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ASIA AND PACIFIC PLANT PROTECTION COMMISSION

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AGENDA NO. 3

Country report

New Zealand

Country Report – New Zealand

EXECUTIVE SUMMARY

The Ministry for Primary Industries' (MPI) broad mandate allows for a wide view of issues and opportunities across the full value chain of primary production – from the paddock, forest or ocean, through to the processing and transportation system, all the way to the market, and ultimately the consumer. This scope allows for the deployment of staff across regulatory systems, such as compliance staff that hold warrants for fisheries, animal welfare and food safety. This increases the ability to respond to emergencies and breaches of regulations. MPI also provides independent policy advice to the government on all these matters.

In 2015 MPI is reviewing the New Zealand biosecurity strategy and developing a new strategic document to guide the biosecurity system for the next 10 years. This new strategy will be publicly available when completed. Biosecurity is a top priority for the Minister for Primary Industries. Key areas of new investment include: detector dogs, mobile X-ray machines, the introduction of a passenger clearance levy, an emerging risk system, and offshore pathway assurance. Over the last 3 years New Zealand has been designing and implementing a new system for import health standards. New Zealand has in excess of 270 active requests for new market access requiring MPI to conduct risk analysis and development of new or revised Import Health Standards.

For surveillance for early detection of key insect pests, MPI is working with Plant and Food Research to investigate combining lures for several top priority pests into one surveillance trap. The development of integrated technologies in cell phones is revolutionising MPI's ability to process reports from the public of suspect new exotic pests and diseases.

MPI's Gypsy moth surveillance programme consists of approximately 1,500 delta traps containing disparlure placed at high risk sites. MPI's Fruit fly surveillance programme consists of approximately 7,650 Lynfield traps which are baited with one of the following lures: Cuelure, Trimedlure or Methyl Eugenol. MPI has initiated a Brown marmorated stink bug public awareness campaign in order to detect this pest as soon as possible if it arrives.

A project has been initiated to implement a single dedicated programme focused on delivering enhanced general surveillance. The outcome of the project will be to provide direction and coordination for MPI's general surveillance activities across all sectors (animal health, plant health, environment and aquatic.

A single male Queensland fruit fly (*Bactrocera tryoni*) was detected in a cue-lure trap in Grey Lynn, Auckland and reported to MPI on 17 February 2015. This trap was part of MPI's Fruit Fly Surveillance Programme. A total of 14 adult flies have been detected, 13 males through trapping and the single female collected by a member of the public. Based on the surveillance work to date MPI is confident that this is an isolated population and that eradication is achievable and likely.

The two main pieces of legislation covering the regulation of pesticides are:

- 1. Agricultural Compounds and Veterinary Medicines (ACVM) Act 1997 administered by Ministry for Primary Industries (websitehttp://www.mpi.govt.nz/importing/agricultural-compounds-and-veterinary-medicines); and
- 2. Hazardous Substances and New Organisms (HSNO) Act 1996 administered by the NZ Environmental Protection Authority (website www.epa.govt.nz).

Under the ACVM Act there are 1448 registered agricultural chemicals with 367 active ingredients as at 25 August 2015.

1. GENERAL INFORMATION

1.1 The Ministry for Primary Industries

The Ministry for Primary Industries (MPI) is a large and extensive government agency employing over 2,200 people conducting a wide range of operational, policy, regulatory, trade and industry development activities that support New Zealand's primary sector (agriculture, horticulture, forestry, fisheries, etc). Staff work in over 70 locations across the country.

MPI was formed in 2011 following the mergers of the Ministry of Agriculture and Forestry and the New Zealand Food Safety Authority in 2010, and the Ministry of Fisheries in 2011. The mergers brought together the major regulatory systems that underpin the things that matter to consumers and markets when buying primary products.

MPI's broad mandate allows for a wide view of issues and opportunities across the full value chain of primary production – from the paddock, forest or ocean, through to the processing and transportation system, all the way to the market, and ultimately the consumer. This scope allows for the deployment of staff across regulatory systems, such as compliance staff that hold warrants for fisheries, animal welfare and food safety. This increases the ability to respond to emergencies and breaches of regulations. MPI also provides independent policy advice to the government on all these matters.

