the medium will be stored to avoid contact with soil or other material.

4.3.2.5 Water

(1) See section 4.2.2.4 of this document.

4.3.2.6 Keeping track of plant material

No guidance for this section.

4.3.2.7 Facility hygiene

(1) All plants must be grown on raised benches. In cases where the plants are grown on low level raised benches (for example below waist height) protective leggings or overalls must be worn.

(2) Where shoe covers are used, facilities need to have contingency for decontamination of shoes in the event of damage or failure of shoe coverings.

4.3.2.8 Managing waste

No guidance for this section.

4.3.2.9 Plant inspections by the operator

(1) Inspection requirements for some species are specified in the nursery stock IHS schedule. It is the responsibility of the operator to ensure that the requirements of the IHS are complied with.

4.3.2.10 Plant growing conditions

(1) As well as meeting specific plant requirements (for example for irrigation, nutrition, temperature, or winter chilling), specific requirements may also need to be met to provide optimal conditions for the expression of signs or symptoms of pests or diseases. As such, depending on the crop being imported, a facility may need to be fitted with items such as misting units or lighting. Any such requirements will form part of the facility approval.

4.4 Level 3B (L3B) facilities

(1) Level 3B facilities are intended for plant material which may harbour quarantine pests that will have serious consequences should they escape from PEQ and for which physical measures such as HEPA filtration are needed to adequately contain the organisms which may be associated with this material. Material eligible for Level 3B quarantine includes high value crop species that are not obtained from MPI-approved offshore facilities as well as some ornamental or forestry species with particularly high risk or highly mobile pathogens (for example rust diseases). Material from MPI-approved offshore facilities may also require quarantine in a Level 3B facility if all the required testing is not done prior to import and the material cannot safely be held in a Level 2 or 3A facility.

4.4.1 Site, buildings, and structures

(1) See also guidance information in parts 4.2 and 4.3 of this document.

4.4.1.1 Construction

(1) See parts 4.2.1.1 (1) and (2) of this document for requirements that are in common with L2 facilities.

(2) It is recommended that L3B PEQ facilities are fitted with additional systems to treat water before it is released into the wastewater system. For example, this could be done by directing greenhouse runoff into sumps that can be treated with a biocide, or by installing a liquid effluent steriliser. If such a requirement is considered by MPI to be essential to running the facility this will be listed as a condition of the facility approval. Treatment could be required in the event that a pathogen which is known to survive wastewater treatment (for example *Pepper mild mottle virus*) is detected within a consignment.

(3) As well having sufficient space to carry out supporting operations (for example preparation of potting medium etc.) consideration should be given to including features such as clerical workstations, dedicated equipment storage areas and toilet facilities to minimise traffic in and out of the facility.

(4) As a further measure to control the entry and exit of insect pests from the facility, it is recommended that anterooms are fitted with lights that automatically turn off when either door to the anteroom is opened.

(5) Operators should consider installing units in the anteroom that will automatically dispense small quantities of insecticide (for example pyrethroid) at regular intervals, or using a commercial aerosol fly spray whenever staff enter or exit the anteroom, or installing a blue light.

4.4.1.2 Ventilation

(1) A negative air pressure forces clean air into the facility, thereby reducing the likelihood of escape of potential pests and diseases that may be present in or on imported plant material. Directing that air flow towards each greenhouse room/unit further reduces that risk, drawing potential contamination towards the filtration system that captures it.

(2) Directional airflow from the cleanest areas (e.g., the anteroom and corridors), toward the higher risk areas where potentially infected plants are growing (e.g., greenhouse room/unit) or being handled (e.g., potting room), reduces the likelihood of escape of potential pest and diseases.

(3) In large facilities, airlocks may be necessary to manage pressure cascades through the facility.

(4) Supply air needs to be filtered to reduce the likelihood of particulate matter, invertebrate pests (which may act as disease vectors) and potential disease organisms of local origin from entering the facility. This is important for the following reasons:

a) To minimise the presence of local origin insects. Such insects could act as vectors of regulated organisms. If such vectors escape from a facility, they could transmit disease organisms to plants in the external environment;

b) To minimise contamination with disease organisms of local origin. Symptom expression of regulated organisms could be masked if chemical treatments (e.g., fungicides) are used to treat locally sourced infections;
c) Filters act as a passive barrier to prevent disease organisms from exiting a facility in the event of a failure of the ventilation system.

