Exercise Taurus kicks off

Use of methyl bromide in New Zealand

MAF National Response Centre established
Biosecurity magazine

Biosecurity is published 6-weekly by Biosecurity New Zealand, with regular input from the Department of Conservation, Ministry of Health, Ministry of Fisheries and regional councils. It is of special interest to all those with a stake in the protection of New Zealand’s economic, environmental and social assets from the dangers posed by pests and diseases. Animal welfare issues are also covered. The articles in this magazine do not necessarily reflect government policy.

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Cover Photo: Research is underway to measure the risk to our marine environment from organisms that hitch a ride here on the hulls of international vessels. Feature page 8.
Biosecurity New Zealand is leading a major exercise in March and April to test our ability to respond to a simulated outbreak of foot and mouth disease (FMD). Exercise Taurus, is based on a simulated outbreak of foot and mouth disease in the Manawatu. It will test systems on the ground and systems within Government.

The focus of this simulation is FMD, but the personnel and the management procedures used would apply to any significant animal disease outbreak – avian influenza or anthrax, for example.

While it will test our capability and provide a measure of the numbers of staff required at all levels of a response, it is not a full scale event. Some aspects of a response, such as road blocks, on-farm livestock slaughter and a livestock movement standstill, for example, will be tested as a paper-based exercise rather than as a live event. Nevertheless, the exercise will test our decision making and estimate resource requirements for these activities.

Although primarily a disease management exercise led by Biosecurity New Zealand, it will also test the capability of most of the MAF teams that will operate the National Response Centre (NRC), located in the basement of the beehive in Wellington. (See story on page 16 of this issue.)

The teams are trade management, managed by New Zealand Food Safety Authority, communications, managed by MAF Corporate Communications and rural recovery, managed by MAF Policy. The latter team will not be tested in the current exercise.

Trading partners will be notified of the simulation prior to the event, using standard international channels and through the New Zealand Food Safety Authority’s trade management group at the NRC. This will minimise the risk of the exercise being misinterpreted as the real thing.

The first part of the exercise, from 14-18 March, will test the capability of our Exotic Disease Response Centre (EDRC) at Wallaceville and the field outbreak response team that will be located near the simulated outbreak in the Manawatu. The exercise will focus on activities in the field at a regional level to test the resources and systems needed in an outbreak. Unlike previous exercises, which have focused on the first few days after detection, this exercise will assume that the outbreak had been going for two weeks. It will test the hand-over of functions between teams and deal with a widespread outbreak with properties at various stages of disease control.

The EDRC is responsible for the technical management of the response and the field teams, who translate technical policy into actions. The EDRC will also work through the FMD plan and evaluate the communication between field teams and between the field and the policy makers in the NRC.

The EDRC exercise will also provide the scenario for the exercise on 12–13 April. This second phase of the simulation will test the NRC. It will look at the functions of the NRC and its interface with the whole of Government Domestic and External Security Coordination system (DESC) which would be activated during an animal disease outbreak.

This part of the exercise aims to ensure everyone involved understands FMD technical response policies and their implications – in particular the policies for stopping livestock movements nationally as well as vaccination and disposal of infected carcasses. It will also give Biosecurity New Zealand the opportunity to test the whole of government response procedures and the opportunity to clarify the roles and responsibilities of other government agencies involved in an FMD response.

Although not strictly part of the exercise, Biosecurity New Zealand will also conduct a field trial in the Waikato to evaluate the effectiveness of air curtain incineration for disposal of animal carcasses.

Air curtain incineration is considered to be an effective method of carcass disposal with minimal environmental impacts (see Biosecurity 56:14). One of this trial’s objectives will be to measure the emission levels from the incinerator for compliance to Environment Ministry air quality standards.

Exercise Taurus will help identify areas of our national biosecurity system that need improvement or where limited resources may slow down a response. The exercise is directed at improving our capability to respond to FMD, the fastest spreading disease and the greatest economic threat that we are likely to face. However, the lessons learned are likely to be just as applicable to pests affecting forestry, horticulture and the terrestrial or aquatic environments as they are to diseases affecting pastoral farming.

Hugh Davies, Director, Incursion Investigation and Reference Laboratories
The completion and issue (by the Minister of Agriculture) of four new codes of welfare in December was the culmination of a huge effort by the National Animal Welfare Advisory Committee and the Animal Welfare Group in Biosecurity New Zealand.
The new codes will cover the welfare of layer hens, pigs, zoo and circus animals, and together with two other codes – for rodeos and broiler (meat) chickens – they signified the completion of the revision of the six codes which were saved by the Animal Welfare Act, 1999.

The original codes were saved by Parliament as it was believed that they might cover or contain husbandry practices which might not have complied with the new Act. Saving the codes afforded those involved in the areas of the codes protection from prosecution.

Committee provides independent advice

The codes were recommended by the National Animal Welfare Advisory Committee (NAWAC), whose members are appointed by the Minister of Agriculture. Members are selected with expertise in a wide range of areas including:

- ethics
- animal welfare advocacy
- science (veterinary, agricultural and animal)
- companion animals
- the commercial use of animals.

One member represents the public interest. The role of the committee is to provide independent advice on the welfare of all animals except those used in science (research, testing and teaching). A separate committee, the National Animal Ethics Advisory Committee, deals with the welfare of animals used in science. NAWAC’s other role is to identify areas of research in animal welfare.

Hundreds of written submissions

Professor David Mellor, chairperson of NAWAC, acknowledges that when the Act was passed, no-one really appreciated the enormity of the task of reviewing the six codes. Much more time and resources were required than initially was envisaged. The complexity and the contentious nature of the six codes, the number of public submissions, and reviewing the plethora of scientific research also added to a very time-consuming process.

Codes of welfare can be drafted by anyone or any organisation. Once drafted they must be submitted to NAWAC for review and ultimate recommendation to the Minister of Agriculture. Draft codes are subjected to two rounds of consultation. The first is a targeted consultation involving those who will be affected by the codes; the second round is a public consultation. There was considerable public interest in the development of the codes. Those covering broilers, layer hens and pigs attracted the biggest response, with hundreds of written submissions received. More than 100,000 postcards emanating from the RNZSCPA and SAFE campaigns were also received. The sheer numbers involved meant that processing these submissions was an exacting and time consuming procedure. NAWAC has to take into account every submission.

The complexity and the contentious nature of the six codes, the number of public submissions, and reviewing the plethora of scientific research also added to a very time-consuming process.

Minimum standards in the codes have legal effect, in that failure to comply with minimum standards may lead to a prosecution under the Act. Therefore minimum standards must be robust, and the Act requires that they must be based on science, good practice and be achievable with the available technology. NAWAC must also take into account public opinion, religious and cultural beliefs, economics and the feasibility and practicality of implementing the standards.

Increased space in layer cages

The layer hen code covers all hens producing eggs for sale, and was drafted by a working group convened by the Egg Producers’ Federation of New Zealand. The code addresses the three different production systems currently in New Zealand: cages, barn and free-range. The major issue in the this code was the space requirements for caged layers. Currently, 92% of eggs produced in New Zealand are produced in such cages. NAWAC noted that there are still welfare problems associated with keeping hens in alternative systems, so has recommended there should be an increase in the amount of space required in cages. It will, however, review the issue again in five years time, when it will decide whether to recommend more space, or to disallow their ongoing use.

Confinement of sows an issue in pig code

The code for pigs was originally drafted by the New Zealand Pork Industry Board in consultation with pork producers and other interest groups. It addresses specific issues such as confinement of sows in stalls during pregnancy and in farrowing crates following the birth of their piglets. NAWAC would like to see the total phase out of both dry sow stalls and farrowing crates but recognises that there are welfare advantages from their limited use. Therefore, in the meantime, it has defined the maximum time that sows can be confined.