MPI is the National Plant Protection Organisation (NPPO) for New Zealand.

1.2 Legal

There have been no significant changes to the Biosecurity Act 1993 since the previous commission meeting.

1.3 Strategy

MPI's strategic purpose is to grow and protect New Zealand. MPI is focused on the success of the primary industries for the benefit of all New Zealanders. The organization works towards four key outcomes:

- Maximise export earnings
- Protect from biological risk
- Improve sector productivity
- Increase sustainable resource use

MPI is charged with the leadership of New Zealand's biosecurity, food safety and primary production systems as well as facilitating safe trade in primary sector products.

In 2003 a first biosecurity strategy for New Zealand was developed. *Tiakina Aotearoa Protect New Zealand: The Biosecurity Strategy for New Zealand*¹ has been central to the development of our country's biosecurity system over the last 12 years. Many improvements to the system have been made. In 2015 MPI is reviewing the strategy and developing a new strategic document to guide the biosecurity system for the next 10 years. This new strategy will be publicly available when completed.

1.4 New Investments

Biosecurity is a top priority for the Minister for Primary Industries. Significant new investment has been made by the government in the past year. Key areas of new investment include:

- Detector Dogs Tourism continues to be an increase and is an important contributor
 to the New Zealand economy. Ensuring incoming passengers do not present a
 biosecurity risk is an important component of New Zealand's biosecurity protections.
 Funding for 40 additional detector dogs and handlers has been provided to improve
 the coverage of detector dogs across all airports receiving international flights.
- **Mobile X-ray** The cruise industry continues to grow during New Zealand's summer months. Concern has been growing that unlike air passenger arrivals, passenger baggage is not x-rayed on the cruise ship pathway. Mobile x-ray machines have been purchased to allow x-ray of all passengers' bags as they leave vessels.
- Passenger Clearance Levy The costs of biosecurity clearance of imported cargo is recovered from importers through levys. The government has now agreed to extend cost recovery to the passenger pathway. MPI is currently conducting consultations with the airline, airport and tourism industries to determine the most efficient way to apply cost recovery on this pathway. The levy will be incorporated into ticket prices.
- Emerging Risk System Identifying emerging risks in a timely manner and then responding appropriately is an increasingly important part of New Zealand's biosecurity system. Global scanning identifies hundreds of potential new risks every year. Each of these risk is triaged and assessed to determine if they are significant enough to require changes to import health standards, border inspections, surveillance programmes, etc. This is currently a labour intensive process. In 2016 MPI will be investing in a more automated system to track potential risks through the process and monitor changes made across the biosecurity system.
- Off-shore pathway assurance NPPO's of exporting countries are responsible for ensuring the phytosanitary requirements of importing countries are met. From time to time, on high risk pathways MPI visits exporting countries to verify that their export certification systems or treatment facilities meet MPI's expectations. This activity has been ad hoc and usually only occurs after multiple non-compliant consignments have been intercepted at the New Zealand border. The activity is also carried out by the same staff who are working on new import health standards (IHSs) for market access requests from trading partners. As a result the activity has been impacting negatively on MPI's ability to progress new IHS's. Three new positions have been created.

¹ http://www.biosecurity.govt.nz/files/biosec/sys/strategy/biosecurity-strategy.pdf

2. PHYTOSANITARY MATTERS

2.1 Improved Approach to Import Health Standards

Over the last 3 years New Zealand has been designing and implementing a new system for import health standards. The new system develops IHS's them in a more consistent way, make them easier to find, and make them easier to understand. The process does not result in changes to import requirements. MPI is now issuing standards in the new format. A programme of work will now convert old style standards to new over the next few years. In some situations where IHS's are very old MPI will take the opportunity to conduct a new risk analysis and fully review the IHS in addition to the format and structure changes required by the broader process.

2.2 New Import Health Standards

New Zealand has in excess of 270 active requests for new market access requiring MPI to conduct risk analysis and development of new or revised Import Health Standards. Since October 2013, 24 new or amended Import Health Standards have been issued and 25 are currently under development.

2.3 Sea Container Risk Management

New Zealand continues to increase the number of countries successfully using the Sea Container Hygiene System to expedite movement of containers to New Zealand. It now covers Papua New Guinea, Solomon Islands, Samoa, Tonga, and Fiji Islands.

