

SUBMISSION FORM

For Hazardous Substance and New Organism Applications

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Submission on application number:	APP203660
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I wish to keep my contact details confidential

The EPA will deal with any personal information you supply in your submission in accordance with the Privacy Act 1993. We will use your contact details for the purposes of processing the application that it relates to (or in exceptional situations for other reasons permitted under the Privacy Act 1993). Where your submission is made publicly available, your contact details will be removed only if you have indicated this as your preference in the tick box above. We may also use your contact details for the purpose of requesting your participation in customer surveys.

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- I support the application
- I oppose the application
- I neither support or oppose the application

The reasons for making my submission are¹: (further information can be appended to your submission, see footnote).

United Fresh wishes to make a statement on how a change in Methyl Bromide (MB) will impact on the retail and consumer aspects of the New Zealand produce industry. The produce industry is a small user of MB, comprising under 0.5% of MB usage. However, the impact upon New Zealand consumers and the domestic fresh produce industry is potentially significant, as the New Zealand domestic fresh produce retail industry is estimated to be worth \$3 billion dollars, with over \$385 Million of this imported.

Proposed regulatory standards could potentially impact upon our ability to maintain a sustainable and profitable industry that supplies fresh produce to all. Perishable fresh produce quality deteriorates over time. Any disruption to produce distribution timeframes will impact on fresh produce, rendering it unsaleable. The potential for domestic industry disruption due to changes to product supply availability and routes to market could be an unintended outcome if this submission is not carefully considered.

The attached document sets out our detailed analysis of the situation, as well as the likely major negative impact on our industry, should the proposed reassessment and regulatory changes not occur.

All submissions are taken into account by the decision makers. In addition, please indicate whether or not you also wish to speak at a hearing if one is held.

- I wish to be heard in support of my submission (this means that you can speak at the hearing)
- I do not wish to be heard in support of my submission (this means that you cannot speak at the hearing)

If neither box is ticked, it will be assumed you do not wish to appear at a hearing.

I wish for the EPA to make the following decision:

United Fresh requests that the EPA reconsiders the relevant regulations on MB fumigant levels decided in 2010, to align the regulations with scientifically and commercially achievable levels for non-timber products. This will enable the continuation of a successful produce import sector and a healthy and viable produce industry in New Zealand, delivering sufficient product to meet consumer demand year-round, without supply restrictions from product perishing during fumigation. This will also enable our industry to continue to search for viable alternatives and allow the industry to switch to such a viable alternative in a considered and measured fashion.

The combined produce import and export sectors account for less than one half of a percent of total New Zealand MB use, yet comprise almost \$400 Million of impacted products connected to that one half of a percent. While the use of MB by the produce industry can therefore be considered miniscule, the impact on our industry and consumers if new regulations proceeds as planned will certainly not be miniscule. Any proposed reulatory change therefore needs to take the concerns of the produce industry and the potential impact on consumers into account in a positive and proactive manner.

¹ Further information can be appended to your submission, if you are sending this submission electronically and attaching a file we accept the following formats – Microsoft Word, Text, PDF, ZIP, JPEG and JPG. The file must be not more than 8Mb.



United Fresh
Technical Advisory Group

**Implications
of the
2020 Methyl Bromide Fumigation Controls
on
New Zealand Produce Imports**

Submission in Support of Reassessment Request
of
HASNO Approval for Methyl Bromide Use
(APP203660)

Due 29th August 2019

Introduction

United Fresh New Zealand Incorporated (United Fresh) has over 28 years of experience supporting and promoting the fresh produce industry, working with the entire value chain, from seed producer and grower to consumer, providing leadership on pan-produce issues. Our membership includes growers, grower organisations, pack-houses, wholesalers, and service & logistics providers, as well as retailers. Our industry aims to provide New Zealand a healthy and safe supply of quality produce. Our vision is to create a sustainable fresh fruit and vegetable industry for New Zealand. United Fresh represents an industry that almost every New Zealander interacts with daily through the consumption of fresh fruit and vegetables.

United Fresh is not a member of Stakeholders in Methyl Bromide Reduction Inc. (STIMBR). However, United Fresh supports STIMBR's Reassessment Request of HASNO Approval for Methyl Bromide Use (APP203660). On behalf of the New Zealand domestic produce industry, United Fresh therefore makes this submission on how a change in Methyl Bromide (MB) Controls (Controls) will impact on the wholesale, retail and consumer aspects of the New Zealand produce industry. The produce industry is a small user of MB, comprising under 0.5% of MB usage. However, the impact upon New Zealand consumers and the domestic fresh produce industry is potentially significant.