(5) There are various ways supply air can be filtered, either using single filters or multiple filters in-series to filter larger to smaller particles. For example, a coarse dust pre-filter (minimum class G4) in-series with a fine dust sub-filter (minimum class F8) would meet the requirements. It is recommended that reference be made to AS 1324.1:2001 in consultation with filter suppliers who are knowledgeable about the use of the right filters in varying situations.

(6) An independently-ducted air supply to growth rooms, separate from access corridors, is preferable. This means that air-flow can be buffered against sudden changes in air pressure when doors are opened

(7) It is important that the filtration of supply air is not overly restricted since this can put pressure on the exhaust air filtration system, restrict air changes and potentially put pressure on mechanical components as well as the other structural elements of the facility. A strong pressure differential may also cause problems given that it means more air will be taken in through any cracks or gaps in a facility, or through open doors or drains, increasing the likelihood of local origin organisms entering a facility. Restricting air changes can also limit the removal of chemical aerosols (leading to potential health and safety issues), and may also have a deleterious effect on plant growth.

(8) Installing fans on the exhaust filter only (i.e., controlling pressure from the air egress point) should allow for sufficient air supply into the facility (via an induced passive air differential).

(9) High-efficiency particulate air (HEPA) filtration of exhaust air will ensure that most plant disease-causing organisms, including all viral vectors, will be retained within the filter at very high efficiency and prevented from escaping into the outside environment. HEPA filtration will not, in itself, capture all viruses since many viruses are sub-micron in size but since plant viruses are not airborne in themselves (i.e., they require a vector, or some other means of transmission), any regulated viruses present in exhaust air will be captured.

(10) It is important that the type of HEPA filter used is appropriate for the type of housing; failures in containment can result from the use of wrong filter/housing and inadequate or incorrect installation. Similarly, the HEPA filtration systems must be maintained appropriately in accordance with specific requirements to ensure optimal performance at all times.

(11) HEPA filtration systems include the installation of failure safeguards and alarm systems, including readily visible means of pressure failure (e.g., differential pressure gauges). Where appropriate, redundancy measures should be considered, especially in larger facilities.

(12) Importance needs to be given to HEPA maintenance measures to ensure containment is maintained during filter replacement and other maintenance operations, including easy means of decontamination prior to filter removal.

(13) The use of appropriate pre-filters on the HEPA exhaust system will remove particulate matter and extend the life of the HEPA filter. As noted for the supply air filtration, the exhaust pre-filters should not unnecessarily restrict the air flow, as this may lead to pressure stress, mechanical failures, and reduced air changes. Using high air flow filters on the exhaust system will help to avoid high pressure differentials that may be associated with reduced air flow.

(14) If air is being recirculated within a facility, consideration should be given to the fact that this may result in reticulation of chemicals such as fungicides or insecticides, which may have health and safety implications.

(15) Water from cooling coils in recirculation units is considered waste, so must be managed as per 4.4.2.8 of the Standard.

4.4.1.3 Anteroom

(1) See section 4.2.1.2 of this document for requirements that are in common with L2 facilities.

(2) All L3B PEQ facilities must contain hand washing facilities in the anteroom. These should consist of a plumbed in hand basin, with a hands-free mechanism. An elbow-operated mechanism is acceptable, however, sensor or foot operated is preferable.

(3) Measures to prevent the escape of pests and pathogens from inside the PEQ, and the ingress of pests and pathogens from the outside environment, when the doors are open (i.e., when people/equipment/materials enter or exit), may include directional airflow, insect zappers, sticky traps, and operational procedures (e.g., to limit time doors are open).

4.4.1.4 Area surrounding the facility

(1) A security fence with a lockable gate must be installed to prevent access to the site by unauthorised persons. In cases where a facility is attached to an adjoining building, the fence is only required to be built around the greenhouse itself.

(2) See section 4.2.1.3 of this document for requirements that are in common with L2 facilities.

4.4.1.5 Lighting for plant inspections

No guidance for this section.

4.4.2 Operation of facilities

4.4.2.1 Records

No guidance for this section.

4.4.2.2 Receiving material

No guidance for this section.

4.4.2.3 Insect monitoring

(1) See section 4.2.2.2 of this document.

4.4.2.4 Growing medium

(1) Using pasteurised or inert growing medium instead of potting mix reduces the likelihood of introducing New Zealand-origin organisms such as soil-borne fungi into the facility. These organisms may cause disease on the imported material, which could lead to testing and increased costs to the importer.