As steward for the draft ISPM on Minimising Pest Movement by Sea Containers, New Zealand continues to work with the IPPC Secretariat and Expert Working Group on the development of an ISPM. Present work includes the development of material for a special session on sea containers at CPM 11.

3. SURVEILLANCE, PEST OUTBREAKS AND INVASIVE SPECIES MANAGEMENT

3.1 Post Border Innovations

For surveillance for early detection of key insect pests, MPI is working with Plant and Food Research to investigate combining lures for several top priority pests into one surveillance trap. The intent is to maximize the use of field operations, and, increase species coverage if possible, and improve efficiency. Modelling is also being used to estimate risk of introduction to different localities to assist with adjusting surveillance activities. MPI is working with collaborators in the US to explore the potential to develop a cost-effective trap suitable for early detection of the brown marmorated stink bug (BMSB). Linked to this work, MPI is also seeking to increase options for deploying socially and environmentally acceptable control tools for BMSB.

In a joint project between MPI and the NZ Forest Owners Association a Bayesian model to quantify biosecurity risk exposure to plantation forests from relevant import pathways has been developed. This will be combined with an optimisation model to calculate optimal allocation of surveillance effort for any given combination of resources, forestry pest risk and budget.

The development of integrated technologies in cell phones is revolutionising MPI's ability to process reports from the public of suspect new exotic pests and diseases. MPI has a dedicated free of charge phone number for these calls, and the ability for people to take

photographs and forward these to assist with correct diagnosis has reduced the need to obtain specimens for examination. It can be anticipated that further development of communications technology will provide substantial new opportunities for citizen science to contribute to the prompt detection of new pests and diseases.

3.2 Surveillance Activities

Gypsy moth surveillance

MPI's Gypsy moth surveillance programme consists of approximately 1,500 delta traps containing disparlure placed at high risk sites. The programme is run annually from November to April. Gypsy moth was detected in a trap in 2003 and there have been no further trap detections since then. The 2003 detection resulted in application of precautionary eradication measures.

Fruit fly surveillance

MPI's Fruit fly surveillance programme consists of approximately 7,650 Lynfield traps which are baited with one of the following lures: Cuelure (for e.g. Queensland fruit fly), Trimedlure (for e.g. Mediterranean fruit fly) or Methyl Eugenol (for e.g. oriental fruit fly). MPI uses solid lures, and therefore a DDVP insecticide strip is also placed in the bottom of the each trap to ensure that the trapped flies are killed and retained. MPI operates this programme over the hottest months from September to June of each year. Traps are placed in grids, concentrating in populated areas serving as centres for tourism and/or trade, areas of significant horticultural activity and areas that are considered most suitable for establishment.

Brown marmorated stink bug surveillance

MPI has initiated a BMSB public awareness campaign in order to detect this pest as soon as possible if it arrives before other options for surveillance have been explored. The threat of a BMSB incursion has risen significantly as pest populations in the USA and Europe have been expanding. MPI has prepared a detailed risk analysis for this pest, and this together with border interceptions has demonstrated that the New Zealand summer season is the highest risk period for exposure to this pest. BMSB individuals are known to hibernate in aggregations within buildings, vehicles, containers and other man-made structures in the Northern Hemisphere winter, and these can subsequently be exported. The campaign produced 340 notifications to the MPI free of charge pest and disease hotline, resulting in 5 positive post-border BMSB detections where the risk was eliminated. These detections were associated with recently imported goods.

The National Invasive Ant Surveillance programme (NIAS)

The primary objective of NIAS is to detect newly established nests of invasive ant species at high risk sites such as ports and container de-vanning sites. Annual targeted surveys are conducted at these sites. During the 2014 - 2015 summer season, there were 13 detections of exotic ants in baited traps, and six established nests were also found. Any ant colonies associated with these detections were eradicated.