The purpose of this submission is to inform the Environmental Protection Agency (EPA) about the potential implications of the proposed MB Controls upon the consumption of fresh fruit and vegetables, and in particular imported fresh produce. The New Zealand domestic fresh produce retail industry is estimated to be worth \$3 billion dollars. The retail component of imports translate into approximately \$800 million of this, or a duty value of \$385 million¹. Our discussion focuses on imported fresh produce, which could be impacted by the proposed MB Controls.

Some imported products such as grapes and oranges are significant staples in the New Zealand diet year-round. Australian fruiting vegetables such as capsicums and courgettes are significant in the winter months when New Zealand crops are scarce. Pacific root and vegetable crops are culturally important to the Pacific Island Community in New Zealand. Factors that impose restrictions on fresh produce imports have the potential for unintended consequences such as impacting the ability of children to have healthy lunchboxes and challenging the availability of Pacific Island communities' staple foods, as well as access to fruiting vegetables in the New Zealand winter.

The proposed Controls could potentially impact upon our ability to maintain a sustainable and profitable industry that supplies fresh produce to all. Perishable fresh produce quality deteriorates over time. Any disruption to produce distribution timeframes will impact on fresh produce, rendering it unsaleable. The potential for domestic industry disruption due to changes to product supply availability and routes to market could be an unintended outcome if this submission is not carefully considered.

The United Fresh Technical Advisory Group, which has prepared this submission, believes the new Controls are not commercially viable for fresh produce. United Fresh believes commercially viable Controls would enable the New Zealand produce industry to meet regulations, without limiting produce imports excessively.

Prepared by The United Fresh Technical Advisory Group
Jacob Lawes, Project Officer,
Anne-Marie Arts, Food Safety Representative.

¹ Department of Statistics New Zealand. InfoShare. Accessible via <http://archive.stats.govt.nz/infoshare>.

Objectives Of This Submission

With this submission, United Fresh aims to identify and quantify some of the potential impacts to the New Zealand produce industry and the New Zealand consumer, through analysis of several representative crops. United Fresh aims to identify how imported produce may be affected in terms of availability, variety and quality, as changes to fumigation Controls will alter the commercial viability of crop imports, due to potential changes in the length of time importing takes, as well as the practicality of new fumigation Controls.

This submission is not an in-depth technical analysis, but a high-level overview of the potential major areas of impact where the new Controls would be most felt. This high-level overview is qualitative and makes no attempt to determine the estimated quantitative impacts, as in many cases data on the use of MB is not captured in a way that makes for easy analysis, or, if it is available, it is presented in a way that makes analysis extremely cumbersome.

Discussion

The STIMBR application that forms the basis for EPA's submission request covers:

- The substance and original approval details, including health and safety, usage restrictions, handling requirements, etc.
- Current usage and usage Controls.
- Effects of the reassessment if approved or denied.
- Best Practices usage considerations.

This United Fresh Submission addresses itself to those aspects of the STIMBR application that are relevant to the New Zealand Produce Industry, as United Fresh is not qualified to comment on the potential impact to other industries.

MB Fumigation, Replacement Fumigants & Recapture Systems

MB is a highly toxic colourless and odourless gas, which is used as a fumigant. MB is an Ozone Depleting Agent, which are internationally regulated by the Montreal Protocol. MB use was regulated internationally after the signing of the London Amendment to the Montreal Protocol in 1990. The London Amendment mandated that countries reduce MB use to zero by 2005, with the exception of the use for Quarantine and Phytosanitary Requirements (QPS), where acceptable fumigation replacements do not exist. No other usage of MB has been permitted in New Zealand since 2005 under this amendment.

In New Zealand, MB was approved under the Hazardous Substances and New Organisms Act 1996 (HASNO Act) on 29 October 2004 via the Hazardous Substances (Fumigants) Transfer Notice 2004 and has the HASNO Approval Number of HSR001635. MB was reassessed by the Environmental Risk Management Authority (ERMA: now the Environmental Protection Authority – EPA) in 2010 and its continued use as a quarantine and pre-shipment fumigant was approved, subject to controls, in Decision HRC08002 (the Decision). The Decision states that “by October 2020, all applications of MB in New Zealand must be undertaken using recapture technology of a level of accuracy that only 5ppm of MB exists in the headspace prior to venting”.

