



Information on the biosecurity use of methyl bromide in New Zealand

July 2019

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Purpose

This information is provided to the Environmental Protection Authority (EPA) in response to a request seeking any existing, relevant information the Ministry for Primary Industries (MPI) holds that may assist with the reassessment of methyl bromide (MB) in New Zealand. The questions are listed in Appendix 1.

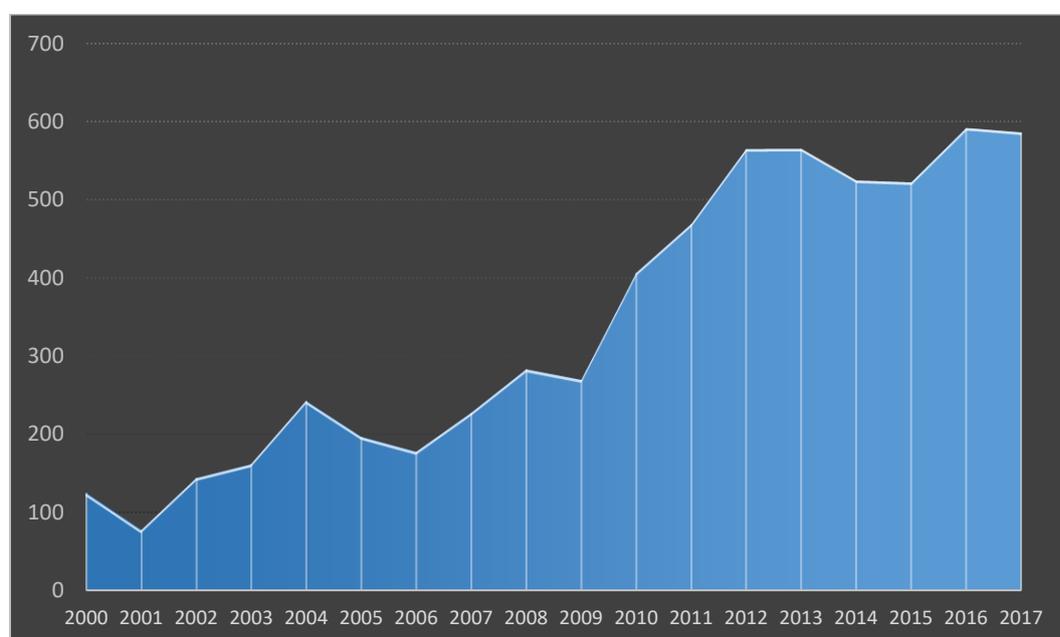
Background

Quarantine pests and diseases can spread from one country to another through international trade. To mitigate this risk, many countries (including New Zealand) require certain export and import products to be treated to control regulated pests and diseases (Table 1).

Fumigation of forest products (e.g. logs and timber) for export constitutes the bulk (94%) of MB use in New Zealand. The remaining 6% are used for other export goods such as vegetables, fruits, seeds, grains, nursery stock, etc. (Table 2) and for managing pests (e.g. brown marmorated stink bug, fruit fly, etc.) on high risk cargo or intercepted on imported fresh and stored products, machines, vehicles, etc., at the border (Table 3).

New Zealand's use of MB has generally been increasing since 2000 (Figure 1) mainly due to an increase in the volume of log exports which accounts for 92% of MB use.

