**REVIEW OF PUBLIC SUBMISSIONS ON:**

**The Draft Import Health Standard for**

**VEHICLES, MACHINERY AND EQUIPMENT**

(Consultations held from the

4th of December 2017 until the 29th of January 2018

and from the 25th of May until the 2nd of July 2018)

**25th of July 2018**

Approved for general release

Peter Thomson

Director, Plants and Pathways,

Ministry for Primary Industries

**Ministry for Primary Industries (MPI)**

Te Manatū Ahu Matua

Pastoral House

25 The Terrace

PO Box 2526

Wellington

New Zealand

Telephone: +64 4 894 0100

Facsimile: +64 4 894 0662

Internet: <http://www.mpi.govt.nz>

Plants and Pathways Directorate

**Executive Summary**

This document provides MPI’s response to feedback received from stakeholders and interested parties during the two separate consultation periods on the proposed Import Health Standard for Vehicles, Machinery and Equipment (the Import Health Standard). Both consultations followed an initial consultation in 2015. The second consultation period occurred from the 4th of December 2017 until the 29th of January 2018 and the third consultation period from the 25th of May until the 2nd of July[[1]](#footnote-2) 2018. MPI’s response to feedback received during both of these consultation periods have been combined within this document.

In some cases, different submitters asked similar questions about certain aspects of the standard. As such, this review of submissions has identified broad themes raised in submissions, and addressed similar questions from multiple submitters collectively, rather than responding to each point individually. It also focuses on management of specific high-profile pests such the Asian Gypsy Moth (*Lymantria dispar*) and the Brown Marmorated Stink Bug (*Halyomorpha halys*).

**Documentation**

The documents provided in the second consultation on the 4th of December 2017 were the draft Import Health Standard, the associated draft Guidance document, a Risk Management Proposal, and the MPI Response to the 2015 consultation. Copies of the public submissions received from stakeholders in 2015 were also released at that time.

On the 25th of May 2018, MPI further consulted on Sections 3.1 and 3.4 of the revised, draft Import Health Standard only. Section 3.1 covered importation of used machinery and used cables from all countries, whereas Section 3.4 and covered new and used vehicles from Japan respectively. The documents provided for the third consultation on the 25th of May 2018 included a revised Risk Management Proposal (explaining the proposed changes) and a document directly comparing the proposed changes from the 4th of December 2018 with those changes proposed on the 25th of May 2018.

**Initial consultation on the draft Import Health Standard – May 2015**

MPI first consulted with stakeholders and interested parties in 2015 on previous versions of the documents relating to the Import Health Standard. That consultation period occurred from the 20th of May 2015 to the 6th of November 2015. The documents consulted on included the previous drafts of the Import Health Standard, the associated Guidance Document to the Import Health Standard, and an earlier Risk Management Proposal.

Due to a number of substantial changes made after the 2015 drafts of the Import Health Standard, Guidance Document and Risk Management Proposal (from 2015 through 2017) that were consulted on, MPI considered it appropriate to re-name the Import Health Standard (as the Import Health Standard for Vehicles, Machinery and Equipment rather than for Vehicles, Machinery and Tyres) and re-consult with stakeholders and interested parties to request additional feedback. This led to the December 2017 re-consultation on the draft Import Health Standard (for Vehicles, Machinery and Equipment).

**Feedback received and MPI’s reply**

MPI thanks all parties who submitted comments on the standard. We appreciate concerns that were expressed about the need to manage the likelihood of regulated pests establishing in New Zealand on this pathway and the need to maintain the ability trade. Following our consideration of matters raised in submissions, some changes have been made to the final draft import health standard.

MPI received feedback from eight submitters on the draft Import Health Standard by the 29th of January 2018. MPI received submissions from a further 18 submitters on the 2nd of July 2018, although this included some requests for clarifications instead of formal feedback.

After reviewing the feedback from both rounds of consultation MPI identified 4 key themes to which MPI has responded. The key themes are as below:

1. Import Health Standard and Guidance Document formatting, layout and structure. .
2. Requests for inclusion of biosecurity treatment details for Brown Marmorated Stink Bug management and other specific actions, certification and timing in the Import Health Standard.
3. Management of Vehicles, Machinery and Equipment from Japan for the Brown Marmorated Stink Bug, Yellow Spotted Stink Bugs and other pests.
4. Management of Vehicles, Machinery and Equipment from Schedule 3 Countries (and Chile) for the Brown Marmorated Stink Bug and other regulated pests.

MPI assessed and considered all of the feedback received and modified the Import Health Standard and Guidance Document appropriately to reflect this. The outcome of the Import Health Standard remains the in that all vehicles, machinery and equipment (including tyres) must be managed to ensure that they are clean and free of biosecurity contaminants and regulated pests. The criteria for clean and free of biosecurity contaminants and regulated pests is set to specified threshold levels as per Schedule 2 of the Import Health Standard. MPI also modified the measures to include treatments to deal with regulated pests such as Brown Marmorated Stink Bugs. The Guidance Document information and recommendations assist the understanding of the Import Health Standard.