While there is industry support for both codes, there has been criticism from welfare and animal rights groups that they don’t go far enough and that the process has been captured by industry.

Animal Welfare Group Programme Manager, Wayne Ricketts says, however, that even though the pork industry was reducing the use of dry sow stalls, the code now puts a finite date which all producers must comply with.

“Similarly the layer hen code now enforces the minimum space requirements for caged layers. NAWAC has strongly indicated that it wishes to see both dry sow stalls and conventional cages for hens phased out altogether and will be taking another look at both issues when it considers further scientific research in five years’ time.”

Further codes of welfare are in the pipeline including codes for deer, sea transport, commercial slaughter, on-farm husbandry procedures (e.g. dehorning and castration), cats, dogs and dairy cattle.

Wayne Ricketts, Programme Manager Animal Welfare, phone 04 474 4276, fax 04 474 4196, wayne.ricketts@maf.govt.nz
Use of methyl bromide in New Zealand for soil fumigation and biosecurity purposes

Methyl bromide is a fumigant that kills a wide range of pests in the soil, in food and in manufactured goods. It has good penetrating ability and has been widely used safely for over 70 years. It is also a weak ozone-depleting gas.

Following increased interest from Biosecurity readers in the subject of fumigation for quarantine and pre-shipment purposes, we take a closer look at the use of methyl bromide, its impacts and controls on its use.

The chemical
Methyl bromide’s chemical name is bromomethane which is produced by reaction of methanol with hydrobromic acid, followed by distillation of the product. Principal sources are Israel, China, Belgium and the United States. Bromomethane is also formed in the ocean, probably by algae or kelp.

Soil fumigation
Under the Montreal Protocol, methyl bromide’s use as a soil fumigant (e.g. in strawberry and flower beds) was to be phased out in developed countries by 2005. We reduced use of methyl bromide from 150 tonnes in 1991 to 40.5 tonnes in 2005 because New Zealand had committed to a total phase out by 2005 (see Table 1).

New Zealand obtained a critical exemption for 40.5 tonnes for 2005 and 2006 for fumigating some strawberry fields due to particular circumstances. When methyl bromide is injected as a soil sterilant, up to 50% of it is lost to metabolism by soil microbes in the first or second day. This reduces the amount released into the atmosphere to around 20 tonnes. The gas is not persistent and cannot be transferred from the soil to fruit.

There are 113 developing countries exempt from the restrictions of the Montreal Protocol until 2015.

Quarantine and pre-shipment
The use of methyl bromide for quarantine and pre-shipment has been exempt from controls under the Montreal Protocol because of difficulties in identifying technological and economically feasible alternatives. Worldwide, its use for quarantine and pre-shipment has grown, as travel and trade have increased, and as countries have become more conscious of biosecurity issues.

Methyl bromide is extremely important to New Zealand’s biosecurity in treating infested imported goods and for trade. A very high proportion of our methyl bromide use is for export logs. Annually some 2 million cubic metres of forest produce need treatment prior to export to meet the pest-free requirements of the importing country. Logs require treatment for bark beetles. The use of phosphine gas for log fumigation is currently saving an estimated 250 tonnes of methyl bromide per year. Negotiations with India and Australia could save more if India accepts phosphine treatment for logs and Australia approved its use for sawn timber.

All sawn timber to Australia requires fumigation during the Arhopalus tristis (burnt pine beetle) flight season, as the adult insects shelter in the bundles of timber. The flight season varies but can last six months (Nov-April). Nelson has
the highest incidence of beetles. The fumigation rate for sawn timber has recently been lowered by 40 percent from 80g/m³ to 48g/m³ this summer as a trial. This reduction took two years of negotiation with Australia.

MAF is responsible for ensuring imports are pest free. This is often achieved by using methyl bromide – currently the most versatile and effective weapon in our pest-killing tool kit.

OZONE DAMAGE

Just like greenhouse gases, a scale has been developed that compares the strength of different ozone depleters to a standard – in this case to CFC-11 which is rated as 1.0 Ozone Depletion Potential (ODP). Methyl bromide has an ODP of 0.38. New sources of methyl bromide from individual crops and ecosystems have been identified, and the debate on the ozone dangers of methyl bromide continues.

The Montreal Protocol is working, and the ozone-layer depletion from the Protocol’s controlled substances is expected to begin to ameliorate within the next decade or so. Global observations show that ozone-depleting gases in the lower atmosphere (troposphere) peaked during 1992-1994, and are continuing to decline. For example, based on assumed compliance with the amended and adjusted Protocol by all nations, the Antarctic ozone “hole”, which was first detected in the early 1980s, is predicted to disappear by the middle of this century (2050). Bromide has a modest ODP relative to CFCs. According to the Report of the 2002 Assessment of the Scientific Assessment Panel for the United Nations Environment Programme, it is estimated that if all the emissions of methyl bromide had ceased in 2003 there would only be a decrease of 4 percent to the stratospheric chlorine loading.

The land area under the ozone-depleted atmosphere increased steadily to more than 20 million km² in the early 1990s and has varied between 20 and 29 million km² since then. The area of the ozone hole reached a record 29 million km² on 12 September 2000. In 2004, the area of the ozone hole was about 20 million km² (British Antarctic Survey Ozone Bulletin).

ROLES AND RESPONSIBILITIES

Various government departments have roles and responsibilities regarding methyl bromide.

- Fumigators have to be approved to a Biosecurity New Zealand quality standard to undertake fumigations on risk goods as directed by an inspector and carry out fumigations to meet importing countries’ requirements. This is to ensure that treatment is effective.

- The Biosecurity New Zealand standard does not cover safety aspects of fumigations; these are covered by the Fumigation Regulations 1967, administered by Ministry of Health Public Health Officers in each area until April, then under the HSNO Act 1996 which is administered by the Environmental Risk Management Authority.

- The Department of Labour – Occupational Safety and Health Service will administer the Hazardous Substances (Fumigants) Transfer Notice 2004 and also set the Workplace Exposure Standards.

- Other government departments with methyl bromide roles are the Ministry for the Environment (the main advocate for protecting the environment). The Ministry for Economic Development is responsible for administering the Ozone Protection Regulations 1996 and controlling the importation of methyl bromide.

New Zealand was the sixth country to ratify the Montreal protocol in 1987 and the first to ratify the “Copenhagen Amendments” in 1992, which included methyl bromide. The general philosophy has been to try and limit all methyl bromide use to 1991 levels in New Zealand but we will exceed this voluntary “cap” soon due to other countries’ biosecurity requirements.

Our current use is only 0.3% of the estimated 65,304 tonnes used worldwide (United States uses some 22,700 tonnes per annum, Australia 500 tonnes).

REPRESENTATION AT MONTREAL PROTOCOL MEETINGS

New Zealand representatives will attend the next meeting of the Montreal Protocol in mid 2005 in Montreal to ensure this country’s interests are protected and the use of methyl bromide continues for quarantine and pre-shipment until acceptable alternatives are in place.

NEW ZEALAND STRATEGY BEING DEVELOPED

A holistic strategy for methyl bromide that gives guidance to the various departments and industries that use or regulate the gas is to be developed. The strategy will cover:

- international and national controls on methyl bromide use
- management of quarantine and pre-shipment use of methyl bromide in New Zealand, including alternatives
- management by individual sectors (e.g. export forest produce, imported fruit); and
- responsibilities and contributions of different departments.

Australia has developed a methyl bromide strategy paper that provides a good example.