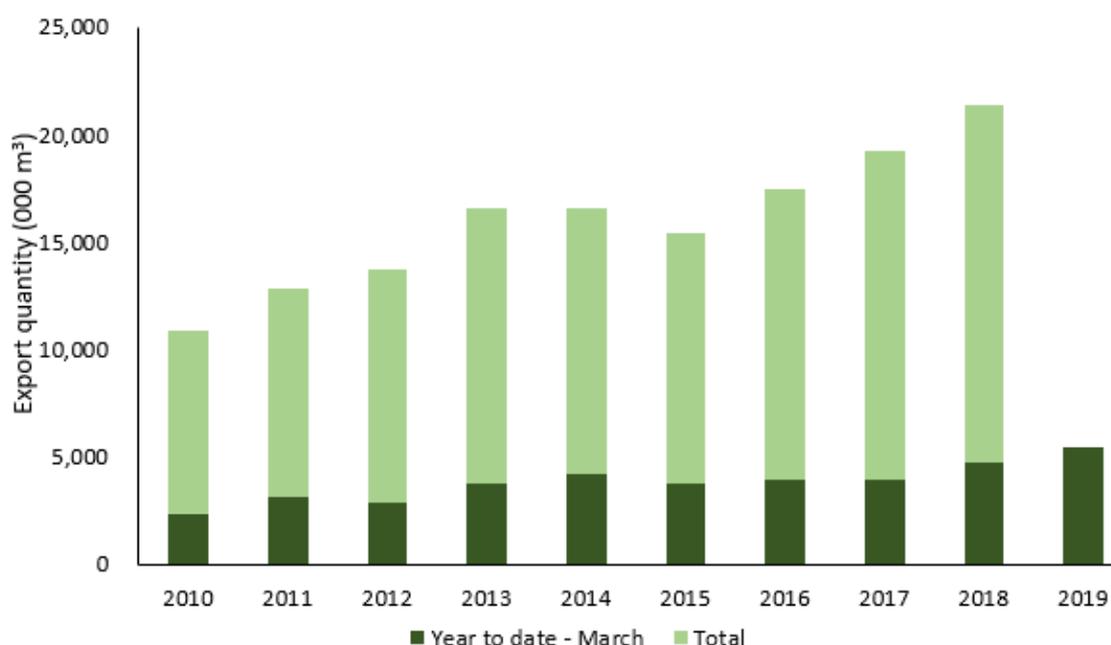
Figure 1: New Zealand Methyl bromide use (tonnes)



Source: Ozone Layer Protection Act Report 2017.

In the year ended March 2019, 22.1 million cubic metres of logs were exported; a 9% increase on the previous year (Figure 2).

Figure 2: Annual National Log Exports



Currently, fumigation with MB is the main phytosanitary treatment option for log exports to China that are stored on the deck of bulk vessels and the only feasible option for log exports to India. Nearly 18% of log exports to China and all logs to India are fumigated with MB (Table 2). China accepts ship hold fumigation with phosphine as a phytosanitary treatment and debarking as a risk reduction measure but India does not. The majority of log exports to China are fumigated with phosphine (76%).

In 2018, fumigation with MB constituted 22.1% of all log exports; fumigation with phosphine constituted 60.8%, and 5.3% were debarked. The remaining 11.8% were exported to countries (Japan, Korea) that do not mandate pre-export phytosanitary treatment although they fumigate with MB on arrival.

Currently, fumigation with MB is the main and in some case the only effective phytosanitary treatment option for imported goods. The fumigation requirement is mandated by Biosecurity New Zealand such as for used tyres (to kill mosquitoes that may carry viruses and disease) and goods from Italy (to kill brown marmorated stink bugs).

Phytosanitary requirements of importing countries

For New Zealand exports, methyl bromide is used when required by the importing country. MPI maintains a database of Importing Country Phytosanitary Requirements (ICPR). Many countries require fumigation with MB as a phytosanitary treatment for export of commodities to minimise the movement of pests in international trade. This information focuses only on the major countries New Zealand currently trade with that require MB for phytosanitary treatment and the commodities exported to those countries in 2018. The phytosanitary requirements of those countries are summarised below and referenced in Table 1.