The majority of product fumigated with MB within New Zealand are wood products destined for China and India. However, both imported and exported produce can also require MB treatment as part of phytosanitary requirements, which are regulated by the Ministry for Primary Industries (MPI) or the

importing countries. As such, any change to the fumigation Controls for MB has the potential to affect the New Zealand produce industry's ability to import or export produce.

From October 2020, the Decision requires all MB fumigation processes to have a mandatory recapture system for fumigant gases that remain after treatment is completed ("off-gases"). The proposed limit will require no more than 5 parts per million (ppm) of off-gassed MB being released outside the fumigation zone. The New Zealand Government is currently working with industry via STIMBR on finding alternatives to MB, as well as viable ways to manage and reduce MB emissions. STIMBR membership currently includes the Plant Market Access Council (PMAC) as the non-forestry product representative.

Replacement Fumigants

In 2014, STIMBR and Plant & Food Research reviewed alternatives to MB for fumigation and determined the two most plausible substitutes for log exports were Ethanedinitrile (EDN) and sulphur fluoride². Alternatives were noted to exist for produce, including hydrogen cyanide, metaxyl and thiram. However, MPI has not yet approved these for general use, but on a per product basis determined by phytosanitary requirements³. Most produce fumigation processes therefore still use MB. STIMBR is continuing this research to find alternatives to MB. STIMBR will work with MPI to implement an alternative as an approved fumigant, once a viable alternative has been identified.

Recapture Systems

Where no alternative to fumigation with MB exists, the future Controls require that MB fumigation equipment be outfitted with a mandatory gas recapture system to capture off-gases that remain after treatment, to ensure MB levels are reduced to below 5ppm before venting. Produce typically has a MB level of 400-800ppm immediately after treatment⁴. The exact level will depend on the crop.

International research on MB recapture from produce has determined that the 5ppm level requires up to 12 days of off-gassing post-fumigation before falling below the required 5ppm level⁵, due to the produce and some packaging absorbing and releasing the gas over time. This 12-day period is impractical from a perishability standpoint for produce, as many highly perishable crops will deteriorate beyond their saleability level well within this timeframe. The common practice within the industry is for any product treated with MB to be sold as soon as possible, because the product deteriorates more rapidly due to the break in cool-chain management required for fumigation, coupled with the MB treatment, which also causes deterioration.

Further research has indicated that carbon-based recapture systems have the potential to recapture up to 98% of fumigant⁶. However, the currently available commercially viable systems developed for use in New Zealand are only able to capture up to 80% of fumigant off-gases from log stacks fumigated with MB⁷. At the 80% commercially viable recapture level, MB off-gas concentrations in fresh produce treatment are therefore likely to be over 80-100ppm within current fumigation timeframes.

In June 2019, a technical report was released by Quarantine Scientific Limited, following an investigation of multiple avenues of MB recapture and destruction research between 2000 and 2019⁸. One of the investigated methods had shown commercial viability close to the 5ppm Control, a heat destruction (pyrolysis) system, currently in use in New Zealand⁹. This technology has been tested on containers, showing an 87% reduction in MB levels when used in a commercially viable fashion. This 87%

² Plant & Food Research (2014). Comprehensive literature review of fumigants and disinfestation strategies, methods and techniques pertinent to potential use as quarantine treatments for New Zealand export logs.

³ MPI 2018. MPI Approved Biosecurity Treatments.

⁴ Soma, Y., Akagawa, T., Kishino, H., Misumi, T., & Kawakami, F. (1995). Sorption and desorption of methyl bromide in four species of fruit. Research Bulletin of the Plant Protection Service (Japan).

⁵ Ibid.

⁶ Leesch, J.G., Krapp, G.F., MacKay, B.E. 2000. Methyl bromide adsorption on activated carbon to control emissions from commodity fumigations. J. Stored Prod. Res. 36:65-74.

⁷ STIMBR 2019. Methyl Bromide - An Application Seeking A Reassessment Of Certain Controls.

⁸ Quarantine Scientific Limited (2019). Revised Review of Proposed Concepts and Technologies to Recapture and/or Destroy Residual Methyl Bromide (MB) after Log Fumigations at New Zealand Ports. Armstrong, Jack.

⁹ Ibid.

does not meet the scientific 5ppm Control being proposed when fumigating produce. An 87% reduction in MB levels post-fumigation for produce, based on known concentration levels would reduce MB levels to approximately 100 ppm^{10, 11}, or twenty times the proposed Controls.