ASSESSING AND IMPLEMENTING ALTERNATIVES

There are some exciting alternatives on the horizon including sulphuryl fluoride and ethanedinitrile (EDN) but there is significant work required to develop the efficacy and safety data for the fumigants under local conditions for registration in New Zealand. Efficacy data is also required to convince our trading partners to accept new treatments.

There are various other options such as heat and irradiation that need work but often alternative treatments are pest/commodity specific.

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<table>
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<th>Year</th>
<th>Quarantine and pre-shipment</th>
<th>Non quarantine and pre-shipment</th>
<th>Total methyl bromide use</th>
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<td>29.88</td>
<td>161.56</td>
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<td>15.00</td>
<td>150.00</td>
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</tr>
</tbody>
</table>

Table 1: Consumption of methyl bromide in New Zealand (tonnes).
A research project is underway to measure the risk to our marine environment from exotic organisms that hitch a ride here on the hulls of international vessels.

**Vessel biofouling research to measure marine biosecurity risk**
Within the marine environment a number of vectors transport organisms from one place to another. Transfer can occur via natural dispersal (active or passive) or human-mediated transfer (active and passive). It is the human-mediated transfers that pose a real threat to the New Zealand's marine biosecurity targets. Examples of vectors include:

- ships’ ballast water
- vessel biofouling
- semi-dry and dry ballast
- aquaculture
- the aquarium trade.

To manage marine biosecurity risks, the threat posed by the different vectors must be defined and investigated.

Vessel biofouling has made a significant and historic contribution to species introductions in New Zealand and elsewhere. It is recognised internationally as an important vector for the trans-oceanic and coastal translocation of introduced marine species (Rainer 1995; Cranfield et al. 1998; Hines and Ruiz 2000; Hewitt and Campbell 2001; Hewitt 2002).

There is, however, a lack of research on the risks posed by vessel biofouling in New Zealand, and research into defining and investigating the risk posed by vessel biofouling has been instigated by Biosecurity New Zealand.

A three-year project (2004-2007) has been established to determine the relative risks posed by international vessel biofouling to New Zealand’s marine biosecurity. At present, we have a good theoretical understanding of the risks posed by different vessel categories. However, before instigating management regimes we need to validate the theoretical data to ensure that our understanding is accurate. This project has two specific objectives:

1. To determine the identity (species), status (native, cryptogenic, introduced), and extent of biofouling occurrence on international vessels visiting New Zealand.

This investigation uses a consistent sampling regime and methodology developed by Biosecurity New Zealand’s Marnie Campbell and Chad Hewitt. Most vessel categories are targeted: recreational yachts, fishing vessels, passenger vessels; and commercial merchant vessels. The only exception is slow-moving barges and oil platforms. These vessels are a high risk vessel category, but the infrastructure required to sample them was not available in the current project and will be pursued in the future.

2. To determine the relationship between introduced species’ presence on vessels and the extent of biofouling, measured both as biomass and a categorical measure of “Levels of Fouling” developed by Oliver Floerl (NIWA).

Three research providers (Kingett Mitchell Ltd, New Zealand Dive and Salvage, and NIWA with the Cawthron Institute) are currently undertaking this work, sampling to provide a seasonal sampling regime and methodology. This investigation uses a consistent sampling regime and methodology developed by Biosecurity New Zealand’s Marnie Campbell and Chad Hewitt. Most vessel categories are targeted: recreational yachts, fishing vessels, passenger vessels; and commercial merchant vessels. The only exception is slow-moving barges and oil platforms. These vessels are a high risk vessel category, but the infrastructure required to sample them was not available in the current project and will be pursued in the future.

To determine the factors influencing the presence of introduced marine species and the extent of biofouling on vessels.

Together, both of these projects will provide valuable quantitative information that will be analysed by Biosecurity New Zealand’s marine risk analyst to determine the true risk vessel biofouling poses to the New Zealand marine environment.

Watch this space for updates as the research progresses.

**References**


Chad Hewitt, Principal Science Adviser – Marine, Biosecurity New Zealand, phone 04 474 4183, chad.hewitt@maf.govt.nz
The main lessons for MAF were:

- The marine environment is a large and valuable resource facing a range of threats; resources provided for its biosecurity should reflect this.
- There are critical gaps in basic knowledge, tools to manage pests, institutional structures, and operational capabilities.
- The Biosecurity Act is only one of several laws covering the marine environment; a good first step would be to simply describe existing legislation.
- Responsibilities for marine biosecurity – including who should pay – are not clear for all participants, but industry is willing to play its part.
- The main intervention will continue to be prevention because eradication is so difficult but it requires baseline information, risk analyses and taxonomic skills, all of which are scarce.
- Containment may be possible in some cases and border controls should be considered for the sub-Antarctic islands and the Chathams.

Marine biosecurity years behind

Many of the presentations about marine biosecurity suggested it was years behind in terms of basic knowledge, funding, capability, and tools to manage pests. Then there is the sheer size of our patch of ocean – New Zealand has the fourth-largest exclusive economic zone in the world.

The messages from the science workshop were that science needed to be involved at the strategic end when directions and priorities were being set, that international links and agreements were essential, and that taxonomy was a fundamental but threatened skill for the system.

Additional funding provided

Regional councils highlighted the lack of a rating base or other resources for marine activities, a lack of expertise, and a lack of community support. The Government has recognised the gap in marine biosecurity and provided an additional $19.5 million over four years in Budget 2004. MAF is developing a marine capability plan outlining priority actions for this new investment.

The Biosecurity Act itself was criticised for not being particularly suited to marine biosecurity and not encouraging best practice. However, other legislation such as the Resource Management Act and the Marine Reserves Act also controls marine areas. It became clear during the presentations that
several regulatory tools already exist but they are probably not being used as well as they could.

**Regulation not whole answer**

The Mussel Industry Council reminded us of another important lesson – that regulation is only part of the solution. Its presentation highlighted the voluntary steps that the industry was taking to manage biosecurity risks, including developing its own disease response plan. Several people mentioned the importance of enforcement, communication and raising public awareness.

These legislative issues were closely related to lack of clarity about roles and responsibilities for various aspects of marine biosecurity and were also raised in the pest management workshops. The Biosecurity Strategic Unit is working on understanding and describing the legislative landscape as a first step towards clarifying roles and responsibilities, particularly around pest management and marine biosecurity.

**Prevention the key**

It is widely accepted that prevention will remain the core of marine biosecurity because eradication of established species is so difficult. The science workshop suggested a focus on modelling and prediction to support the focus on prevention, but that this required greater investment in risk analyses and taxonomy. The incursion workshop echoed the earlier mentions of difficulties with mandate and funding, and suggested that mobilising public support may be a cost-effective intervention.

Although she agreed that prevention should be the focus, Paula Warren from the Department of Conservation challenged us not to ignore marine pest management, reminding us of the successes in conservation where committed people had achieved “the impossible”.

**Internal borders worth a try**

Finally, there was a stimulating discussion on internal borders led by Naomi Parker from the Australian Department of Agriculture, Fisheries and Forestry. The resounding recommendation from the workshop was “Yes, internal marine borders are worth trying, particularly for the sub-Antarctic islands and the Chathams.”

Enforcement, particularly for recreation craft was identified as the biggest problem. Although participants suggested using coastal management plans as a regulatory mechanism, they recommended the first trial be voluntary. Such an approach could build on growing awareness of marine biosecurity using a mix of education programmes and providing simple ways for people to comply with cleaning requirements.

Marine biosecurity is a new challenge for MAF, and a developing area for New Zealand as a whole. Together with regional councils and the Department of Conservation, MAF will need to identify the most urgent tasks and decide how best to use the scarce resources available to protect one of our most important assets.