Phytosanitary requirements for export of forestry products

- **Australia:** One of the following options for treatment are required: Methyl bromide, kiln drying, heat treatment, gamma irradiation, ethylene oxide fumigation, synthetic pyrethroid insecticide (for *Arhopalus fesus*)
NB: MB for treating timber has reduced since pyrethroids were allowed but 33,000 m³ of timber exports to Australia were fumigated with MB in 2018.
- **China:** Fumigation with MB at a rate of 120 or 80 g/m³ (depending on temperature) for 16 hours or phosphine in-transit is required for logs that have not been debarked.
- **Fiji:** Requires an import permit which specifies the treatments for timber export. Approved treatments are MB, heat treatment or preservative treatments (Boron compounds, Copper Chrome Arsenic or synthetic pyrethroids).
- **India:** Fumigation with MB at a rate of 72 - 48 g/m³ (depending on the temperature) for 24 hours or heat treatment is required.
- **Malaysia:** Requires an import permit which specifies the treatments for timber export. Approved treatments are MB, sulfuryl fluoride, ethylene oxide, phosphine and EDN.
- **Netherlands:** Bark of conifers must be fumigated or heat treated. There is no information on schedules for bark so the New Zealand schedule (MB applied at a rate of 48-96 g/m³ for 24 hours depending on the temperature) is used.
- **Philippines:** Requires an import permit which specifies the treatments for timber export. Fumigation with MB or heat treatment is required.
- **Other Pacific Islands:** Various treatment rates for forest products including bark as a very high rate of 500g/m³.
- **All countries** require that wood packaging is either methyl bromide or heat treated to meet the International Standard for Phytosanitary Measures No. 15: Regulation of Wood Packaging in International Trade.

Phytosanitary requirements for export of other products

- **Canada:** Treatment against all living stages of the light brown apple moth (*Epiphyas postvittana*) is required for the importation of cut flowers and foliage into Canada. MB fumigation at a rate of 64 g/m³ for 2 hours is required for the treatment of fruits and vegetables against *Epiphyas postvittana*.

- **Fiji:** Fumigation of *Brassica* spp. for 2 hours with MB at a rate of 32 g/m³ at a temperature ≥ 21°C.
- **French Polynesia:** Potatoes must be treated with MB before shipment at 30 g/m³ for 2 hours. Growing media must be fumigated with MB at 300 - 500 g/m³ for 24 hours depending on the temperature. Heat treatment (70 °C for 4 hours) or gamma irradiation (at 25 kGray) are also accepted.
- **Japan:** Fumigation of apples at a rate of 24 g/m³ at a fruit temperature above 12°C. A CT product (concentration x time) of 34.2 g.h/m³ or more must be achieved.
- **Kenya:** Requires an import permit which specifies either heat treatment at 83°C for 10 min or chemical treatment (e.g. MB) for packaging materials such as peat used for bulb exports.
- **New Caledonia:** Insecticide treatment (fumigation, spraying or dipping) is required for the import of fresh cut flowers and foliage. Growing media has to be either heat treated (80°C for 4 hours) or fumigated with sulfuryl fluoride or MB at 64 g/m³ for 24 hours.
- **Samoa:** No treatment is specified by Samoa in the ICPR but the phytosanitary requirements are stated on the import permit for animal feed.
- **United Kingdom:** MB is not specified in the European Union (EU) ICPR. However, heat treatment or fumigation is required for the export of several commodities to the EU to ensure freedom from harmful organisms.
- **Vanuatu:** No treatment is specified by Vanuatu in the ICPR but the phytosanitary requirements are stated on the import permit for animal feed.

NB: Gamma irradiation is not available in New Zealand

Information relating to the requirements of individual countries can be found in the Importing Countries Phytosanitary Requirements (ICPR) in Table 1.

Table 1: Key countries that require methyl bromide treatment prior to export.