**Pest Risk Analysis**

The pest risk analysis documents (Duthie 2012, FAO 2017a, Toy 2007), technical papers (Anthony 2015, Burne 2018a, 2018b, 2018c, 2018d, MPI 2018a, MPI 2018b, Newfield 2015, Ormsby 2016 and 2018 and Steward and Rathe 2014) as referenced below; and MPI Asian Gypsy Moth and Brown Marmorated Stink Bug interception data have informed MPI’s proposed risk management approach and measures for the importation of vehicles, machinery and equipment from all countries under the Import Health Standard.

**Communications**

MPI will be providing the Import Health Standard to as many stakeholders (importers and other interested parties) as possible either directly or via the MPI website confirming the amended requirements (particularly for Japan and the Schedule 3 countries). MPI will also ensure that countries’ regulatory agencies, relevant ministries and embassies are informed as per SPS requirements, and as soon as possible before the date of enforcement. Enforcement is planned for the 1st of September 2018 to ensure that the risk season for Asian Gypsy Moth, Brown Marmorated Stink Bug and other pests are managed appropriately.

**Introduction**

MPI received 8 submissions on the consultation documents (including the draft version of the Import Health Standard and Guidance Document) released on the 4th of December 2017 from the following stakeholders:

|  |  |  |
| --- | --- | --- |
| 1 | Mr. David Crawford | Motor Industry Association of New Zealand (Inc.). |
| 2 | Ms Rosemarie Dawson | Customs Brokers and Freight Forwarders Federation. |
| 3 | Mr Nigel Grindall | Automotive Technologies Limited. |
| 4 | Edwin Massey | New Zealand Winegrowers. |
| 5 | Dr. Barry O’Neil | Kiwifruit Vine Health (Kiwifruit Industry). |
| 6 | Mr Euan Philpott | Japan Export Vehicle Inspection Center (JEVIC). |
| 7 | Ms Philippa Rawlinson | Federated Farmers of New Zealand. |
| 8 | Ms. Leanne Stewart | Horticulture New Zealand. |

Subsequently between the 25th of May and the 2nd of July 2018, MPI received requests for clarification and submissions on the draft Sections 3.1 and 3.4 of the proposed Import Health Standard from the following stakeholders:

|  |  |  |
| --- | --- | --- |
| 1 | Mr. Nikolas Blomquist | Wallanius Wilhemsen Ocean |
| 2 | Mr. Mark Ching/Hans Corporal | Armacup |
| 3 | Mr. David Crawford | Motor Industry Association of New Zealand (Inc.). |
| 4 | Ms. Sally Gilbert | Ministry of Health |
| 5 | Mr. Rod Hitchmough | Department of Conservation |
| 6 | Dr. Edwin Massey | New Zealand Winegrowers  |
| 7 | Mr. Toby Moors | Oceanic Navigation Ltd |
| 8 | Dr. Ryosuke Minami | Japan Ministry of Foreign Affairs |
| 9 | Mr. Kevin Nalder | AutoTerminal Japan |
| 10 | Captain Akira Ohmori | Japan Ship Owners Association |
| 11 | Ms Philippa Rawlinson | Federated Farmers of New Zealand |
| 12 | Mr. John Seccomme | Aquahort Ltd  |
| 13 | Mr. Mark Self  | Genera Group |
| 14 | Ms. Leanne Stewart | Horticulture New Zealand. |
| 15 | Mr. Masahiro Tada | Japan Machinery Center for Trade & Investment |
| 16 | Mr. Aaron Treadway | Japan Export Vehicle Inspection Center |
| 17 | Mr. Frank Willett | Autohub  |
| 18 | Mr. Malcolm Yorston | Imported Motor Vehicle Industry Association  |
| 19 | Confidential  | Responder asked for their submission to be made confidential due to commercial interests |

A copy of submissions received (apart from some clarifications where replies have already been provided or where confidentiality has been requested) are located in Appendix One to this document. The Japanese government communication from Dr. Ryosuke Minami has not been provided as government to government communications are considered to be confidential.

MPI appreciates the time and effort submitters have gone to in asking for clarification and providing submissions to MPI. MPI is grateful for all submissions made in support of MPI’s approach and efforts to effectively manage the biosecurity risks associated with this pathway. Rather than replying to all of the individual points made by each submitter, MPI addresses similar concerns based on subject to keep the document concise and avoid unnecessary repetition. This document focuses on the concerns raised with the proposed requirements for the Import Health Standard and this pathways and will therefore not directly acknowledge submissions made in support of requirements.

Based on the concerns raised in the submissions received, MPI has modified the draft Import Health Standard, the associated Guidance Document and the MPI website where appropriate. MPI has addressed requests for additional clarification or guidance where relevant, and will also address any other inconsistencies as raised in the feedback from submitters.

**MPI responses to submitters from both consultation periods: 4th of December 2017 and 25th of May 2018.**

|  |
| --- |
| **1: Import Health Standard and Guidance Document formatting, layout and structure.**  |

**Submission theme**

Some feedback received by MPI commented on the formatting and structure of the Import Health Standard and Guidance Document and how information was presented on the MPI website. Some submitters recommended that the Import Health Standard and the Guidance Document should also be modified regarding formatting.