For a summary given at the end of the workshops:


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**PEOPLE IN BIOSECURITY**

Andrew Harrison joins the Post-clearance directorate of Biosecurity New Zealand as team leader/senior adviser for the newly formed Pest Management Unit. Andrew recently completed a one-year stint as senior analyst in the Biosecurity Strategic Unit, seconded from the Department of Conservation (DoC). Previously, he was a senior technical adviser with DoC in Wellington (responsible for coordinating the department’s biosecurity response functions), having shifted from a similar role with DoC in Gisborne (responsible for supporting biodiversity protection in the East Coast and Hawke’s Bay regions and leading New Zealand’s frog recovery programme). Andrew’s role is to lead development of the new Pest Management Unit, which is responsible for national leadership and coordination of pest management in New Zealand, and for national pest management programmes (including management of pests, internal borders and domestic pathways/ vectors).

Ken Harris will take up the role of General Manager, MAF Quarantine Service (MQS) in May. MQS is New Zealand’s first line of defence against invasion by pests and diseases and comprises about 600 officers. They are stationed primarily at ports and airports throughout New Zealand, but a small number are also stationed abroad, undertaking pre-clearance checks on vehicles, fresh fruit and other products bound for New Zealand. Ken comes to MAF from the position of Group GM and Executive Director of NZL Group, a wholly owned subsidiary of the P&O Group. His previous senior roles include Managing Director of Centreport Ltd, Chief Executive of Port Nelson Ltd and General Manager, Coastal Tankers Ltd.

After an initial stint in Policy, Liz Jones has joined Biosecurity New Zealand’s Biosecurity Standards Group (Pre-clearance) as Senior Science Adviser, Marine. She will be working with Mike Alexander and Ken Glassey in the vessel standards area, bringing with her experience from working for the Marine Biosecurity group of the Ministry of Fisheries for four years. Liz has an extensive knowledge of managing environmental threats to the marine environment after working in the area for many years. She retains an involvement in ballast water management and is looking into management of the vessel bio-fouling pathway.

**No paperwork, no entry**

This alligator head was intercepted by a MAF Quarantine Service detector dog team at Auckland International Airport recently. The head, carried by a passenger from Los Angeles, was declared but was not accompanied with the necessary CITES documentation. It was seized, treated and forwarded to the Department of Conservation.
Global focus on wildlife conservation medicine

In November 2004, the World Association of Wildlife Veterinarians, the Royal Veterinary College, the Zoological Society of London and the British Veterinary Zoological Society met in London to present the latest advances in exotic, zoo and wild animal medicine.
Wildlife veterinarians and biologists from across the globe (including four representatives from New Zealand) discussed issues relating to wildlife conservation medicine, wild animal disease investigation, toxicology, medicine and surgery. Special sessions were held on primates, British wildlife, reptile and amphibian medicine, avian medicine and surgery and exotic mammal medicine.

Overview on human challenges to biodiversity

World-leading wildlife veterinarians participated at the meeting, with an opening plenary from Dr Milton Friend (former Director for 23 years of the National Wildlife Health Research Center in Madison, Wisconsin) giving a history of wild animal disease investigation. His personal focus in nearly 30 years of teaching at the University of Wisconsin was, and remains, to stimulate others to proactively consider disease prevention and control as basic components for sound environmental management and wildlife conservation. Dr Friend visited New Zealand in the early 1990s to advise DoC on the development of a wildlife health programme for New Zealand. A decade on, New Zealand is now a world leader in disease screening and health management for translocated and captive wildlife populations.

An excerpt from Dr Friend’s presentation neatly outlines the challenge to biodiversity from human-induced changes, including disease:

“The challenges before us in sustaining global biodiversity are great because of changing world conditions that continually will increase competition between humans and wildlife for such basic needs as living space and fresh water. These factors have significant disease ramifications and require a greater emphasis on disease prevention in association with ecosystem alterations and land management activities. Failure to do so will ensure an increasing role for disease in the demise of wildlife populations. These impacts will result from chronic attrition rather than highly visible epizootic events, although the latter will be a contributing factor …

“If we are to be successful in the conservation of biodiversity, it is important that the traditional training we have sought in the veterinary, wildlife, and related sciences be supplemented with enhanced understanding of disease as an outcome of society’s behaviour and that we gain a greater appreciation of how ecological change can contribute to disease emergence.

“Therefore, both our study of disease and our approaches for combating disease must evolve beyond traditional focuses on causative agents and their hosts. Greater emphasis needs to be placed on the environmental component of the disease triad. These needs challenge our basic instructional programmes because of core requirements that must be met to provide minimum standards of knowledge for specific career training. Thus, additional needs often must be met by further training, including external programmes such as the Masters Course [in wildlife health based at the Zoological Society of London premises – to date, 127 students from 37 countries have graduated].

Wildlife stewardship is a human responsibility and one that must be addressed on many fronts, including disease prevention.”

Wildlife health and research centre

Dr Richard Jakob-Hoff from Auckland Zoo presented a paper on the development of a wildlife health and research centre for New Zealand. Dr Eric Miller, now resident at St Louis Zoo but a renowned lecturer throughout China, North and South America and Europe, shared his expertise in a number of areas including avian health surveys in the Galapagos, the role of vets in conservation, giant pandas in China, and black rhino diseases and research.

Vigilance required to protect New Zealand wildlife

Christine Reed, Manager, Risk Analysis with Biosecurity New Zealand’s Pre-clearance directorate, presented a joint paper (with Dr Kate McInnes from the Department of Conservation and Dr Richard Jakob-Hoff from Auckland Zoo) on “Reducing Disease risks to New Zealand’s threatened wildlife from pre-border through to management of endemic disease”.

Participants heard that the island biota of New Zealand is unique and currently faces relatively few serious diseases of concern as a result of its geographical isolation and rigorous border management. With emerging new wildlife diseases world-wide though, there is an increasing need for vigilance to maintain this status.

The biosecurity agencies (Biosecurity New Zealand, Department of Conservation, Ministry of Health and Ministry of Fisheries) work in partnership to assess and manage the risks of entry and establishment of new diseases that may affect the New Zealand economy, environment and people. These agencies and other partners, like the Auckland Zoo’s Wildlife Health and Research Centre, work collaboratively to extend the continuum of disease risk management from pre-border through to internal management of endemic disease in wildlife.

Wildlife surveillance initiated

Risk analysis is applied in the development of import health standards for animals and animal products, to reduce disease risks to New Zealand’s domestic and wild animal populations. Surveillance for new diseases has been implemented for decades for domestic animals but only recently has the development of a wildlife disease surveillance strategy for New Zealand been initiated. The Department of Conservation, in conjunction with Auckland Zoo and the IUCN’s Conservation Breeding Specialist Group, has developed and implemented best-practice protocols for quarantine and disease screening before translocating wildlife to new sites.

It is vital that these initiatives be followed through to ensure that New Zealand maintains its current good position and continues to effectively protect its unique wildlife, economy and people from serious diseases.

Christine Reed, Pre-clearance Directorate, Biosecurity New Zealand, phone 04 470 2756, christine.reed@maf.govt.nz
Animal Welfare Group contributes to online learning world wide

Imagine an opportunity to simultaneously spread awareness about the importance of the Office International des Épizooties (OIE) leadership role on animal welfare issues across the world. Through the growing medium of online education, David Bayvel, MAF’s Director of Animal Welfare has been able to reach those outside traditional university lecture halls.

In early December 2004, David was approached by Dr Bernard Vallat (Director General, OIE) to participate as a guest lecturer to provide a learning module on “The OIE and Animal Welfare” for an exciting new online course.