(2) For growing medium pasteurised during composting (including commercially prepared compost) the manufacturer should be accredited to an appropriate standard, such as *AS 4454:2012 – Compost, soil conditioners and mulches*, and hold records demonstrating that temperature and time requirements for pasteurisation have been met.

(3) The growing medium may be pasteurised on-site (prior to use), or before it enters the facility.

(4) The growing medium may be pasteurised and/or stored in areas outside of the designated PEQ facility, and provided that the growing media is stored in a manner that protects it from recontamination, external elements, and degradation.

(5) An inert growing medium is not required to be pasteurised. Examples of inert medium include perlite or vermiculite.

(6) Facilities using growing medium pasteurised during composting, inert medium, or other commercially prepared growing medium, may choose to undertake an additional pasteurisation step to further reduce the potential for plant pathogens in the growing medium.

(7) Pathogen testing on growing medium (inert, pre-pasteurised or pasteurised on-site) is recommended to ensure that growing medium is pathogen free.

(8) To prevent contamination:
a) growing media that is not in use, should be stored away from imported plant material
b) pasteurised and unpasteurised growing media should be stored separately.

(9) Details which should be recorded in the operating manual include:
a) brand name, and type of medium, or the composition of the medium and how it will be prepared;
b) where the medium will be stored;
c) how the medium will be stored to keep it from contact with soil or any extraneous material;
d) details of the pasteurisation process (if applicable).

4.4.2.5 Water

(1) All water used in a PEQ facility should be of sufficient quality to minimise the likelihood of introducing soil or waterborne pests or diseases into the facility. Depending on the water source, it may be necessary to treat the water (for example by chlorination or using a UV system) before use.

4.4.2.6 Keeping track of plant material

No guidance for this section.

4.4.2.7 Facility hygiene

(1) Staff working in agricultural or horticultural areas prior to entering a facility must shower and change clothes before entering the facility to avoid transporting pests or diseases into the facility.

(2) Where shoe covers are used, facilities need to have contingency for decontamination of shoes in the event of damage or failure of shoe coverings.

4.4.2.8 Managing waste

No guidance for this section.

4.4.2.9 Plant inspections by the operator

(1) Inspection requirements for some species are specified in the nursery stock IHS schedule; these include (but are not necessarily limited to) *Malus*, *Rubus*, *Vaccinium* and *Vitis*. It is the responsibility of the operator to ensure that the requirements of the IHS are complied with.

4.4.2.10 Plant growing conditions

(1) See section 4.3.2.10 of this document.

4.5 Level 2 tissue culture laboratory facilities

4.5.1 Site, buildings, and structures

Construction

(1) AS/NZS 2243.3:2010 specifies the minimum requirements of physical containment (PC) and includes all the requirements of AS/NZS 2982.1: 1997 - Laboratory Design and Construction – Part I: General Requirements.

4.5.2 Operation of facilities

4.5.2.1 Keeping track of plant material

No guidance for this section.

4.5.2.2 Growing medium

(1) The presence of fungicides or antibiotics (including charcoal) in tissue culture medium can mask or supress signs or symptoms of pests or diseases, so these compounds are not considered suitable for use in PEQ.

4.5.2.3 Facility hygiene

No guidance for this section.

4.5.2.4 Managing waste

No guidance for this section.

4.5.2.5 Plant inspections by the operator

No guidance for this section.

4.6 Level 3 tissue culture laboratory facilities

4.6.1 Site, buildings, and structures

(1) AS/NZS 2243.3:2010 specifies the minimum requirements of physical containment (PC) and includes all the requirements of AS/NZS 2982.1: 1997 - Laboratory Design and Construction – Part I: General Requirements.

4.6.2 Operation of facilities

4.6.2.1 Records

No guidance for this section.

4.6.2.2 Keeping track of plant material

No guidance for this section.

4.6.2.3 Growing medium

(1) The presence of fungicides or antibiotics (including charcoal) in tissue culture medium can mask or supress signs or symptoms of pests or diseases, so these compounds are not considered suitable for use in PEQ.

4.6.2.3 Facility hygiene

No guidance for this section.

4.6.2.4 Managing waste

No guidance for this section.

4.6.2.5 Plant inspections by the operator

No guidance for this section.

4.7 Level 2 quarantine aquarium facilities

No guidance for this section.