Country	Commodity	Importing Country Phytosanitary Requirement
Australia	Timber, capsicum, tomato, seeds, grains, nuts, flowers and foliage	https://www.mpi.govt.nz/dmsdocument/621-australia https://bicon.agriculture.gov.au/BiconWeb4.0/
Canada	Flowers and foliage	https://www.mpi.govt.nz/dmsdocument/628-canada
China	Logs	https://www.mpi.govt.nz/law-and-policy/requirements/icpr-importing-countries-phytosanitary-requirements/forestry-icprs/china/
Fiji	Timber and brassica	https://www.mpi.govt.nz/dmsdocument/643-fiji
French Polynesia	Potatoes, Growing media	https://www.mpi.govt.nz/dmsdocument/646-french-polynesia
India	Logs	https://www.mpi.govt.nz/law-and-policy/requirements/icpr-importing-countries-phytosanitary-requirements/forestry-icprs/india/
Japan	Apples	https://www.mpi.govt.nz/dmsdocument/657-japan
Kenya	Bulbs	https://www.mpi.govt.nz/dmsdocument/658-kenya
Malaysia	Timber	https://www.mpi.govt.nz/law-and-policy/requirements/icpr-importing-countries-phytosanitary-requirements/forestry-icprs/malaysia/
Netherlands (EU)	Bark	https://www.mpi.govt.nz/law-and-policy/requirements/icpr-importing-countries-phytosanitary-requirements/forestry-icprs/european-union/
New Caledonia	Flowers and foliage Growing media	https://www.mpi.govt.nz/dmsdocument/670-new-caledonia
Philippines	Timber	https://www.mpi.govt.nz/law-and-policy/requirements/icpr-importing-countries-phytosanitary-requirements/forestry-icprs/philippines/
Samoa	Animal feed	https://www.mpi.govt.nz/dmsdocument/684-samoa
United Kingdom	Seeds, grains and nuts	https://www.mpi.govt.nz/dmsdocument/640-european-union
Vanuatu	Wood products and animal feed	https://www.mpi.govt.nz/dmsdocument/704-vanuatu

Methyl bromide use for exports in 2018

The value of export produce fumigated with MB is estimated to be over NZ\$900 million per annum (Table 2). This accounts for approximately 2% in value of New Zealand's primary industry exports based on MPI's Situation Outlook for Primary Industries (MPI, 2019).

Table 2: Methyl bromide use data for export of products in 2018

Country	Product	Total export (m ³)	Vol treated with MB (m ³)	% Treated with MB	Approximate Export value of volume fumigated (NZ\$ million)
Total	Logs	21,479,921	4,749,163	22.1	791.5
China		17,251,264	3,052,042	17.7	508.7
India		1,696,444	1,696,444	100	282.7
Others		2,532,213	677	0.03	0.1
Total	Timber	1,865,289	103,825	5.6	50
Malaysia		72,075	36,421	50.5	-
Australia		412,011	33,000	8	-
Fiji		18,321	10,930	59.7	-
Philippines		38,605	9,535	24.7	-
Others		1,324,277	13,939	1.1	-
Total	Wood products	35,742	137	0.4	1.1
Vanuatu		267	113	42	-
Total	Bark	3,793	428	11.3	-
Netherlands		387	387	100	-
Main export country	Product	(tonnes)	(tonnes)		*
Total (tonnes)	Vegetables	288,279	3,310	1.1	7.1
French Polynesia (1558)	Potatoes	45,963	1,583	3.4	4.5
Australia (667)	Capsicum	3,993	780	19.5	4.1
Fiji (385)	Brassica	1,206	435	36.1	-
Australia (557)	Tomato	2,746	350	12.7	1.6
Total	Seeds, grains	63,114	2,402	3.8	9.3
Australia (2,174)	Pea	15,246	1,825	12	8.8
United Kingdom	Severall	1,073	454	42.3	-
Total	Fruits	932,900	14,605	1.6	41.8
Japan (24,743)	Apples	370,878	14,204	3.8	27.9
Fiji (28.5)	Citrus	4,047	42.2	1.0	0.1
Total	Animal feed	24,617	3,784	15.4	-
Samoa		2,862	2,862	100	-
Vanuatu		893	893	100	-
Total	Growing media	6,784	2,400	35.4	-
French Polynesia		1,152	1,152	100	-
New Caledonia		4,900	700	14.3	-
		(number)	(number)		
Total	Nursery stock	120,038	120,038	100	-
Kenya	Lily bulbs	120,000	120,000	100	-
Others		38 Plants	38 Plants	100	-
Total	Flowers & foliage	733,744	507,582	69.2	3.8
Australia		207,255	207,255	100	-
New Caledonia		297,980	148,058	49.7	-
Canada		303,109	146,164	48.2	-
Total estimated					904.6