The lecture makes up part of a certificate series on International Food Law and Regulations run by the Michigan State University in collaboration with the OIE. It also includes contributions from international specialists Bernard Vallat, Gretchen Stanton, Alex Thiermann, David Wilson, Karim Ben Jebra, Cristobal Zepeda, Veronique Bellemain and Lonnie King.

The main aims of the OIE section of the course, as outlined by Dr Vallat, are “to greatly increase understanding and appreciation of the work undertaken by the OIE and its member countries in the interests of animal and public health” as well as “to explain the vital role of the OIE, as the international standard-setting organisation for animal health and zoonoses, and its new mandates for animal welfare and food safety”.

**Ideal for busy schedules**

Students and experts from around the world are brought together in an electronic global forum through the internet to provide a high level of information exchange. Michigan State University anticipated that the flexible nature and accessibility of the course would appeal to working professionals who maintain high work loads, homes and family life. For those with a busy schedule this is an effective and ideal way to up-skill and for those living in remote places, it provides contact with the most recent information in their field.

So, how does the online course work? Students are able to log in to the website where each module is posted for one week, and are required to undertake topic reading and to complete short written assignments. Hyperlinks to further information are included in the modules to encourage students to remain up to date with topic developments after the course. Guest lecturers are then to respond to questions via email to provide additional support to students throughout the course.

The 6,800-word ‘OIE and Animal Welfare’ module covers the current situation, World Trade Organisation considerations, market place trends, animal welfare standards, OIE background information and links to relevant websites.

The Michigan State University course has been a significant opportunity to highlight the importance of the relationship between animal welfare and public health to those directly involved in these areas. Through the international element of the course, it will bring new perspectives to be shared through online discussion from different cultures and countries.

The ‘OIE and Animal Welfare’ lecture was submitted to Michigan State University on 21 December 2004, ready for the start of the course on 10 January 2005.

Melinda Short, Animal Welfare Group, Biosecurity New Zealand, awgtemp@maf.govt.nz

Photograph: R. Littin.
What is an industry sector biosecurity risk profile?

Development of an industry sector biosecurity risk profile is a recent requirement for supplier organisations working with industry sectors in the Biosecurity New Zealand 153 Standard. In general, a biosecurity risk profile includes:

- processing sites within the sector, including the number, location, and ownership
- identification and characterisation of the biosecurity risks associated with processing sites
- movement practices and patterns for unprocessed products that present a biosecurity risk, including significant seasonal and secular trends.

**Industry understanding necessary**

An understanding of the industry in New Zealand as well as a review of the recent scientific literature is needed to develop risk profiles. As is the case with import health standards, exotic disease response protocols should also be risk based.

The OIE International Animal Health Code sets out an internationally accepted framework for import risk analyses for animals and animal products. A livestock saleyard biosecurity risk profile has been developed using data collected in 2004 to establish the methodology as this is the first application of the risk analysis framework outside its traditional role in import risk analysis.

Preparing the industry sector biosecurity risk profile starts with an assumption that foot and mouth disease (FMD) or another disease under consideration, such as avian influenza (poultry industry) has been recently introduced into New Zealand.

**Identifying biosecurity risks**

In examining the potential for entry and amplification of disease within the sector, biosecurity risks are identified by:

- defining conveyors of the disease of concern
- identifying the biological pathways for exposure for each conveyor
- ranking the risk of exotic disease amplification from each of these pathways
- identifying appropriate risk-based mitigation measures of exotic diseases in the industry sector.

The biosecurity risk profile is in fact a prediction of the trace-backs and trace-forwards that would derive from the presence of an exotic disease at the industry site under consideration during an actual outbreak.

**Balancing biosecurity risk and commerce**

Risk-based mitigation measures result from the process of deciding upon and implementing additional biosecurity safeguards to achieve an acceptable level of risk while maintaining the necessary commerce inherent in the industry sector. Such mitigation measures will be incorporated into procedural guidelines and site plans. Following implementation of these plans within the industry sector, regular monitoring and review can be undertaken. Every recommended risk-based mitigation measure must be supported by the discussion in the biosecurity risk profile.

This approach will ensure that stakeholders, risk analysts, decision makers and, more importantly, the international trade community can be confident that the risk of disease spread in the New Zealand industry sector can be effectively managed.

**Poultry, dairy risk profiles under way**

Contracts for biosecurity risk profiles in the poultry and dairy industries are anticipated to be undertaken by June 2005. A multidisciplinary project review team consisting of representatives from Biosecurity New Zealand’s Surveillance and Incursion Response Group, Risk Analysis Unit, National Centre for Disease Investigation and New Zealand Food Safety Authority (NZFSA) will review work undertaken by the contracted project teams.

Such an approach will ensure synergies with risk management programmes administered by NZFSA that focus on human health, with risk-based biosecurity mitigation measures targeted on minimising risk to animal health.

For Biosecurity New Zealand 153 Standard:


Dorothy Geale DVM PhD BSc (Hons),
Senior Adviser (Animals)
Surveillance and Response, Biosecurity New Zealand,
phone 04 498 9884, mobile 027 223 1932, fax 04 474 4133,
dorothy.geale@maf.govt.nz

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1 Conveyors are things (products, waste, animals, and people) that can convey infection from infected places to other places.
MAF role in National Response Centre (NRC)

The Government has adopted a “whole-of-government” approach for cross cutting issues that are of significant strategic importance. The rationale behind this is for rapid engagement of key government agencies in a unified response using a multidisciplinary approach to problem resolution and management.

Particular emphasis has been placed on Domestic and External Security Coordination (DESC) and Officials’ DESC (ODESC) processes.

DESC is an ad hoc Select Committee of the Cabinet; it is made up of the key Ministers involved in crisis management and is chaired by the Prime Minister. ODESC is the departmental chief executive officer equivalent and mirrors DESC. Collectively DESC/ODESC receives advice for government agencies and determines the Government’s strategic response.

On 20 December 2004, the MAF Executive Board formally established the MAF National Response Centre (NRC) (see Fig. 1). This provides a suitable infrastructure for an equivalent “whole-of-MAF” approach to significant issues where MAF is the lead agency. It would be initiated during incursion response for unwanted organisms of significance or for major food safety incidents. The NRC provides the interface between the strategic DESC/ODESC framework and the operational responsibilities of MAF agencies and groups.

An example of a whole-of-government response is where a disease, such as foot and mouth disease, is detected in New Zealand. MAF as the lead agency would need to coordinate the management of the disease itself, the associated trade and food safety issues (e.g. consumer protection), and the impacts on the wider economy (such as tourism and the rural sector). Coordination of communication with the media, public and stakeholders is also needed across the response teams.

Fig 1: Integration between DESC/ODEC and MAF National Response Centre

MAF Management Model

The National Response Centre comprises:
- NRC Steering Group
- NRC Disease Management Team
- NRC Recovery Management Team
- NRC Trade and Food Safety Management Team.
- NRC Communications & Media Management Team

NRC Steering Group

The NRC Steering Group is chaired by the Director-General. The Assistant Director-Generals of Biosecurity and Policy and the Executive Director of the Food Safety Authority are standing members of the steering group. Together they facilitate MAF’s operational activities (disease management, recovery management, trade and food safety management, and communications) as well as providing strategic advice to Ministers and Cabinet via DESC/ODESC.
The National Response Centre

During a whole-of-government response, the basement of the Beehive (National Crisis Management Centre) at Parliament in Wellington has been set up to operate as the National Response Centre with meeting rooms and facilities for DESC/ODESC, NRC Steering Group members, key members of the NRC teams and their counterparts from other government agencies. The teams in turn are supported by additional resources at MAF and NZFSA.