No systems in New Zealand or elsewhere showed the ability to reach the 5ppm limit within the October 2020 timeframe in a commercially viable manner.

The New Zealand Produce Imports Position

New Zealand's total produce import and export fumigations currently account for approximately 0.42% (less than half a percent) of New Zealand's annual MB use¹². The implications for exports are well canvassed and supported by the Plant Market Access Council (PMAC), and United Fresh will therefore focus its analysis on the import market to New Zealand.

Imports

Global Imports

The New Zealand Harmonised Trade data for 2018 indicates approximately \$385 million (Duty Value) of fresh produce was imported from all trade partners¹³. Of this, \$72 million were bananas (fumigated with hydrogen cyanide, not MB), \$42 million were fresh vegetables and \$216 million were fresh fruit (excluding bananas). The \$385 million Duty Value of imports equates to approximately \$800 million of retail sales.

Pacific Imports

InfoShare¹⁴ lists the imports from Pacific Island countries of fresh fruit and vegetables, including coconuts, equated to \$17 million during 2018¹⁵. Approximately \$10.9 million of this were root crops such as cassava and taro, while another \$0.5 million related to coconut imports. The balance was comprised of various fruit and vegetable products.

Fumigation

For the purposes of this discussion section, we have focused on the MPI provided data relating to MB fumigation at the border. The reason for this is that the data relates to product which has failed MPI quarantine inspection, and requires further treatment – with that treatment generally being MB, excepting for bananas, which are treated with hydrogen cyanide. We note the MPI Approved Biosecurity Treatments document¹⁶ details the approved treatments for imported crops requiring biosecurity treatments. The MPI data on MB fumigation provides a snapshot of the challenges and an opportunity to assess the impacts on the fresh produce industry should MB fumigation Controls change to the level intended to become the legal norm from 2020.

MPI data indicates that 53% of produce lines/consignments imported into New Zealand required biosecurity treatments at the border¹⁷. This gives a potential indication of the impact of changes to the MB treatments upon the fresh produce industry. This data would need a deeper analysis to accurately quantify the full implications and is potentially not detailed enough to allow such analysis at this point.

¹⁰ Soma, Y., Akagawa, T., Kishino, H., Misumi, T., & Kawakami, F. (1995). Sorption and desorption of methyl bromide in four species of fruit.

¹¹ Quarantine Scientific Limited (2019). Revised Review of Proposed Concepts and Technologies to Recapture and/or Destroy Residual Methyl Bromide (MB) after Log Fumigations at New Zealand Ports. Armstrong, Jack.

¹² STIMBR 2019. Methyl Bromide - An Application Seeking A Reassessment Of Certain Controls.

¹³ Department of Statistics New Zealand. InfoShare. Accessible via <http://archive.stats.govt.nz/infoshare>.

¹⁴ A New Zealand Department of Statistics searchable online database, containing publicly released statistics data.

¹⁵ Ibid.

¹⁶ MPI 2018. MPI Approved Biosecurity Treatments.

¹⁷ MPI. Internal data – supplied.

Based on data supplied to United Fresh by MPI, 3905 fresh produce and flower consignments were fumigated in 2018. Of these, 2061 (67%) were fresh fruit and vegetables, and 1844 (33%) cut flowers. Produce fumigations are shown in Table 1. Table 2 analyses crop treatments by country of origin.

The two sets of fumigation data provided by MPI are crop and country specific respectively, and at this stage cannot be directly compared. United Fresh has categorised the crop fumigation data into general crop types or individual crops, and the country specific data into the 5 major areas of produce imports (Pacific Islands, Australia, United States, Chile, and unidentified locations) for general analysis. The country specific fumigation data consists of all fumigation methods and does not allow the isolation of MB treatment.

Please Note:

One treatment cycle of fumigation to a consignment containing multiple crop types could be counted as separate treatments for each crop in both Tables 1 and 2. One treatment of a container holding 5 separate crops or crop lines could count as 5 treated consignments, for example. This affects the data, particularly relating to cut flowers, which are often shipped together. The data supplied has been analysed and tabulated by United Fresh into the separate categories. Any errors are United Fresh's.

Treatments required are listed in The MPI Approved Biosecurity Treatments Manual¹⁸, as well as the relevant crop Import Health Standards¹⁹. For all crops, the general treatment for the majority of pests is MB fumigation, with specific treatments such as cold disinfestation required for individual pest species.

It is unknown at this stage why a small percentage of banana/plantain consignments have been fumigated with MB as opposed to hydrogen cyanide. United Fresh has not investigated this further at this point in time.