**Response**

The Import Health Standard has been modified to improve flow, readability and include changes from some submitters, although MPI will retain the accepted Import Health Standard format (and in the Guidance Document) to support its legal basis and maintain consistency with other similar documents.

MPI considers that including prescription which states the timing for all inspection and treatment requirements should not be included in the Import Health Standard as the Import Health Standard only specifies mandatory outcomes and not how they are specifically conducted. Import Health Standards and other standards specify “what must be done. MPI’s standards across inanimate pathways are mostly outcome focussed and mandatory requirements are not prescriptively specified, except where circumstances dictate a specific measure or requirement must be used. By contrast, a Guidance Document is provided to recommend practical and effective methods of meeting the mandatory requirements in greater detail, recognising that recommendations in a Guidance Document are not legally binding.

MPI also places application information, import health standards, guidance documents and other relevant documents on the MPI website for easy accessibility. MPI endeavours to ensure all of the information on the website is accurate, laid out clearly and that the links between documents work; and MPI has also rearranged some of the website information on the basis of comments received.

|  |
| --- |
| **2: Requests for inclusion of biosecurity treatment details for Brown Marmorated Stink Bug management and other specific actions, certification, timing and logistical detail in the Import Health Standard.** |

**Submission theme**

Feedback was received recommending that a greater level of logistical detail should be included in the Import Health Standard for management of risk good consignments at places of first arrival and transitional facilities on arrival in New Zealand. MPI also received requests for the inclusion of biosecurity treatment details in the Import Health Standard for Brown Marmorated Stink Bug and/or other pests; and a range of additional actions for management of vehicles, machinery and equipment. Comments were also received requesting more prescription around actions and timing for consignments such as break-bulk and containerised vehicles, machinery or equipment that require inspection, treatment or other post-entry management in New Zealand.

**Response**

MPI has clarified the Import Health Standard and Guidance Document in some areas and included more detail, other areas have been left as first proposed to reduce the level of prescription. For example, the Import Health Standard now specifies what information is required such as dates, cleaning statements and company details for Cleaning Certificate requirements for used vehicles and used machinery,. MPI will also include a sample “cleaning certificate” for imported vehicles, machinery and equipment on the MPI website.

MPI is placing biosecurity treatment specifications for vehicles, machinery and equipment and relating to Brown Marmorated Stink Bug (and/or other pests) into the MPI administrative standard - *MPI Approved Biosecurity Treatments*. *MPI Approved Biosecurity Treatments* is legally incorporated by reference under section 142M of the Biosecurity Act 1993 (the Act). Under the Act, requirements within documents incorporated by reference are legally binding, and MPI incorporates by reference wherever appropriate within standards issued under the Act. As the Import Health Standard requires all treatments to be conducted in accordance with *MPI Approved Biosecurity Treatments*, these requirements are a legal requirement in order to obtain biosecurity clearance under the Act for all vehicles, machinery and equipment imported into New Zealand. MPI believes that placing the treatments in a separate document provides greater process control and clarity over the treatments and ensures treatments can be aligned across different pathways.

**Appropriate offshore and on arrival management of break-bulk cargo and containers**

MPI is focused on keeping biosecurity risk offshore as much as possible MPI is continually adapting to new contaminant and pest threats and modifies its inspection and intervention regimes for different importation pathways when faced with increasing biosecurity risk situations such as for Brown Marmorated Stink Bug. It is considered that the best option for importers is to have containerised vehicles, machinery and equipment fumigated or heat treated in the country of origin before shipping to New Zealand. It is MPI’s preference to have risk treated off-shore, so having containerised vehicles, machinery and equipment correctly treated and sealed in the country of origin will reduce cost and on-arrival delays in New Zealand for importers.

MPI considers that where treatment of containerised consignments has been conducted in the country of origin for the Brown Marmorated Stink Bug and if sealed correctly (including vents), it is very difficult for the containers and cargo to be re-infested. Any association with Brown Marmorated Stink Bug would be limited to external surfaces of the containers. Data from MPI inspections and an absence of external interceptions of Brown Marmorated Stink Bugs on containerised cargo from Italy and the USA has shown that re-infestation of treated containerised cargo (where correctly sealed) is not a significant risk. The timeframe allowed between treatment and shipment to New Zealand also reflects the low risk of re-infestation for correctly treated and sealed containers.

MPI must also manage requirements for consignments of containerised vehicles, machinery and equipment where importers intend to treat them on arrival in New Zealand, if not treated offshore. Operational requirements are specified where treatments must be conducted at places of first arrival or at transitional facilities; but only states specific time frames in the Import Health Standard where needed, as a degree of logistical and operational flexibility is considered to be necessary.

Where needed, MPI conducts border interventions that could result in delay to biosecurity clearance for imported risk goods, but MPI requirements for management (including treatment) of risk goods outweighs other considerations such as on-carriage to commercial destinations. MPI always endeavours to conduct required biosecurity actions in a quick and efficient manner wherever possible. Furthermore MPI works cooperatively with other regulatory agencies and importers to ensure all vehicles, machinery and equipment consignments are managed appropriately and that unjustified delays to clearance and possible re-treatments are avoided. However, in order to effectively protect New Zealand, non-compliant consignments may be re-shipped or require remedial actions or treatments to be conducted before biosecurity clearance can be granted.

|  |
| --- |
| **3. Management of vehicles, machinery and equipment from Japan for the Brown Marmorated Stink Bug, Yellow Spotted Stink Bugs and other pests.** |

**Submission theme**

A number of submissions provided comment on the validity of MPI’s biosecurity requirements; and questioning the efficacy and effectiveness of management measures for Brown Marmorated Stink Bug (and other pests) associated with imported risk goods in this pathway from Japan. It was also suggested that all Brown Marmorated Stink Bug risk countries (including Japan and the Schedule 3 countries) should be managed in the same way.