*Values are based on New Zealand Horticulture 2018 year to June data or SOPI Report June 2019 or

<http://www.intracen.org/itc/market-info-tools/statistics-export-product-country-monthly/>

MPI Requirements for use of MB for biosecurity

MPI is mandated to protect New Zealand's people, environment and economy from biosecurity risk (i.e. pests, diseases, weeds, etc.) pose by international trade and tourism. The biosecurity risk increases with increases in tourism, volume of imports and the number of trading partners. To maintain trade and tourism and mitigate potential biosecurity risk, MPI has put quarantine regulations (Import Health Standards) in place in accordance with New Zealand's Biosecurity Act, 1993 and the International Plant Protection Convention (IPPC).

It is MPI's policy to manage biosecurity risks offshore where possible. While few commodities require mandatory treatment on arrival, the New Zealand biosecurity system relies on having effective, economic and available treatments to deal with quarantine pests detected on arrival in New Zealand. Some pests are specific to a commodity and pre-shipment management and certification are in place to manage these risks. When these measures have failed and pests are detected (for example fruit flies in imported fresh produce), or when opportunistic hitchhikers such as the brown marmorated stink bug (BMSB) are detected, they need to be dealt with immediately. Another important use is for ground sterilisation for unwanted pests such as potato wart through government-mandated official control programme.

One of the most effective and frequently used treatments to mitigate biosecurity risks associated with virtually any type of import consignments at the border or in transitional facilities is MB. MB is a widely used phytosanitary treatment that has been used successfully to control insects in a wide range of stored products, durable commodities and structures (Bond 1989).

Without an available effective treatment such as MB, the only remaining options are reshipping or destruction of the imported goods. Reshipping or destroying goods can be very costly to importers.

Some imports such as taro from the Pacific Islands have a very high level of intercepted pests and nearly always require fumigation. If MB was not available in New Zealand, some fresh produce consignments would have to be MB treated pre-shipment. This would affect shelf life of such consignments to the point where it may not be saleable. More importantly, trading partners' perceptions may be that New Zealand is not acting in good faith having environmental restrictions for on-shore MB treatments but requiring off-shore MB treatments.

Approved biosecurity treatments for import products/goods into New Zealand are specified in the MPI Approved Biosecurity Treatments (MPI-ABTRT, 2018). MB has proven to be one of MPI's most effective tools, and often the only one with proven efficacy, for managing unwanted or new to New Zealand organisms (managed through the Biosecurity or HSNO Act). MPI considers MB its preferred choice for many closed system fumigation efforts as it has many advantages to respond to exotic and unwanted organisms. The MB fumigant has

very good penetration and is effective over a wide variety of organisms (FAO 1986, USDA APHIS 2019). MB has a relatively short application time which provides the quick knockdown required as well as lessening safety concerns when applied correctly. Another significant advantage for MPI responders is the ready availability of accredited and reliable MB applicators around the country. This is important when treatment timeliness is linked to the chances of eradication success.

Methyl bromide use for imports in 2018

MB fumigation is the predominant treatment for biosecurity purposes. Data extrapolated from MPI records for goods typically treated with MB show that in 2018, 6% of all consignments of biosecurity interest were treated with MB in New Zealand. The approximate value of the goods treated with MB is estimated to be \$1.6 billion per annum.

The data presented in Table 3 is incomplete. Data for miscellaneous products (not normally treated with MB) have been recorded but not valued. In addition empty containers imported for containerising export goods do not have economic values, but are important for the export trade.