*Table 2 includes **all** phytosanitary treatments undertaken at the border. This means Table 1 cannot be directly compared with Table 2. Consignments Destroyed were consignments that were unable to be re-shipped or treated to meet New Zealand phytosanitary requirements. Consignments Released were consignments that passed New Zealand phytosanitary and import requirements. Percent Treated is the percentage of Total Consignments Imported that required treatment of any type, such as fumigation with MB or hydrogen cyanide, cold disinfestation, heat treatment, freezing, or reconditioning (cleaning, grading and repacking, sorting, etc.).*

¹⁸ MPI 2018. MPI Approved Biosecurity Treatments.

¹⁹ <https://www.biosecurity.govt.nz/law-and-policy/requirements/ihs-import-health-standards/>.

2018 MB Fumigations of Produce – MPI Data²⁰

Produce / Produce Type	Total MB Fumigations	% of Fumigations
Citrus	323	16%
Pacific Root Crops	266	13%
Pacific Leaf Crops	227	11%
Other vegetables	193	9%
Melons	144	7%
Coconut	100	5%
Peas	91	4%
Capsicum	85	4%
Stone fruit	76	4%
Pineapple	75	4%
Tropical fruit	70	3%
Grapes	60	3%
Okra	52	3%
Other fruit	52	3%
Zucchini	51	2%
Pipfruit	41	2%
Bananas / Plantains	36	2%
Beans	31	2%
Kiwifruit	28	1%
Cucurbits	23	1%
Basil	15	1%
Sugarcane	9	<1%
Chilies	7	<1%
Lemon Grass	4	<1%
Tomato	3	<1%
Kava	2	<1%
Total Fumigations	2061	100%

Table 1 - Source: MPI

Summary of 2018 Biosecurity Treatments of Produce – MPI Data²¹

Country of Origin	Total Consignments Imported	Volume of Consignments (Kg)	Consignments Destroyed	Consignments Released	Consignments Treated	Percent Treated
Pacific Islands	4741	7,142,132	135	2777	1824	38%
Australia	3708	25,545,894	38	2507	1124	30%
United States	2102	21,793,360	1	1123	955	45%
Chile	119	1,863,040	9	69	41	34%
Other Countries	5689	109,432,526	46	840	4757	84%
Grand Total	16359	165,776,951	229	7316	8701	53%

Table 2 - Source: MPI

Analysis

Data Supplied

The most recent data we were supplied and have analysed relates to the period of January 2018 to December 2018. Data has kindly been provided to United Fresh by MPI and Industry Participants. Additional data has been collected through InfoShare and the New Zealand Department of Statistics. These data sets have been used to gain an understanding of the impact of a change in MB fumigation Controls, and how this will affect individual crop availability and New Zealand consumers.

Limitations exist to this analysis. Data provided by MPI was in two separate data sets (MB fumigation by crop and phytosanitary treatments by country) which are not directly comparable. The data from InfoShare is not always refined enough to establish a per crop impact, but is based on the International Harmonised Standards system²². That system uses Harmonised System (HS) codes to track commodities for imports and exports. The data supplied by InfoShare is analysed at the secondary HS code level

²⁰ MPI. Internal data – supplied.

²¹ MPI. Internal data – supplied.

²² World Customs Organisation. The Harmonised System. <http://www.wcoomd.org/en/topics/nomenclature/overview/what-is-the-harmonized-system.aspx>.

(general crop types). This data is not comparable with the MPI and Industry data referenced in this document due to the structure of the data supplied.

As a result of these limitations, the United Fresh analysis is focused on the general implications that changes to the MB Controls may cause at the retail and consumer level, specifically in relation to the availability of prepared salads from the food service trade, as well as grapes, citrus, melons, pineapples, and other imported produce from the retail sector.

United Fresh analysed the data provided, split into three subgroups, these being:

- Major Australian produce imports, excluding Citrus and Grape imports (discussed separately).
- All Citrus and Grape imports.
- All Pacific Island produce imports, excluding Citrus and Grape imports (discussed separately).

These particular import groups are separated out from other produce imports due to their higher importance to New Zealand retailers and consumers, as well as the perishability and quality impacts from increased post-fumigation holding periods prior to sale.

Please Note:

Bananas have not been analysed here, even though they are New Zealand's largest single fresh produce crop import. This is because bananas are treated with hydrogen cyanide and not MB, and therefore do not feature in this document.