**Response**

Pest risk analyses and other supporting technical documents developed to assess risk associated with the vehicles, machinery and equipment pathway from Japan and other countries and shows the ability for Brown Marmorated Stink Bug and other pests to establish in New Zealand. MPI has considered these documents and appropriately strengthened the risk management measures during the 2017/2018 risk season to effectively manage the pathway given the biosecurity challenges with Brown Marmorated Stink Bug experienced with risk goods from Japan and the Schedule 3 countries.

MPI does not believe that adding Japan to Schedule 3 of the Import Health Standard for other Brown Marmorated Stink Bug risk countries (specified in the 4th of December 2017 draft Import Health Standard) is appropriate. Japan presents a different risk status to other countries with much larger volumes of imported vehicles and machinery than from Europe and the USA combined, and Japan has different regulated pest complexes (as above).

MPI had experienced significant biosecurity challenges in February and March 2018 from Japan where imported vehicles and machinery and the vessels transporting them were found to be infested with live pests (and dead). At that time, MPI did not allow a number of the vessels from Japan to unload their cargo after live Brown Marmorated Stink Bugs and Yellow Spotted Stink Bugs were found on board. After fogging and further inspection of the vessels, MPI found more dead Brown Marmorated Stink Bugs and Yellow Spotted Stink Bugs (with other dead pests such as Conifer Bugs, and other Stink Bugs) scattered throughout the decks.

The largest number of dead bugs found across an entire vessel was approximately 600 in total but only low numbers of dead bugs were found in close proximity to each other (representing bug aggregations that were present). In addition, a small number of live Yellow Spotted Stink Bugs were found per deck (13 on the vessel), although risk analysis shows Yellow Spotted Stink Bugs do not aggregate in numbers greater than approximately 30 so 13 is considered to be significant. In response to this situation, MPI adopted integrated measures for managing vessels and cargo on arrival, such as the use of specific detector dogs, insecticide fogging of vessels, use of heat treatment, re-inspection and further treatments, or in some cases issuing directions for the vessels to leave New Zealand territory where justified.

Given these developments, and after re-assessment, MPI considers it to be appropriate to manage imports of Japanese vehicles, machinery and equipment separately from the Schedule 3 countries. Management will occur under Part 3.6 of the revised Import Health Standard to specifically deal with pests such as Asian Gypsy Moth, Brown Marmorated Stink Bug and Yellow Spotted Stink Bug.

**Ongoing management of vehicles, machinery and equipment** **from Japan**

Managing risk offshore is an objective for any pathway. MPI considers that requiring all used vehicles and machinery to be managed via an approved system in Japan is warranted given the volume of imports arriving from Japan and the pest complex. The proposed change further requires MPI-approved system operators in Japan to apply a mandatory treatment during the Brown Marmorated Stink Bugs risk season, and this further targets other stink bug species such as Yellow Spotted Stink Bug. All such management and treatment of used vehicles and machinery must be conducted prior to arrival in New Zealand and treatments must be undertaken in accordance with *MPI Approved Biosecurity Treatments*. This could include the use of fumigation, heat treatment or another approved treatment. Before approving any treatment, MPI would require appropriate evidence that the treatment (including at different rates or temperatures) is effective in killing Asian Gypsy Moth, Brown Marmorated Stink Bug, Yellow Spotted Stink Bug and other regulated pests of concern across new and used vehicles, machinery and equipment. To enable this all currently approved Japanese system operators will need to show they have included updated risk management processes prior to the revised Import Health Standard coming into force to maintain their approval.

MPI also intends for all new Japanese vehicles and machinery to be subject to the application of an MPI-approved treatment or management through an MPI-approved system in Japan. New vehicles and machinery are also subject to inspection and other MPI interventions on arrival in New Zealand as required to verify that they are compliant. Newly manufactured imported vehicles and machinery are considered to provide a reduced level of risk to used vehicles and machinery. This is because newly manufactured items experience relatively few movements between the end of construction and shipping to destination. New items therefore have less exposure to contamination and less time to become infested with regulated pests such as Brown Marmorated Stink Bug when compared to used vehicles and machinery. MPI will also only require MPI-approved treatments to be conducted in Japan or during transit for new or used vehicles, machinery and equipment, and to be applied during the risk season where they leave Japan on or after the 1st of September and arrive in New Zealand on or before the 30th of April of any year in alignment with Schedule 3 countries.