Table 3: Methyl bromide use and approximate value for imports of products in 2018¹

Product	Total consignments imported	Number of consignments treated	% treated	Total Import value (NZ\$1,000)	Treated value (NZ\$1,000)
Animal Products	1989	113	5.7	1,644,663	93,746
Animal equipment	5365	10	0.2	74,008	148
Biologicals	16965	4	0	1,455,552	0
Equipment	9967	1879	19	10,497	1,994
Fertiliser	890	4	0.4	781,717	3,127
Nursery stock	2044	107	5	19,229	961
Plant Products	6457	748	11.6	8,250,435	957,050
Fresh Produce	11029	3906	35	478,209	167,373
Cut flowers	3304	1823	55	7,700	4,235
Seeds, grains	12894	212	2	491,209	9,824
Vehicles new and used	311,977*	2532	0.8	10,792,526	86,340
Vehicle Parts	6774	730	11	566,339	62,297
Tyres	327	176	54	440,511	237,876
Wood products	19108	1371	7	1,674,810	117,237
Wood packaging	1824	283	7	3,249	227
Miscellaneous (includes non-risk goods)	52,422	1823	3.5	**	**
Personal effects	25374	227	1	**	**
Total			6***	26,690,654	1,648,543

*Source: Customs data; ** value not available; *** excludes those with no value

¹ Value data is extrapolated from ITC data (<http://www.intracen.org/itc/market-info-tools/statistics-import-country-product/>) and treatments from MPI sourced information. The data provides a general overview but is not exact due to the interpretation of categories between ITC data and MPI data.

Methyl bromide recapture technology

MPI does not own any treatment facilities and MPI approved facilities are not required to use MB recapture technology under MPI Standards. MPI is aware that MB recapture units are available across New Zealand to recapture MB whereas previously, MB was vented from cargo directly into the air after fumigation.

Log stack fumigation occurs at three ports: Port of Napier, Port of Tauranga and Northport. Container fumigations occur at the majority of New Zealand ports. Recapture for log stack fumigation only occurs at the Port of Tauranga. Container and timber fumigation recapture occurs at the ports of Auckland, Nelson, Tauranga and Wellington. The requirement to recapture available MB after fumigation is currently driven by the local councils or port companies.

MPI does not have data on recapture rates and does not hold information on the volume of consignments where recapture technique is applied. MPI does not have the regulatory authority to audit or collect information on MB recapture.

However, MPI do hold information on the number of MB fumigations undertaken in New Zealand for quarantine purposes. MPI estimates that, of the total containerised fumigations undertaken in 2018, 74% of fumigations were undertaken at the locations listed in Table 4 and had access to recapture MB technology.

Table 4: Locations where methyl bromide fumigation recapture occurs

Ports/facilities	Recapture type
Auckland	Own invention
	Carbon
Marsden Point	Liquid scrubber
Napier	Liquid scrubber
Nelson/Picton	Carbon
New Plymouth	Liquid scrubber
Tauranga	Liquid scrubber
Wellington	Carbon

The recapture units, recapture volatile organic gases into high capacity carbon filters or liquid scrubbers or a combination of both techniques. The contaminated carbon needs to be handled carefully to prevent the release of the MB.

The recapture units are not able to remove all the MB present in the fumigation chamber/in situ sea container due to fast sorption by the cargo and slow desorption rate out of the cargo and possible limitations of the capacity of the recapture unit.

Methyl bromide recapture performance

There is very little published data on the performance of MB recapture systems (TEAP 2006). TEAP estimates that there is scope for avoiding about 70% of current emissions

derived from quarantine and pre-shipment (QPS) use (about 8,500 tonnes of global MB use) if recapture or destruction technologies were used (TEAP 2019).