The national saltmarsh mosquito Surveillance programme (NSP)

In New Zealand, salt-marshes support a range of benign native mosquito species, but because of their relationship with the sea and shipping, these are at risk from a number of exotic pest species. These sites have previously supported an outbreak of a high risk exotic species (*Aedes camptorhynchus*) which is an efficient vector of human arboviral disease. A sustained response led to the eradication of this species from New Zealand in 2008. MPI works closely with the Ministry of Health on mosquito surveillance. National surveillance effort to detect

exotic species is divided across mapped salt-marsh habitat close to sea and airports. No exotic species have been detected this year.

High Risk Site Surveillance (HRSS)

HRSS is a government funded surveillance programme that targets risk pathways and associated risk sites with visual inspection of at-risk plants, located in transects, to find New to New Zealand pests that may attack trees and shrubs. Many of these sites are associated with transitional facilities, where containers are parked and unloaded. These sites have been selected using risk analysis, and GIS mapping to ensure resources are targeted to the most likely sites of new pest establishment. Up to date information on volumes of risk goods are used to inform calculation of risk and revise the effort invested at sites. The survey season runs annually from September to May, and Inspections were undertaken over 7,000 transects during 2014/15. Hand-held digital devise (PDA's) are used to capture the field data, and their use has provided significant benefits. Electronic sample submission forms were used for the first time during the 2013/14 season, and this included direct transfer of sample information from field surveyors to the diagnostic laboratory database, saving time involved with re-entering data.

General surveillance

A project has been initiated to implement a single dedicated programme focused on delivering enhanced general surveillance. The outcome of the project will be to provide direction and coordination for MPI's general surveillance activities across all sectors (animal health, plant health, environment and aquatic) and to allow for more effective and efficient work planning, prioritisation and resource use as well as a greater ability for these activities to be more responsive to changing needs and demands. It will also allow MPI to more effectively engage, and support key stakeholders and industry sectors.

Surveillance Quarterly

MPI publishes a quarterly magazine which provides information on MPI surveillance programmes. Information covers OIE and IPPC reporting requirements and annual reports for current MPI plants surveillance programmes, including HRSS, gypsy moth, fruit fly, NIAS, and NSP). The journal can be found online at http://www.sciquest.org.nz/elibrary/edition/7384.

Surveillance Evaluation Framework development

MPI is developing a Surveillance Evaluation Framework (SurF) for its surveillance programmes to provide assurances around the performance and the outputs of these programmes. It builds upon previous recommendations, existing knowledge and entails a structured and adaptable process that enables the systematic and comprehensive evaluation of MPI's surveillance portfolios, system, programmes and activities. Priority areas for assessment include:

- The most appropriate mix of surveillance activities is chosen to ensure that surveillance programmes meet their stated objectives.
- Surveillance delivery is effective, efficient and responsive to changes in the biosecurity environment.
- The outputs of surveillance programmes can be relied upon by decision makers.

3.3 Incursions Being Managed

New to New Zealand nematodes in Christchurch

MPI, working with Landcare Research, has confirmed a new to New Zealand nematode in turf samples from a recreational park (Hagley Park), in Christchurch.

The nematode has been confirmed as new to New Zealand species, *Meloidogyne minor*, and it has only been found in Hagley Oval so far. The nematode was not found in (a) grass seeds used to sow in Hagley Oval; (b) grass clipping from Hagley Oval; (c) germplasm from the same seed lot in Hagley Oval; (d) grass and soil collected from quarry and nearby air force base where the sand was used to fill Hagley Oval; and (e) the nearby AMI Christchurch stadium

Further surveillance is being undertaken in areas which are showing similar signs to Hagley oval. In conjunction with this options for containment and management are being worked up in partnership with Hagley Oval staff and Christchurch City Council.

Formosan Subterranean Termites – Waikato 2015

The Unwanted Organism *Coptotermes formosanus* was discovered in a shipping container in Hamilton. Following tent fumigation, inspection of the container and both properties where the container was stored revealed no live termite activity. However, residual risk remains that termites may have had the opportunity to form a colony outside of the shipping container as the container was in New Zealand for 7-8 months before MPI became aware of the termite infestation.

Restricted place notices have been placed on the two properties, restricting earthworks and the movement of risk goods, to mitigate the risk of human mediated spread of termites should they be present.

Surveillance on both properties will be carried out during spring and summer when termite activity will be more readily detectable should termites be present.