MAF contact:
Susan Keenan, Senior Policy Analyst, Biosecurity New Zealand, susan.keenan@maf.govt.nz

NZFSA contact:
Tony Zohrab, Director, Animal Products, New Zealand Food Safety Authority, tony.zohrab@nzfsa.govt.nz
The Biosecurity Strategy 2003 identified a number of key challenges to New Zealand’s biosecurity system, one of which is a lack of strategic direction and capability. In response to this need, the Biosecurity Strategic Unit (BSU) was set up within MAF.

The BSU operates as an independent group reporting directly to the Director General of MAF, Murray Sherwin. The unit’s focus is to provide strategic advice, while Biosecurity New Zealand is charged with providing operational policy advice, standard setting and regulation, along with day to day operations. The BSU and Biosecurity New Zealand complement each other and are separated to enable BSU to provide independent advice.

The BSU was initially led by Geoff Hicks on temporary loan from his position as Biosecurity Chief Technical Officer and Director of the Science and Research Unit at the Department of Conservation. For most of 2004 the BSU was staffed on an interim basis with secondees from MAF, the Department of Conservation, and the Ministry of Fisheries.

The unit has since recruited permanent staff. Director Paul Stocks – previously a Treasury official – began his career at the Ministry of Health. He is assisted by two managers: David Wansbrough (previously with MAF Policy and MAF Biosecurity) and Doug Watt (previously with Treasury). In all, the BSU consists of 12 staff from a variety of backgrounds including policy, economics, science, planning, law, health, local government, and sociology. Within this group are also two secondments from the Department of Conservation and the Ministry of Health.

The Biosecurity Strategic Unit is divided into two teams: Design and Delivery, and Performance and Evaluation.

Since the BSU started, it has:

- clarified and consolidated roles and accountabilities among the four biosecurity agencies – MAF, Department of Conservation, Ministry of Fisheries, and Ministry of Health

**The Biosecurity Strategic Unit is divided into two teams:**

**Design and Delivery, and Performance and Evaluation.**

- established the Biosecurity Ministerial Advisory Committee to provide independent advice to the Minister for Biosecurity
- established the Central/Regional Government Biosecurity Forum to provide an opportunity for Regional Council involvement in the strategic direction of biosecurity
- established the Chief Executives’ Forum to advise the Director-General of MAF and provide coordination across agencies
- developed an integrated risk management framework to guide resource allocation in managing risks, improve consistency, and ensure that the full range of values are considered across the biosecurity system; and
- developed an outcomes framework that clearly and succinctly describes what the biosecurity system is trying to achieve.

BSU priorities for 2005 include:

- developing a performance and evaluation system for biosecurity
- continuing to build relationships through the newly established Ministerial Advisory Committee, Chief Executives’ Forum, and Central/Regional Government Forum
- further clarifying roles and responsibilities, particularly for pest management; and
- reviewing of biosecurity legislation, including compensation and biosecurity interface with other Acts, such as the Hazardous Substances and New Organisms Act and the Public Health Bill.

David Wansbrough,
Biosecurity Strategic Unit,
Ministry of Agriculture and Forestry,
david.wansbrough@maf.govt.nz

**Taurus website up and running**

As readers receive this issue of Biosecurity, the first phase of Exercise Taurus is in full swing. The initial Exotic Disease Response Centre (EDRC) exercise began on 14 March.

Preparation has been the key, with a public website being set up for stakeholders and participants. The site contains information for participants on the National Response Centre (NRC) simulation, the EDRC trial and the Air Curtain Incineration (ACI) trial.

There is also information outlining what Exercise Taurus is, what we are hoping to achieve, and what we hope to learn and measure. Question and Answer sections are also available, with more information about foot and mouth disease, the ACI and the exercise itself.

The website will continually be updated during the simulation.

- www.biosecurity.govt.nz/exercise-taurus
Import health standard for consultation

Consultation on the issuance of BNZ-GCFP-PHR, Grain/seed for consumption, feed or processing, plant health requirements and inclusion of reviewed import schedules for Helianthus, Panicum, Phaseolus, Pisum and Vicia seeds

As part of the consultative process in the re-development of the import health standard schedules for grains/seeds for consumption, feed and processing, MAF has placed the following re-named draft document on the MAF website for public consultation and comment:

Import health standard: BNZ-GCFP-PHR, Grain/seed for consumption, feed or processing, plant health requirements (Draft).

This document replaces PIT-GFP-PHR: Grain for Processing, Plant Health Requirements and includes revised schedules for Helianthus (sunflower), Panicum (millet/panic grasses), Phaseolus (green beans/other beans), Pisum (pea) and Vicia (broad/faba beans) spp. seeds.

For a copy of this document:
- www.biosecurity.govt.nz/consultation.htm#draft-ihs

Submissions on the revised schedules for Helianthus, Panicum, Phaseolus, Pisum and Vicia spp. seeds should be sent to the address below before 1 April 2005. Depending on the results of the consultation process it is anticipated that the new import health standard will be approved for use after this date.

Forward your comments in writing to:
- Consultation on the issuance of BNZ-GCFP-PHR, Grain/Seed for Consumption, Feed or Processing, Plant Health Requirements

  Dr Dave Nendick,
  Biosecurity New Zealand,
  PO Box 2526, Wellington, New Zealand,
  phone 04 474 4200, fax 04 498 9888,
  dave.nendick@maf.govt.nz

Import health standards issued

Supervision of containment facilities – Biosecurity New Zealand Standard 154.03.01

On 1 February 2005, Biosecurity New Zealand issued the above standard, which describes the requirements for the supervision of containment facilities and HSNO approvals by MAF Quarantine Service Biosecurity Officers.

Approval of laboratories for genetically modified organism testing – Biosecurity New Zealand Standard

On 14 February 2005, Biosecurity New Zealand re-issued the above standard, which replaces the previous interim standard PIT.GMO. AFGMOT dated 14 August 2002.

The purpose of the revision was to:
- update the requirements for genetically modified organism testing laboratories

- include the mandatory requirement for laboratories to be accredited to the International Standard ISO17025: “General requirements for the competence of calibration and testing laboratories”.

Amended animal product import health standards

Pig meat products for human consumption from Sweden

The following clause has been added to the veterinary certificate to ensure that the pig meat originates from pigs born and kept in Sweden, which is free of Porcine Respiratory and Reproductive Syndrome (PRRS):

Clause 10.2 The products were derived from animals that were continuously resident in Sweden since birth.

Section 2 ‘Importer’s Responsibilities’ has also been updated.

This IHS is now dated 12 January 2005 and replaces that dated 17 April 2001.

Dried bovine/porcine blood for human consumption from Canada and the United States

This IHS is now dated 12 January 2005 and replaces that dated 12 January 2004

Bovine meat and meat products for human consumption from Canada and the United States

This IHS is now dated 12 January 2005 and replaces that dated 12 March 2001.

Changes made to these IHSs include:
- removal of bovine spongiform encephalopathy (BSE) freedom clause
- addition of no specified risk materials (SRMs) clause and a definition
- amendments to NZFSA clauses (2.3, 2.4, 2.5) – importations will be on a case-by-case basis
- minor editorial and formatting changes.

Bovine embryos from Canada

Bovine embryos from the United States

Bovine embryos from Canada

- Clause 2.5.2 has been amended to allow semen from Canadian Food Inspection Agency (CFIA) approved centres to be eligible, as follows:

  2.5.2 Semen used for insemination was collected and processed in accordance with the CFIA National Artificial Insemination Program for an Approved Semen Collection Centre.