MPI is not aware of any published information to confirm that the current recapture units available in New Zealand are able to achieve the required 5 ppm workplace exposure level (WES) considering the various sorption/desorption rates of various goods and packaging of goods. Anecdotal evidence suggests that the current recapture technology cannot achieve the Workplace Exposure Standard (WES) level of 5 ppm for MB unless run for a significant period of time (Sama et al. 1995). When the recapture unit is removed the desorption of the gas from wood/fresh produce occurs continuously over a 24 hour to 12 day period and often exceeds 5 ppm. According to Genera Ltd, the largest provider of recapture services, it is not possible to achieve 5 ppm with many commodities and large log stacks can be reduced down to around 10g/m³ (2,570 ppm) after eight hours recapture (Self 2017).

Although the WES of 5 ppm for MB is not under MPI's regulatory authority, the safe and consistent use of a key quarantine fumigant such as MB directly affects MPI's ability to perform its functions:

- to manage biosecurity risks by treating imported good and
- to ensure that New Zealand's international obligations are met by delivering on overseas countries' import requirements (MPI's regulatory authority).

There is a risk that New Zealand may not be able to treat import or export goods if the current target for recapture cannot be achieved. The sorbed MB may volatilise from the treated commodity quite slowly, sometimes taking several days to reach low levels of emission. The rate of sorption and desorption is strongly dependant on the material treated, their state and the dimensions (MBTOC 2006). For example fumigated wood products take a long time to desorb.

Since 1994, the USEPA, USDA and Methyl Bromide Alternatives Outreach (MBAO) and the Crop Protection Coalition have sponsored the Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions. This conference is devoted to the sharing of information on current and ongoing research into MB alternatives. The proceedings indicate that there have been significant international efforts since 1994 to develop a variety of MB capture and treatment technologies, as well as MB replacement technologies and alternatives. Nonetheless, no proven and cost effective MB recapture and treatment system is commercially available for large-scale log fumigations to meet the 5 ppm requirement.

As reported in a US application (SCS Engineers 2015) to discharge MB there is a value recovery system operating in California on cool store chambers of up to 500m³ where broccoli is fumigated with MB at 48g/m³ for 2 hours at 10°C and is tested by cool store staff to see if it has achieved 5 ppm before releasing. The MB recapture and destruction efficiency is reported at 90 to 95%.

Given the lack of published data, MPI has commissioned an operational research project to identify if any of the currently available MB recapture technology for containerised consignments is reaching 5 ppm. The commissioned research has been approved but delivery is not expected until late 2020.

Negotiation with trading partners on MB use and alternatives

MPI has been in regular discussions since 2010 with China and India to pursue approaches for phytosanitary risk management as an alternative to MB fumigation and to reduce the fumigation rates of MB currently approved for phytosanitary treatment. Discussions to introduce an alternative fumigant, ethanedinitrile (EDN) for treatment of logs for export to both countries have also begun. China and India are the focus of these negotiations because exports to these countries account for the majority of New Zealand's MB use. New Zealand officials regularly meet with officials from China, India and other countries (USA, Canada and Australia) to discuss progress on finding alternatives to MB fumigation.

MPI has collaborated with the Stakeholders in Methyl Bromide Reduction (STIMBR) and scientists from Plant & Food Research and Scion to develop an efficacy dataset proposing the use of EDN and reduced fumigation rates of MB as effective phytosanitary treatment for NZ export logs. MPI has completed reviewing these papers and final versions are currently being prepared. Once the dataset is finalised, a proposal by MPI will be formally submitted to China and India for assessment and negotiation. This is expected to occur in August 2019. However, reaching agreement with overseas trading partners on the use of treatment alternatives could still take years rather than months.

Status of discussion with China

MPI has continued to engage with China's decision makers in the General Administration of China Customs (GACC). MPI most recently met with the officials at formal technical talks during the preparations for Sanitary and Phytosanitary (SPS) Joint Management Committee meeting in May 2019. MPI updated China regarding challenges with MB mandatory recapture from October 2020 and progress on research into EDN and MB reduced rates. New Zealand informed China that the efficacy dataset supporting EDN and MB reduced rates accompanied by a formal request for their use will be provided to China later in 2019. GACC acknowledged progress and is looking forward to receiving the data. MPI is also working to facilitate a visit of New Zealand's technical officials to China to speed up negotiations on MB reduced rates and EDN proposal as an alternative treatment for logs.