Tairua Western Drywood Termites 2015

A motor launch imported into New Zealand from California was found to be infested with Western drywood termites (*Incisitermes minor*). The owner had seen alate emergence for the previous 3-4 years, but had not recognised them as termites. The risk of the termites having spread in the years prior to detection is considered low as the vessel was moored on a pole mooring in the centre of the harbour with no boats immediately adjacent. Termites are poor fliers.

Interim measures included application of a residual insecticide and plastic covering to contain the colony and any alate flights. The vessel was moved to Tauranga for fumigation with methyl bromide. Fumigation was undertaken to the specifications and the termite infestation is now considered to be eradicated from the boat.

Birkenhead Western Drywood Termites 2015

A yacht that sailed from California and entered New Zealand in December 2013 was found to be infested with Western drywood termites (*Incisitermes minor*). The owner had seen alates before and notified MPI in April 2015 when numbers increased significantly. The vessel has since been successfully fumigated with methyl bromide to eradicate the termites. The

infestation is considered to have been confined to the vessel and therefore no further operational activities are planned, and the response is due to be closed.

MPI is working to increase our understanding of termites in relation to recreational vessels.

Salvinia at Te Henga

The water weed Salvinia was initially discovered at Te Henga in 2011 and the infestation was managed under the National Interest Pest Response (NIPR) programme. In mid-2012, with successful treatment of the infestation and no new finds, the site went into the surveillance phase. In 2014, a follow-up survey detected a new and widespread infestation. Due to the complexity of the infestation site, a response separate to the NIPR programme was established.

Chemical control using diquat was seen as the only method capable of eradicating Salvinia from Te Henga. As of 25 August 2015, there has been two ground treatments and two helicopter based treatments with noticeable reduction in the size of the Salvinia infestation. Alongside traditional survey methods, the use of a Remotely Piloted Aircraft System (RPAS or drone) has enabled accurate plotting of Salvinia. Near Infra-Red (NIR) imagery will also be trialled. It is hoped NIR imagery will enable rapid identification of Salvinia at sites not accessible via traditional survey methods.

Combining traditional and new emerging technologies to assist in the control of Salvinia, is working successfully at Te Henga and the goal of local eradication from this site looks promising.

Western drywood termites – Whangaparaoa 2015

In June 2015, MPI was notified of a suspect exotic termite infestation aboard a vessel that arrived as sea-freight in 2014 from San Diego, USA. A suspect termite worker was located and identification, via molecular methods, confirmed it as *Incisitermes minor* (western drywood termite).

For the current response, the greatest challenge has been in finding a suitable site for fumigation – a 50 metre buffer is required for fumigation, which has proven to be logistically challenging. This has delayed fumigation of the vessel and necessitated follow-up by MPI staff, to ensure the infestation has not spread.

Currently fumigation is scheduled for mid-September. Once successfully fumigated, eradication of *I. minor* can be declared.

3.4 Queensland Fruit Fly Interceptions

Queensland fruit fly in Auckland

A single male Queensland fruit fly (*Bactrocera tryoni*, QFF) was detected in a cue-lure trap in Grey Lynn, Auckland and reported to MPI on 17 February 2015. This trap is part of MPI's Fruit Fly Surveillance Programme.

This detection resulted in a Level One response, focussed on movement controls (including a Controlled Area Notice under the Biosecurity Act 1993) and intensive surveillance. A governance group including MPI, Department of the Prime Minister and Cabinet (DPMC), Ministry of Foreign Affairs and Trade (MFAT), Auckland Council, Government Industry

Agreement (GIA) partners; Kiwifruit Vine Health (KVH) and Pipfruit New Zealand, was formed.

The response included significant public information and as a result a member of the public noticed and caught a female fruit fly and reported it to MPI. As a consequence, the first larvae in New Zealand-grown fruit was discovered on 20 February 2015 and the response was escalated to a Level Two response. This included baiting activities and treatment for infested properties in addition to surveillance and movement controls.

A total of 14 adult flies have been detected, 13 males through trapping and the single female collected by a member of the public. The last adult was detected on 6 March 2015. A total of five infested properties (with larvae) have been detected, all within a relatively small area.