**Shipping of non-compliant risk goods for treatment in New Zealand**

Comments were received requesting the ability to continue to ship non-compliant vehicles that had been previously rejected in Japan to New Zealand for treatment on arrival. MPI will not grant permission for this to continue and considers that the risk of loading potentially infested risk goods on vessels is far too great for this to be allowed. This is because insects such as Brown Marmorated Stink Bugs and Yellow Spotted Stink Bugs are cryptic pests that actively hide and often conceal themselves in places that are often very difficult to inspect. Taking this into account MPI will stop loading of non-compliant vehicles and will prevent treatment on arrival in New Zealand from occurring. Arrival of any non-compliant vehicle or machinery of this type will likely result in re-shipment to origin.

**Trans-shipment of risk goods through Japanese ports**

With regard to trans-shipment, MPI considers that vehicles and machinery that transit through Japan to New Zealand are not required to be treated if they are segregated from all untreated cargo and located at the trans-shipping port for no greater than 120 hours. The management requirements for Japanese origin vehicles and machinery will apply if such trans-shipped cargo is not properly segregated or exceeds 120 hours at the ports, where applicable other equivalence arrangements may also be accepted. This addresses the risk of cross contamination at Japanese ports.

|  |
| --- |
| **4. Management of vehicles, machinery and equipment from Schedule 3 Countries (and Chile) for the Brown Marmorated Stink Bug and other regulated pests.** |

**Submission theme**

A number of submissions were received that raised concerns about the treatment measures and timing of treatments for management of Brown Marmorated Stink Bug; and about post-treatment management for vehicles, machinery and equipment before shipping to New Zealand. Submitters recommended that MPI continue to keep as up-to-date as possible with the latest Brown Marmorated Stink Bug science, and they also re-emphasised that MPI should closely monitor interception data from all risk countries including Chile. This was to inform pest management measures in the Import Health Standard after further analysis and risk assessment.

**Response**

MPI gathers ongoing interception data to assess and analyse in order to ensure the measures (including treatments) used for management of Brown Marmorated Stink Bug (and other pests) remain relevant and are effective on risk goods from risk countries; and from other countries of interest such as Chile. MPI has analysed treatment measures for the management of Brown Marmorated Stink Bug and produced a Technical Analysis Document (MPI 2018b).

With regard to Chile, MPI is keeping a watching brief on Brown Marmorated Stink Bug dynamics. The pest is also being actively managed by the Chilean National Plant Protection Organisation and it is still at very low levels there. Currently the possible risk from Chile would be associated with a random assortment of imported items across a number of pathways that are covered by other Import Health Standards. New Zealand companies do not import vehicles or machinery to New Zealand from Chile through commercial pathways, and MPI carefully scrutinises other imported items from that location.

**Fumigation with Methyl bromide and Sulfuryl fluoride**

MPI considers Methyl bromide and Sulfuryl fluoride to be appropriate fumigants for killing aggregated Brown Marmorated Stink Bugs where appropriate rates are used and these treatments have been applied compliantly. This consideration is based on data from scientific studies and current operational use across vehicles and machinery imported from Italy and the USA (MPI 2018, Ormsby 2016 and 2018).

**Considerations on Methyl bromide fumigation**

The MPI schedule for dealing with a wide range of pests found on vehicles, machinery and equipment, and the default schedule for Brown Marmorated Stink Bug has used the following specifications:

* Methyl bromide fumigation at 48 g/m3 for 24 hours at 10-15°C; or
* Methyl bromide fumigation at 40 g/m3 for 24 hours at 15-21°C.

The use of a reduced rate of Methyl bromide for control of Brown Marmorated Stink Bug was first proposed in September 2015. This proposal was recently reviewed by Ormsby (2018) who concluded that treatment rates of Methyl bromide *Ct* >140 g.h/m3 at >10°C would achieve sufficient levels of efficacy against adults of the Brown Marmorated Stink Bug. There is also a need to optimise Methyl bromide schedules to meet the aims of the Montreal Protocol and the “Reduce and Replace Recommendations for Methyl bromide” under the International Plant Protection Convention. This is due to Methyl bromide being an ozone depleting fumigant, and to reduce adverse effects on commodities such as tainting. A range of commodities, and fumigation circumstances (such as inside chambers, containers and under covers) and the behaviour of the fumigant (such as sorption into commodities) must also be accounted for. Hence the schedule has been reduced but a higher C*t* rate has been selected to allow for variables above what is known and the best estimate as to what the Probit 8 level could be to meet the required efficacy level. MPI will now use an applied dose rate of at least a C*t* of 200g.h/m3 over a minimum of 12 hours at 10°C or above. This is achieved by applying:

* 24g/m³ at 10°C for 12 hours with a 12g/m3 minimum final reading (50%) or more of the initial concentration to achieve a C*t* of 200g.h/m3.

It does need to be noted that this schedule may not control some other pests on this pathway such as *Latrotectus spp*. (Redback and Black/Brown Widow Spiders). Other mitigation actions, including inspection and approved systems, will manage these pests where they occur in the country of origin.

**Considerations on Sulfuryl fluoride fumigation**

MPI has been treating vehicles, machinery and equipment from the USA and Italy under a Sulfuryl fluoride fumigation schedule specified in an MPI Chief Technical Officer Direction since 2015. This schedule was:

* 16 g/m3 at 10°C for 12 hours or greater with an 8 g/m3 minimum final reading, to achieve a C*t* of 140g.h/m3.