Status of discussion with India

MPI officials met with officials from India's Plant Protection Quarantine and Storage Directorate (PPQS) in March 2019 to discuss alternatives to MB for log exports. The PPQS officials are aware of New Zealand's deadline for recapturing or replacing MB and agreed to consider the efficacy dataset package for alternatives to MB as soon as received.

In March 2019, the Kandla Timber Association, representing importers and timber mills in Gujarat, the main destination for New Zealand logs in India, raised with MPI their concern

about ongoing supply of New Zealand pine logs. MPI reassured them that the New Zealand Government and forest industry are working hard to find alternatives to MB acceptable to India to enable export of logs to continue past the October 2020 deadline.

Conclusion

New Zealand primary industries likely to be directly affected most by the MB recapture requirement are forestry and horticulture industries. Revenues from forestry and horticulture exports for the year ending June 2019 reached \$6.9 and \$6.1 billion respectively (SOPI Report 2019). Nearly \$840 million worth of logs were fumigated with MB for export in 2018. Only 0.5% of New Zealand MB use was for horticultural purposes but was needed for the export and import of several commodities as indicated in Tables 2 and 3.

Most log exports went to countries (China and India) that require the use of MB as a phytosanitary treatment for log exports. Hence, MB is currently a very important component for maintaining trade with these countries and for the New Zealand economy. To avoid significant disruption to trade, it is important to ensure that there is a registered alternative fumigant that is accepted by trading partners in place before the restrictions on MB are imposed in New Zealand. EDN is the most promising alternative fumigant to MB for forest product exports (Armstrong 2017).

New Zealand and MPI's ability to protect New Zealand from biosecurity risks and allow trade to occur also depends on the availability of an effective and feasible treatment in New Zealand. A significant amount of the \$26.7 billion of products imported per year relies on an effective treatment being available to mitigate biosecurity risks. MB is considered to be a highly effective treatment used around the world due to the fumigant's efficacy over a wide range of pests, organisms, life stages and applicability to a range of goods. In addition, MB is a contingency tool for the unexpected or high priority pests that could be detected on arrival in New Zealand.

Currently there appears to be no data on recapture technology worldwide capable of recapturing MB to 5 ppm across all commodities. MPI has commissioned an operational research project to test whether currently available recapture technology is reaching 5 ppm for containerised consignments. The project is due for completion by June 2020. MPI suggests that this data is crucial to setting realistic recapture targets.

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Appendix

Appendix 1: EPA request to MPI

1. Which countries (if any) require exports from New Zealand be treated with MB prior to export to that country? Please can you include information relating to these requirements, if possible by country, which sectors and products are affected by these requirements (whether current and or dependant on future export restriction zones that (would) require additional requirements to be met before produce within it would be eligible for export), what those requirements entail, the volume of each product treated, and the value of each treated product (in both NZD and percentage of the total export value of that product).
2. Which ports and/or facilities currently use MB recapture techniques for quarantine and pre-shipment (QPS) purposes? Please can you include any known recapture rates achieved at these facilities, the volume of each product treated with recapture techniques, and the value of each product treated with recapture techniques (in NZD, percentage of the product treated with MB, and total export value of that product).
3. Is New Zealand in negotiations with any trade partners to introduce, increase, or decrease the use of MB required prior to exports to those countries? What is the current status of discussions (if any) with trade partners involving the use of MB for export or biosecurity purposes?
4. What requirements does MPI have for the use of MB to protect New Zealand's biosecurity? Are any facilities using recapture techniques? What are the benefits to New Zealand of MB use, and recaptured MB uses, to New Zealand's biosecurity?
5. Does the Ministry of Primary Industries have any other information it considers pertinent regarding the use of MB and recapture technologies in New Zealand which may facilitate the evaluation and consideration of this application?