Based on the surveillance work to date MPI is confident that this is an isolated population and that eradication is achievable and likely. The program will slow over the winter months (as the flies are inactive) and will be reviewed based on trapping information in spring.

4. PEST MANAGEMENT

4.1 Pest Management Programmes

Wilding Conifers

Wilding conifers are a serious and growing pest issue for New Zealand that currently occupy 1.7 million hectares at varying densities. They have a continued spread of 5-6% a year and under current management 22% (5.9 million hectares) of New Zealand will be dominated by wilding conifers within 30 years. Wilding conifers cause losses of biodiversity, conservation and high country farm land along with impacting landscape and tourism. They also reduce water yields and increase fire risk. The estimated cost of control increases 30% each year and economic losses of wilding conifers could equal \$1.2 billion over the next 20 years.

MPI has led the development of the national strategy for the management of wilding conifer which was released in December 2014 and has the vision of 'the right tree in the right place'. This strategy sets out a broad range of interventions required to ensure effective management. Projects underway or being scoped include the development of standard criteria for data collection along with a national system for recording and mapping wilding conifer spread, national prioritisation of wilding infestations to inform the allocation of funding and control effort, and the development of rules for wilding conifers for inclusion in regional pest management plans.

Kauri Dieback

MPI is the lead agency for the kauri dieback partnership programme. This programme is combatting a new to science organism, *Phytophthora agathadicida* (previously *Phytophthora* taxon Agathis), that is killing kauri trees in parts of New Zealand. This disease, which has been in New Zealand since at least the 1950s, has no apparent natural resistance and all naturally occurring kauri could succumb to the disease if left unmanaged. Kauri hold cultural importance and is highly valued by New Zealanders.

The programme aims to slow the spread of the disease, protect areas and iconic trees that are currently free from the disease and increase public participation in kauri dieback management. Programme operations include upgrading or closing tracks, installing hygiene

stations and fencing out livestock. The programme is also working to develop better diagnostic, surveillance and management tools and building our understanding of the disease, its distribution and impacts. The programme aims to engage with people and communities to reduce spread risk by enlisting the help of public and industry, and coordinating efforts across the programme partners.

Chilean Needle Grass

Chilean Needle Grass (CNG) is a significant pasture weed with potentially severe economic and animal welfare impacts. Researchers have estimated that there are 15 million hectares of land across New Zealand at risk from infestation. CNG is an unwanted organism and is declared a pest under a number of Regional Pest Management Plans.

MPI, with Regional Councils and Industry have established a Management Group to assist in collectively managing CNG. The Management Group oversees collaborative activities including gathering and sharing data, disseminating information on the plant and best practice control, promoting the prevention, management, and control of Chilean Needle Grass amongst affected land owners and agencies and undertaking approved research. MPI provide funding directly to the management group and also through the Sustainable Farming Fund. The current focus of the management Group is research to identify pasture species resistant to the herbicide flupropanate (the main tool available for managing CNG and related pest grasses). The group is also examining ways to use the CNG programme as a stepping stone to a wider on-farm biosecurity programme.

5. PESTICIDE MANAGEMENT

5.1 Strategy & Legislation

The two main pieces of legislation covering the regulation of pesticides are:

- 1. Agricultural Compounds and Veterinary Medicines (ACVM) Act 1997 administered by Ministry for Primary Industries (websitehttp://www.mpi.govt.nz/importing/agricultural-compounds-and-veterinary-medicines); and
- 2. Hazardous Substances and New Organisms (HSNO) Act 1996 administered by the NZ Environmental Protection Authority (website www.epa.govt.nz).

The ACVM Act authorises agricultural compounds (which includes agricultural chemicals aka pesticides, veterinary medicines, animal feeds, fertilisers etc) either by registration of trade name products, or exempting product groups from the requirement of registration. The HSNO Act approves hazardous substances (which includes agricultural chemicals), and the approval can cover one or more trade name products.

The regulatory requirements for each piece of legislation can be found on the websites mentioned above.

There are is currently an amendment going through the Parliamentary process to extend the data protection provisions of the ACVVM Act to cover a wider range of situations for trade name products registered under the ACVM Act.

5.2 Registrations

Under the ACVM Act there are 1448 registered agricultural chemicals with 367 active ingredients as at 25 August 2015.