- Conditions for bovine viral diarrhoea virus (BVDV) testing have been amended as follows:

  Either:

  4.2.1 All donor animals that have been on the embryo collection centre for more than six (6) months prior to embryo collection for this consignment were subjected to an antigen detection EUSA or viral isolation test for BVDV, with a negative result, within thirty (30) days prior to entry into the embryo collection centre, and have remained isolated from other animals that have not been tested negative.

  or

  4.2.2 Donor animals that have been on the embryo collection centre for less than six (6) months prior to embryo collection for this consignment have had either a pooled sample of non-viable oocytes/embryos and washing fluid (as per the OIE Code Appendix for in vivo derived embryos) or an embryo, from the first embryo collection for this consignment subjected to either a virus isolation test or PCR for BVDV with negative results.

- Minor changes to terminology, for example, a definition of 60 day period for the consignment have also been made.
Bovine embryos from the United States

- Clause 2.6.2 regarding the eligibility for semen used to fertilise the ova via AI (Artificial Insemination) has been changed as follows:
  2.6.2 Semen used for insemination was collected at a semen collection centre which complies with Certified Semen Services (CSS) Minimum Requirements for Disease Control of Semen Produced for AI.


Caviar for human consumption from all countries

Changes to this standard include:

- removal of the clause stating that the ‘product must be labelled as suitable for human consumption’.
- editorial and formatting changes.

This IHS is now dated 4 February 2005 and replaces that dated 3 December 1999.

- Border Standards Team,
  Biosecurity New Zealand, PO Box 2526, Wellington,
  phone 04 498 9624, fax 04 474 4132,
  imports@maf.govt.nz

Codes of ethical conduct – approvals, notifications and revocations since the last issue of Biosecurity

All organisations involved in the use of live animals for research, testing or teaching are required to adhere to an approved code of ethical conduct.

**Codes of ethical conduct approved**

- Department of Conservation (expiry 31 December 2009)
- Diatranz New Zealand Ltd (expiry 31 December 2009)
- Genesis Research and Development Corporation Ltd (expiry 31 December 2009)
- National Institute of Water and Atmospheric Research Ltd (expiry 31 December 2009)
- Nelson Marlborough Institute of Technology (expiry 31 December 2009)
- New Zealand Association of Science Educators (expiry 31 December 2009)
- New Zealand Forest Research Institute Ltd (expiry 31 December 2009)
- Southern Institute of Technology (expiry 31 December 2009)
- University College of Learning (expiry 31 December 2009)
- University of Waikato (expiry 31 December 2009)

**Transfers of code of ethical conduct approved:** Nil

**Amendments to codes of ethical conduct approved**

- PharmVet Solutions

**Notifications to MAF of minor amendments to codes of ethical conduct**

- Landcare Research NZ Ltd

**Notifications to MAF of arrangements to use an existing code of ethical conduct**

- Hillcrest High School (to use University of Waikato’s code) (renewal – code expired)
- Kelly Tarlton’s Antarctic Encounter and Underwater World (to use National Institute of Water and Atmospheric Research Ltd’s code) (renewal – code expired)
- Marlborough Lines (to use Nelson Marlborough Institute of Technology’s code) (renewal – code expired)
- Morrison, Simone (to use AgResearch Ltd’s code and Grasslands AEC)
- Virbac Laboratories (New Zealand) Ltd (to use PharmVet Solutions’ code)
- Waikato Science Teachers’ Association (to use University of Waikato’s code) (renewal – code expired)

**Codes of ethical conduct revoked or expired or arrangements terminated**

- Agvet Consultants Ltd
- Ethical Agents Ltd
- Falkirk Scientific Foundation Ltd
- ICPbio Ltd
- Intervet Ltd
- Suta Export Ltd
- Tatua Co-operative Dairy Company Ltd

**Approvals by the Director-General of MAF for the use of non-human hominids:** Nil

**Approvals by the Minister of Agriculture of research or testing in the national interest:** Nil

**Biosecurity Institute Conference**


With the Southern Alps as a snowy backdrop, Christchurch is a fantastic place for a national training seminar on biosecurity and what we can do about it in our neighbourhood – be it urban, rural, local, regional, national or in our Pacific neighbourhood. Come along and join us for three days of lively discussion, workshops, oral presentations, field trips and numerous opportunities to interact with other like-minded people.

Registration forms out in April 2005.

- www.biosecurity.org.nz
  Ali Howard, phone 03 546 6338, ali@nzdirect.co.nz
  Hugh Gourlay, gourlayh@landcareresearch.co.nz
## PLANT KINGDOM RECORDS 18/12/2004 – 04/02/2005

### Validated new to New Zealand reports

<table>
<thead>
<tr>
<th>Organism</th>
<th>Host</th>
<th>Location</th>
<th>Submitted by</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudocercosporella spiraeigena (no common name)</td>
<td>Spiraea cantoniensis (no common name)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>This newly described fungus has been recorded on three other species of Spiraea in New Zealand. It is widely distributed in the Auckland region.</td>
</tr>
<tr>
<td>Pseudocercosporella rhabdothamni (no common name)</td>
<td>Rhabdothamnus solandri (taurepo, waiuatua)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>This new-to-science fungus is probably a previously undescribed native species. It causes die-back of the edges of the host’s leaves.</td>
</tr>
<tr>
<td>Pseudocercosporella persicariana (no common name)</td>
<td>Polygonum strigosum (no common name)</td>
<td>Waikato</td>
<td>NPPRL</td>
<td>This recently described new-to-science fungus was originally collected in 2002, and is associated with leaf lesions.</td>
</tr>
<tr>
<td>Pseudocladosporium matsushimae (no common name)</td>
<td>Metrosideros excelsa (pohutukawa)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>This recently described new-to-science fungus is saprophytic and was associated with dead parts of the host’s leaves.</td>
</tr>
<tr>
<td>Mycosphaerella filipendulae-denudatae (no common name)</td>
<td>Filipendula ulmaria (meadowsweet)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>This fungus is known only from Filipendula species, and is widespread in Asia, Europe and North America.</td>
</tr>
<tr>
<td>Synchytrium endobioticum (potato wart)</td>
<td>Solanum tuberosum (potato)</td>
<td>Southland</td>
<td>NPPRL</td>
<td>Potato wart is a notifiable organism and was detected as a result of the Biosecurity New Zealand and Vegfed awareness programme. The infected site is a domestic garden and eradication measures were undertaken in February.</td>
</tr>
</tbody>
</table>