After a review by Ormsby and consideration of evidence that the aggregating stink bugs are more resistant to fumigants than was initially considered, MPI intends to modify the Sulfuryl fluoride fumigation schedule and increase the fumigant concentration by 43% to provide suitable level of mortality of Brown Marmorated Stink Bug. This revised schedule is:

* 20 g/m3 at 10°C for 12 hours or greater with a 14 g/m3 minimum final reading, to achieve a C*t* of 200g.h/m3.

It should be noted that three “failures” of Italian offshore “treated” cargo have been discovered on arrival in New Zealand. These consignments were certified as having been treated with Sulfuryl fluoride and were found to have live Brown Marmorated Stink Bug on arrival. These consignments were all treated by the same treatment provider. MPI evaluated the failures and considered that either no fumigant was applied or the cargo was re-infested (which is unlikely for two of the consignments as they were containerised). The particular treatment provider has been formally notified that MPI and the Australian Department of Agriculture and Water Resources (DAWR) are no longer accepting their certificates.

Appropriate effort is being put in to improve the application on treatments offshore. MPI is also working with DAWR to provide more guidance to offshore treatment providers, physically auditing and approving of offshore treatment providers, particularly in Italy. MPI will continue to investigate and undertake more research with Sulfuryl fluoride to ensure ongoing treatment requirements are appropriate. It should be noted that the recommended schedule may not control some other pests on this pathway such as *Latrotectus spp*. (Redback and Black/Brown Widow spiders) or Asian Gypsy Moth eggs. Other mitigation actions, including inspection and approved systems, will manage these pests where they occur in the country of origin.

**Considerations on heat treatment**

As reviewed by Ormsby (2018), Brown Marmorated Stink Bug (like many other insect pests) is likely to undergo high levels of mortality (for example, no survivors in >10,000 adults) under the ISPM 15 (FAO 2009) wood packaging heat treatment schedules of 56°C for 30 minutes or 60°C for 1 minute. It has been noted that some Brown Marmorated Stink Bug heat treatments are being undertaken by ISPM 15 approved providers so matching the ISPM schedule is an advantage.

While Brown Marmorated Stink Bug may possibly be managed by lower temperatures and/or shorter treatment times there is still some doubt on being able to approve a lower temperature or shorter time with the variety of sizes and weights of vehicles and machinery that require treatment. In this regard, MPI will use the following heat treatment schedules:

* 56oC for 30 minutes (all sizes and weights of vehicles and machinery);
* 60oC for 10 minutes for vehicles and machinery under 3,000kg; and
* 60oC for 20 minutes vehicles and machinery exceeding 3,000kg.

MPI received a submission requesting consideration for the adoption heat treatment at 60°C for one minute for vehicles and machinery. The submission quoted an MPI Technical Paper (Ormsby 2018) which referred to management of forest pests in the international standard for wood packaging (ISPM 15) with the above temperature. Aigner and Kuhar (2016) also demonstrated that small number of Brown Marmorated Stink Bug was killed when exposed to a range of temperatures from 15 minutes to an hour between 45 and 50°C and behaved consistently with other insects displaying a range of mortality. MPI believes that this request may not be applicable to Brown Marmorated Stink Bug associated with vehicles, machinery and equipment and further scientific data is required to confirm efficacy.

MPI contends that in order to accept 60°C for one minute as an approved treatment, it would need to be based on further specific research that shows this rate is effective for Brown Marmorated Stink Bug and can be achieved consistently across all cavities and parts of vehicles and machinery (such as within air ducts, under the carpet, behind the sun visor, under the battery, within wiring looms etc.). The temperature of 60°C for one minute must be achieved in the coldest spot of all vehicles or machinery being treated. If evidence is provided to MPI that heat treatment operators can raise every internal and external part of the wide variety and number of the vehicles that are required to be treated to 60oC consistently for 1 minute, then it may be considered an equivalent treatment.

MPI also received feedback that stated heat treatment would negatively affect battery life for those units found in electric or hybrid vehicles. MPI does not hold data that confirms heating the batteries to 56oC for 30 minutes or 60oC for 10 minutes will have a deleterious effect on them. MPI is open to receiving verifiable data that confirms damage will occur and shorten battery life. MPI recommends that exporters and importers should investigate and manage batteries appropriately such as removing them before heat treatment to prevent damage. Electric vehicles that require treatment for Brown Marmorated Stink Bug may also be treated with another method such as fumigation.

**Summary of treatments for managing Brown Marmorated Stink Bug on vehicles, machinery and equipment**

MPI will include the following treatment schedule specifications in MPI administrative standard - *MPI Approved Biosecurity Treatments*.

* Methyl bromide fumigation at 24 g/m³ at 10°C for 12 hours with a 12 g/m3 minimum final reading (50%) or more of the initial concentration, to achieve a C*t* of 200g.h/m3.
* Sulfuryl fluoride at 20 g/m3 at 10°C for 12 hours or greater with a 14 g/m3 minimum final reading, to achieve a C*t* of 200g.h/m3.
* Heat treatment at 56oC for 30 minutes (all sizes and weights of vehicles and machinery);
* Heat treatment at 60oC for 10 minutes for vehicles and machinery under 3,000kg; and
* Heat treatment at 60oC for 20 minutes vehicles and machinery exceeding 3,000kg.