Australian Imports

Australian products are especially important in the New Zealand winter between May-October and include 'fruiting vegetables'. These are fresh green beans, zucchinis, capsicums, tomatoes, watermelon, rock melon and honeydew melons.

The crops highlighted for the purpose of this discussion are melons (rock melon and honeydew melon), capsicums, green beans and zucchinis from Queensland. These are field grown broad acre crops that are significant from a consumer perspective during the New Zealand winter. During winter, these crops are almost exclusively sourced from Australia. Melons form a significant part of total produce fumigations, totalling 7% of all produce fumigations.

Citrus and Grape Imports

Citrus and grape movement into New Zealand follows an annual circular trading pattern, with imports coming from the United States, Chile, and Australia, depending on the time of year. Treatments approved for US sourced citrus and grapes require cold disinfestation to prevent fruit fly and spiders, as approved in Appendix 1 (b) of the Workplan between MPI New Zealand and USDA APHIS²³. In addition, the fumigation data indicates that additional treatments of MB fumigation are performed at the border. As an example, the data provided by MPI lists that 59% of Australian oranges required biosecurity treatment at the border, but only 15% of Australian grapes required treatment, while 36% of Chilean grapes were fumigated, as well as 43% of United States oranges.

Pacific Island Imports

A wide range of fruit and vegetables are grown across the Pacific, especially in Fiji. The two broad groups of products we can, with some confidence, attribute to the Pacific from data supplied, are root crops and various leaves of plants where the plant grows almost exclusively in the Pacific. A portion of these imports are undertaken via the 'informal market' / 'grey market', bypassing the conventional distribution systems. These are often sold via church or family connections and are important sources of income, generally (but not always) captured as 'remittances' in financial statistics. The social and

²³ Import Health Standard Commodity Sub-class: Fresh Fruit/Vegetables Table grapes, (*Vitis vinifera*) from the United States of America – State of California.

cultural importance of these products for both special and cultural occasions cannot be underestimated. The value of these crops may also be underestimated in the InfoShare data and actual import figures may be higher than reported.

Products that do enter the formal New Zealand supply chains include:

- Tonga: watermelon and squash, mature brown coconuts, and frozen cassava.
- Samoa: mature brown coconuts.
- Fiji: papaya, basil and a wide range of vegetables such as snake beans, okra, fresh turmeric, ginger, etc.

Fijian produce is not just important for Fijian Indians, but enjoys significant support amongst other ethnic populations in New Zealand.

Shipments other than Taro may be mixed load shipments. Depending on how the fumigation data is collected this may contribute to the number of fumigations. However, there are known concerns about biosecurity risks from the Pacific, so the number of actual fumigations for Pacific crops is still expected to be high.

The importance of these and other crops entering the formal supply chains is that the formalisation of imports is allowing the development of commercial agriculture in the Pacific. Often these commercial enterprises support smaller subsistence or semi-commercial growers and allows their entry into the cash economy. The New Zealand market has learned to accept a degree of quality inconsistency from Pacific Island Imports, as shipping opportunities out of these countries are less dependable or regular when compared to, for example, Australia. Adding further post-fumigation related time delays under the new Controls to the amount of time Pacific Island produce travels through the supply chain will substantially increase the reluctance of New Zealand's wholesale and retail produce sectors to include Pacific Island produce in their respective ranges. This would have a negative impact on these developing economies on New Zealand's Pacific doorstep.

Major Crop Market Share Analysis

United Fresh has conducted an analysis of the likely impact of the London Amendment 2020 requirements on the domestic fresh produce industry. That analysis is shown in Table 3, compiled from InfoShare data²⁴ and from the industry produced Fresh Facts, published by Plant & Food Research²⁵.

Please Note:

Both sets of contributing data rely in part on self-reporting and may therefore underestimate the true value of crops. The Domestic Market Value is based upon first sale price from the farmgate and is not the retail price. Import Market Value is the Value Declared For Duty (VFD) by the importer and is not the retail price. The retail price of all crops is significantly higher than the values shown here, and the overall retail market value for each crop is therefore larger than indicated by the following table.

²⁴ Department of Statistics New Zealand. InfoShare. Accessible via <http://archive.stats.govt.nz/infoshare>.

²⁵ Horticulture New Zealand and Plant & Food Research (2019). Fresh Facts.