**Cooperation with the Australian Department of Agriculture and Water Resources (DAWR)**

MPI will continue to align all treatment schedules for fumigants and heat treatment where possible with DAWR. As break-bulk vehicle and machinery cargo bound for both Australia and New Zealand are mostly treated within the same treatment facilities, having the same treatment schedule means there is a better chance of compliance. In addition, other treatments would be considered equivalent by MPI if the appropriate evidence was provided that they were effective in killing Asian Gypsy Moth, Brown Marmorated Stink Bug, Yellow Spotted Stink Bug and other regulated pests of concern across new and used vehicles and machinery (including at different rates or temperatures).

**Time-bound requirements for treatments in export countries**

MPI analysis shows that the 120 hour pre-shipment period for storage after treatment is appropriate for break-bulk items where treatments are conducted at the port of departure for New Zealand, and stored there prior to being shipped. The only exception to this requirement is for west-coast United States of America ports where United States of America Homeland Security requirements prohibit treatments occurring on the export wharves. In this situation, another 24 hours is required for treatment to be conducted and for the treated vehicles and machinery to be transported directly to the port of export and held securely prior to departure for New Zealand. MPI has not experienced any Brown Marmorated Stink Bug re-infestation issues in the case of the importation of break-bulk items from USA West coast ports that had been treated and held there before shipping.

MPI investigation shows that port environments are unattractive to Brown Marmorated Stink Bug as they are mainly bitumen or concrete surfaced areas that are very busy with a high level of commercial activity and disruption. There is also an absence of suitable vegetation to attract, host and sustain Brown Marmorated Stink Bug in such ports. During the autumn period the threat of BMSB flight on port environments is considered negligible based on the previous factors. And during winter months the temperatures are sufficiently low in port environments that BMSB would not typically being flying, with BMSB only flying at temperatures above 10C.

MPI is also including additional requirements for treatments conducted at places other than at the port of departure for New Zealand. This is because MPI considers that the possibility of infestation or re-infestation is greater where treatment is conducted at manufacturing or storage sites in areas predisposed to Brown Marmorated Stink Bug activity prior to being moved to the ports of departure for New Zealand. MPI has taken into account concerns raised by submitters regarding where live Brown Marmorated Stink Bugs were found inside closed hatches within a concrete batching machine imported from Italy in 2017. This new machine had entered New Zealand with a compliant treatment certificate, it was externally clean and compliant, and it had been externally inspected by MPI. A few days later, an MPI-trained Accredited Person at a transitional facility discovered the Brown Marmorated Stink Bugs inside some sealed internal hatches and contacted MPI, whereupon the unit was fumigated again with all hatches opened this time.

MPI has now modified the proposed Import Health Standard to include measures to reduce the chance of cross-contamination, infestation or re-infestation after treatment. These actions are requiring the treated risk goods to be moved from the place of treatment or to be protected with insect proof covering or additional insecticide treatment within specific time frames. This will reduce the possibility of Brown Marmorated Stink Bugs to re-infest risk goods which MPI believes was one of the potential reasons for non-compliance, along with a failed fumigation application by the treatment provider.

**Work with offshore treatment providers**

MPI and DAWR visited the United States of America (in 2015 and 2018) and Italy (2018) to better understand the treatment application process of a number of treatment providers. This was to investigate treatment provisions for Brown Marmorated Stink Bug management, to discuss best practice methodology and principles; and to incentivise the treatment providers. MPI and DAWR agreed that the treatment processes conducted by the particular treatment provider that fumigated the concrete batching machine (as above) were not compliant and decided to no longer accept treatments from them. This was also due to ongoing concerns and other treatment failures found during subsequent verification inspections of consignments treated by that company.

MPI will continue to work with all treatment providers to facilitate compliant application of required treatments. MPI will also verify that the treatments are effective, and provide relevant feedback to trading partners where treatment failures have occurred. MPI has and will continue to contact the importers/exporters and the treatment providers providing relevant feedback as to issues with treatments. MPI are also planning to visit Europe in 2018/2019 to continue this proactive engagement. Furthermore, MPI is assigning officials to Japan during August and September 2018 to assist exporters in preparing for the new measures. The primary task of these officials will be to approve new vehicle and machinery systems for those manufacturers who apply. The officials will meet with Japanese organisations (Japan Automobile Manufacturers Association and the Japan Machinery Center for Trade and Investment) who represent the new vehicle and machinery manufacturers in Japan with the purpose of assisting relevant manufacturers to prepare for the proposed requirements during this time.  Officials located in Japan will also be available for liaison with the used vehicle and machinery system operators who are undergoing a re-approval process to meet the proposed requirements.

MPI has not yet approved treatment providers or treatment facilities in all Schedule 3 countries (excluding Italy and the United States of America). MPI is concerned that some Schedule 3 countries will be unable to provide necessary documentation or other methods of providing demonstrated compliance regarding official certification or management of Brown Marmorated Stink Bugs (and other such pests). However, MPI will continue to work with exporters and importers of vehicles, machinery and equipment with regard to the range of options provided in the Import Health Standard. Where alternative management measures are proposed such as covered under the International Standard for Phytosanitary Measures 24 - Guidelines for the determination and recognition of equivalence of phytosanitary measures (FAO 2017b), these could be considered.

MPI considers that the best management of the vehicle, machinery and equipment pathway remains via approved systems and targeted treatments being applied in the country of origin to keep the risk off-shore. Where treatment can’t be conducted prior to shipment, containerised consignments may also be treated on arrival as required as the risk of Brown Marmorated Stink Bugs escaping from a fully sealed container is negligible. Containers that are not fully sealed such as open side, open top or flat rack units are considered to be break-bulk items and must be treated prior to shipping. MPI will continue to conduct verification of this pathway including verification of certification and that offshore treatments are effective. MPI has increased on-arrival inspections and surveillance in New Zealand during the Brown Marmorated Stink Bug risk season.

**Ends**

**---------------------------------------------------------------------------------------------------------------------------------------------------**

**Consultation Documents**

1. The link to the 2015 consultation documents may be found at: [https://www.mpi.govt.nz/news-and-resources/consultations/proposed-amendments-to-the-Import Health Standard-for-vehicles-machinery-and-tyres/](https://www.mpi.govt.nz/news-and-resources/consultations/proposed-amendments-to-the-ihs-for-vehicles-machinery-and-tyres/)

2. The link to the 2017 and May 2018 consultation documents may be found at: <https://www.mpi.govt.nz/news-and-resources/consultations/consultation-on-the-import-health-standard-for-vehicles-machinery-and-equipment/>

**References**

1. Aigner, J.D. and Kuhar, T. P. 2016. Lethal high temperature extremes of the brown marmorated stink bug (Hemiptera; Pentatomidae) and efficacy of commercial heat treatments for control in export shipping cargo. Journal of Urban Entomology. 32: 1 - 6.

2. Anthony, D. 2015. Technical advice on: Dermestid beetles in vehicles from Japan; dead bees on inanimate pathways. Ministry for Primary Industries, New Zealand.

3. Burne, A. 2018a. Lycorma delicatula -spotted lanternfly risk notes. Ministry for Primary Industries, New Zealand.

4. Burne, A. 2018b. Technical Advice: BMSB cold tolerance and supercooling points. Ministry for Primary Industries, New Zealand.

5. Burne, A. 2018c. Technical Advice: BMSB overwintering mortality and dispersal ability. Ministry for Primary Industries, New Zealand.

6. Burne, A. 2018d. Technical Advice: Use of insecticide fogging as an interim measure for management of Halyomorpha halys (Brown marmorated stink bug (BMSB)) in vehicles from Japan. Ministry for Primary Industries, New Zealand.

7. Duthie, C. 2012. Risk Analysis of *Halyomorpha halys* (brown marmorated stink bug) on all pathways. Ministry for Primary Industries, New Zealand.

8. FAO 2017a. International Standards for Phytosanitary Measures 11. Pest risk analysis for quarantine pests (ISPM 11). International Standards for Phytosanitary Measures 11. International Plant Protection Convention. Food and Agriculture Organisation of the United Nations.

9. FAO 2017b. International Standard for Phytosanitary Measures 24. Guidelines for the determination and recognition of equivalence of phytosanitary measures (ISPM 24). International Plant Protection Convention. Food and Agriculture Organisation of the United Nations.

10. MPI. 2018a. Technical Advice: Supplement to pest risk assessment of *Halyomorpha halys* (Brown marmorated stink bug). Version 1.0. Ministry for Primary Industries, New Zealand.

11. MPI. 2018b. Treatments for Brown Marmorated Stink Bug. MPI Technical Analysis, 23 July 2018. Facilities and Pathways Group, Plants and Pathways Directorate, Ministry for Primary Industries, New Zealand.

12. Newfield, M. 2015. Review and update of risk analyses related to vessels (above water). Ministry for Primary Industries, New Zealand.

13. Ormsby, M. 2016. Version 1. Technical review – Proposed Treatments for BMSB (Halyomorpha halys) (Stal); Pentatomidae). Ministry for Primary Industries.

14. Ormsby, M. 2018. Version 1. 2. Technical review – proposed treatments for BMSB (Halyomorpha halys) (Stal); Pentatomidae). Ministry for Primary Industries.

15. Stewart, S. and Rathe. A. 2014. Economic Impact Assessment: Halyomorpha halys (Brown Marmorated Stink Bug). Ministry for Primary Industries, New Zealand.

16. Toy, S. 2007. Import Risk Analysis: Vehicle and Machinery. Biosecurity New Zealand, Ministry of Agriculture and Forestry. ISBN 978-0-478-29881-9.

17. <https://www.currentresults.com/Weather/US/average-state-temperatures-in-winter.php> Data sourced from NOAA National Climatic Data Center. Accessed July 2018.

 **Submissions received from Stakeholders**

Second consultation: 4th of December 2017 – 29th of January; and

Third Consultation: 25th of May 2018 – 2nd of July 2018

These submissions are available on request from MPI.

1. Noting the original period for the third consultation was extended to 2 July 2018 following an initial shorter period [↑](#footnote-ref-2)