Major Crop Market Share Analysis - 2018

Crop	Percent Imported	Domestic Market Value (\$)	Import Market Value (\$)
Bananas	100%	N/A	72 Million
Table Grapes	100%	N/A	68 Million
Beans	54.5%	6.0 Million	7.3 Million
Citrus	41.4%	56.9 Million	40.3 Million
Melons	29.1%	28 Million	11.5 Million
Capsicums	6%	25 Million	1.6 Million
Summerfruit	4.5%	62.2 Million	2.9 Million
Cucurbits (pumpkin, squash and cucumbers)	3.2%	36 Million	1.2 Million
Tomatoes	<1%	141.5 Million	1.4 Million

Table 3

The crops highlighted in this table by United Fresh – citrus, grapes and melons – are both significant contributors to produce retail sales, as well as having a significant or even total reliance on import product. Any change to the requirements for biosecurity treatment will have an out-of-proportion impact on these crops as compared to the market averages of crops with a solely domestic market component.

The potential impact for imports of table grapes, beans, and citrus is significant. The impact for cucurbits, capsicum and tomato imports appears to be less significant, but a deeper analysis of several years of data would be needed, as seasonal weather events and climatic swings can, in some seasons, lead to almost exclusive imports across these categories in the winter months.

Consumer Impact

Generally speaking, a consumer cannot eat that which they cannot purchase. Fumigation allows the import and consumption of crops that may not be grown in New Zealand, boosts volumes of crops already grown in New Zealand, and allows continuous consumption of crops otherwise not available during their New Zealand off-season.

Certain consumer groups may also tend to be disproportionately affected by new Controls. Unrelated United Fresh research in 2008 identified that families with young children comprised 18.4% of overall fruit purchase by product value, but this spending was category weighted, with 46.8% of apples, 41.5% of grapes, and 42.2% of melon purchases being attributed to young families²⁶. Therefore, any impact to the future availability of certain fruit crops due to changes in the Controls will more deeply affect families with young children than other household segments. School lunches and healthy snacks for children are therefore likely to be heavily impacted by restrictions to fruit categories due to a change in fumigation requirements.

The second group this research identified as highly likely to be affected by potential crop restrictions due to the new Controls was the "older couples and singles", who comprise 29% of purchase by value of produce, but purchased 34% of prepared fruit in 2008, as well as 35% of tropical fruit. These prepared fruit items, i.e. fruit salads, often involve an imported fruit as a base ingredient, such as pineapple or melons.

Some highly perishable crops such as green beans would be rendered uneconomical to import under the new Controls as the post-treatment process will take longer than the expected product shelf-life.

Impact on Pacific Island Economies & The Pacific Community

Despite the small size of the Pacific produce import market against the total produce import market, comprising \$17 million (4.4%) of the \$385 million total market defined in the Harmonised Trade data, discussed on page 5, Pacific imports into New Zealand have some of the highest individual rates of fumigation. Fiji is the best performing Pacific Island country with less than 35% of consignments requiring

²⁶ AC Nielsen (2008). Fresh Fruit and Vegetables 'State of the Industry' Presentation. Presentation to the Board of United Fresh 28 November 2008.

fumigation and comprises around 87% of all Pacific Island imports. The Pacific Island Community in New Zealand comprised 7.4% of the New Zealand population in 2013 and are the fourth largest ethnic group in the country²⁷. This suggests that any change to the Controls may have a disproportionate impact on Pacific Island crop imports and the Pacific Island Community within New Zealand for whom access to their traditional food items plays a critical role in their daily life.

Trade Impact

New Zealand is a nation that relies on trade and market access for growth, both with our reliance on imports of crops to meet market demand, as well as our large volume of exports of crops such as apples, kiwifruit, onions, avocado, and other. As a nation that is heavily reliant on exports in general, and primary industry exports in particular, it is important that we signal our commitment to free trade not only through the agreements we sign up to, but also through our behaviour in terms of imports. This is vital in supporting our longer-term export position by emphasising our openness to trade with trading partners. Including produce in the 2020 changes to MB Controls, as is planned currently, will invariably lead to changes in our produce import patterns. This could be misinterpreted by our trading partners, with a consequence to our produce exports.

Conclusions

The New Zealand Produce Industry Import Sector will be significantly impacted upon, should the proposed Controls that require off-gas recapture at the 5ppm level become mandatory for produce imports.

Our submission shows why this is the case, with specific emphasis on both the current unavailability of commercial alternatives and the consequences on crop shelf-life and perishability related to longer post-fumigation holding periods prior to product being sold into the retail supply chain.

In the absence of viable replacement treatments, importers will need to continue to use MB for fumigation. The impact on those crops which cannot survive the new Controls, and therefore become unavailable for sale, will be significant. While STIMBR and MPI are currently investigating alternatives, no alternative has yet proven sufficient efficacy for biosecurity treatment/fumigation of produce.

Even if an alternative should become available tomorrow, it will take time and resources to prove the efficacy of any such alternative. This would likely take several years, far outside the timeframe currently remaining before the new Controls come into effect.

Currently available commercial MB recapture systems are unable to meet the planned 2020 limit outlined in the new Control, without multiple days of delay being added to perishable product. Such delay translates into significant shelf-life loss by the time affected produce is placed on retail display and thus available for purchase by consumers. Shelf-life reductions go hand in hand with quality deterioration and margin erosion. Clear, concise, and precise achievable systems are required to enable fumigation service providers to meet the intended Control expectations without disrupting the perishable product supply chain.

A requirement that alters the fumigation regime, by creating longer post-fumigation holding periods to reduce fumigant levels, or preventing fumigation entirely due to product perishability, rendering the product worthless, reduces the ability of New Zealand importers to import produce. Increased holding periods under the new Controls will require additional space allocation at fumigation facilities, while crop imports as a whole will need reassessment based on perishability windows. Highly perishable crops

²⁷ Department of Statistics New Zealand. Census 2013 - QuickStats about culture and identity. Accessed at <http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-culture-identity/pacific-peoples.aspx>.

are unlikely to be able to meet the new Controls. In addition, exporters may choose not to supply product to New Zealand, considering New Zealand a high-risk market, and further impacting imports.

From an import perspective, if the new Controls planned for 2020 are introduced without changes to produce fumigation and taking perishability into account, New Zealand consumers will likely be impacted with reduced choices when shopping for fruit and vegetables. Additionally, that choice of imported produce is likely to be of inferior quality, more expensive, and potentially not available at all.

From an export perspective, New Zealand cannot be any more distant from its markets than it already is. Creating an additional delay factor in the form of a technically challenging and time-consuming MB recapture system requirement is likely to lead to New Zealand growers losing export markets as shippers will not accept additional quality risks related to the trade with New Zealand grown produce.

Access to markets is particularly important for the produce industry, as New Zealand's horticultural exports comprise almost 10% of total exports for 2018²⁸. The produce industry earned \$3.1 billion from fresh fruit and vegetable exports in 2018²⁹. The most valuable export crop, kiwifruit, has a global export value of \$2.2 billion (FOB)³⁰. If the proposed MB Controls go ahead, they may potentially be viewed as a non-tariff trade barrier by trading partners, and New Zealand potentially risks losing import window access into countries such as Australia.

The produce industry's viability has always relied on its ability to balance multiple complex factors. Many of these are no different to the trade in other perishable agricultural commodities, including meat and dairy, or to a lesser extent, timber. The additional complexity of the fresh produce trade, however, is the higher degree of perishability. We can manage aspects of this perishability via optimising harvest periods, storage technology (where applicable) and refrigeration techniques. But United Fresh members export kiwifruit, not kiwi powder, and import table grapes, not grape juice. Perishability will always be one of our foremost concerns.

Sustainability is increasingly driving business functionality – and that is welcomed by United Fresh and our members. It makes no sense whatsoever though, to throw the baby out with the bathwater or being able to say, “we found a cure, unfortunately the patient passed away in the process.”

The combined produce import and export sectors account for less than 0.5% of total New Zealand MB use, yet imports comprise almost \$400 million of impacted produce. While the use of MB by the produce industry can therefore be considered miniscule, the impact on our industry and consumers if the new Controls proceed as planned will certainly not be miniscule. Any proposed Control change therefore needs to take the concerns of the produce industry and the potential impact on consumers into account.

United Fresh requests that EPA reconsiders the relevant Controls on MB fumigant levels decided in 2010, to align the Controls with both scientifically and commercially achievable levels for non-timber products. This would enable the continuation of a successful produce import sector and contributing to a healthy and viable produce industry in New Zealand, delivering sufficient product to meet consumer demand year-round, without supply restrictions from product perishing during fumigation or not being imported at all anymore. This will also enable our industry to continue to search for viable alternatives and allow a switch to an eventually identified viable alternative in a considered and measured fashion.

²⁸ Horticulture New Zealand and Plant & Food Research (2019). Fresh Facts.

²⁹ Ibid.

³⁰ Department of Statistics New Zealand. InfoShare. Accessible via <http://archive.stats.govt.nz/infoshare>.