### New host reports

<table>
<thead>
<tr>
<th>Organism</th>
<th>Host</th>
<th>Location</th>
<th>Submitted by</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctenopseustis obliquana (brown headed leafroller)</td>
<td>Rhaphiolepis umbellata (sexton’s bride)</td>
<td>Wellington</td>
<td>Forest Research</td>
<td>This common insect has been found on a wide range of hosts.</td>
</tr>
<tr>
<td>Acrocercops alysidota (no common name)</td>
<td>Acacia notabilis (no common name)</td>
<td>Wellington</td>
<td>Forest Research</td>
<td>Other PPIN hosts include Acacia decurrens and Acacia schinoides.</td>
</tr>
<tr>
<td>Hylurgus ligniperda (goldenhaired bark beetle)</td>
<td>Pinus taiwanensis (Formosa pine)</td>
<td>Bay of Plenty</td>
<td>Forest Research</td>
<td>Other PPIN hosts include radiata pine, ponderosa pine, cluster pine, muriwai pine, black pine, Austrian pine, nashi and Eucalyptus saligna.</td>
</tr>
<tr>
<td>Psepholax sulcatus (shotgun weevil)</td>
<td>Pinus taiwanensis (Formosa pine)</td>
<td>Bay of Plenty</td>
<td>Forest Research</td>
<td>Other PPIN hosts include Eucalyptus delegatensis, Eucalyptus nitens and Eucalyptus viminalis.</td>
</tr>
<tr>
<td>Aspidiotus nerii (oleander scale)</td>
<td>Asterotrichion discolor (no common name)</td>
<td>Mid Canterbury</td>
<td>Forest Research</td>
<td>Other PPIN hosts include orange, lemon, mandarin, grape, citrus, kiwifruit, butternut squash, persimmon, litchi, orchid, apricot, avocado, and Eucalyptus saligna.</td>
</tr>
<tr>
<td>Hemiberlesia rapax (greedy scale)</td>
<td>Asterotrichion discolor (no common name)</td>
<td>Mid Canterbury</td>
<td>Forest Research</td>
<td>Other PPIN hosts include kiwifruit, lemon, Meyer lemon, sweet orange, mandarin, tangerine, tangelo, feijoa, apple, grape, nashi, avocado, pear, loquat, cushaw, Eucalyptus saligna, coastal banksia, Virgilia sp., whauwhaupaku, Japanese plum, peach and apricot.</td>
</tr>
<tr>
<td>Ceroptoples sinensis (Chinese wax scale)</td>
<td>Hymenosporum flavum (Australian frangipani, sweetshade)</td>
<td>Auckland</td>
<td>Forest Research</td>
<td>Other PPIN hosts include lemon, tangelo, mandarin, New Zealand grapefruit, Mexican orange blossom, Citrus sp., kiwifruit, and orange, lemonwood, oleander, New Zealand Oak, Akiraho, Japanese Spindle Tree and Eucalyptus ficifolia.</td>
</tr>
<tr>
<td>Saissetia coffeae (hemispherical scale)</td>
<td>Hymenosporum flavum (Australian frangipani, sweetshade)</td>
<td>Auckland</td>
<td>Forest Research</td>
<td>Other PPIN hosts include tangelo, lemon, mandarin, orange, grape, quince, nectarine, peach, plum, apricot, avocado, tamarillo, feijoa, yew, white sapote, kanoooka, scaly zamia and capsicum.</td>
</tr>
<tr>
<td>Pseudocercosporella spiraeigena (no common name)</td>
<td>Spiraea miyabei (no common name)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>Other PPIN hosts include Spiraea cantoniensis.</td>
</tr>
<tr>
<td></td>
<td>Spiraea japonica (spiraea)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Physocarpus opulifolius (no common name)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chondrostereum purpureum (silver leaf)</td>
<td>Castanea sativa (chestnut, European chestnut, sweet chestnut)</td>
<td>Mid Canterbury</td>
<td>NPPRL</td>
<td>Other PPIN hosts include Prunus spp., kiwifruit, apple, pear, nashi, loquat, Portuguese laurel, quince, feijoa, Japanese chestnut, and a range of Eucalyptus species.</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Fungus Name</td>
<td>Location</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
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<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Trichocladium basicola</td>
<td>Ribes nigrum (black currant)</td>
<td>Dunedin</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(black root rot,</td>
<td></td>
<td></td>
<td>Other PPIN hosts include satsuma mandarin, kiwifruit, passionfruit,</td>
<td></td>
</tr>
<tr>
<td>Thielaviopsis root rot)</td>
<td></td>
<td></td>
<td>grape, pea, beans, cucurbits, tomato, brown boronia, carrot, white</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>clover, manuka, grevillea, capsicum, Viola sp. and strawberry.</td>
<td></td>
</tr>
<tr>
<td>Pestalotiosis versicolor</td>
<td>Syagrus romanzoffiana (Queen</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(pestalotiosis)</td>
<td>palm)</td>
<td></td>
<td>Other PPIN hosts include kiwifruit, feijoa, olive, passionfruit,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bromelia sp. (bromeliad)</td>
<td></td>
<td>avocado, radiata pine, Chile nut, blueberry, black currant, persimmon,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hyophorbe verschaffeltii</td>
<td></td>
<td>grape, beech, several palm species, scaly zamia, crane flower,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(spindle palm)</td>
<td></td>
<td>yellow guava, West Himalayan fir, bird of paradise, dragon tree,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>box, and Eucalyptus sp.</td>
<td></td>
</tr>
<tr>
<td>Septoria apicola (septoria</td>
<td>Apium nodiflorum (water</td>
<td>Auckland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>blight)</td>
<td>celery)</td>
<td></td>
<td>Other PPIN hosts include wild celery.</td>
<td></td>
</tr>
<tr>
<td>Puccinia graminis (stem</td>
<td>Festuca multidentata</td>
<td>Mid Canterbury</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>rust)</td>
<td>(fescue)</td>
<td></td>
<td>Other PPIN hosts include barley, wheat, rye, perennial and Italian</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ryegrass, oats, darnel and tall fescue.</td>
<td></td>
</tr>
<tr>
<td>Gibberella subguttulans</td>
<td>Musa sp. (banana)</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(fusarium rot)</td>
<td></td>
<td></td>
<td>Other PPIN hosts include maize.</td>
<td></td>
</tr>
<tr>
<td>Nectria radicola (cylindrocarpon root rot)</td>
<td>Taxus sp. (yew)</td>
<td>Mid Canterbury</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>This common fungus has a very wide host range.</td>
<td></td>
</tr>
<tr>
<td>Eutypa lata (eutypa dieback,</td>
<td>Ribes nigrum (black currant)</td>
<td>Mid Canterbury</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>gummosis)</td>
<td></td>
<td></td>
<td>Other PPIN hosts include cherry, grape, apple, and peach.</td>
<td></td>
</tr>
<tr>
<td>Gibberella avenacea (foot</td>
<td>Cynas sp. (cycad)</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>root, root rot)</td>
<td></td>
<td></td>
<td>This common fungus has a very wide host range.</td>
<td></td>
</tr>
<tr>
<td>Cladosporium cladosporioides</td>
<td>Chamaedorea atrovirens (palm)</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(black mould, sooty mould)</td>
<td></td>
<td></td>
<td>Other PPIN hosts include tomato, Prunus spp., grape, spurge, wheat,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>persimmon, broad bean, orchid, passionfruit, tamarillo, feijoa,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>kiwifruit, and Eucalyptus nitens.</td>
<td></td>
</tr>
<tr>
<td>Glomerella cingulata</td>
<td>Cynas sp. (cycad)</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(anthracnose, bitter rot)</td>
<td></td>
<td></td>
<td>This common fungus has a very wide host range.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meryta sinclairii (puka)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bromelia sp. (bromeliad)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Itersonilia perplexans</td>
<td>Apium nodiflorum (water</td>
<td>Auckland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(leaf spot, petal blight)</td>
<td>celery)</td>
<td></td>
<td>Other PPIN hosts include florist’s chrysanthemum, common camellia,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dill, Barberton daisy and coriander.</td>
<td></td>
</tr>
<tr>
<td>Phomopsis sp. (no common</td>
<td>Bromelia sp. (bromeliad)</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>name)</td>
<td></td>
<td></td>
<td>This common fungus has a very wide host range.</td>
<td></td>
</tr>
<tr>
<td>Botryotinia fuckeliana</td>
<td>Alstroemeria sp. (Peruvian</td>
<td>Dunedin</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(botrytis blight, bunch rot</td>
<td>lily)</td>
<td></td>
<td>This common fungus has a very wide host range.</td>
<td></td>
</tr>
<tr>
<td>grey mould)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ulorrhizium chartarum</td>
<td>Chrysalisidocarpus</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(sooty mould)</td>
<td>lutescens (golden cane palm)</td>
<td></td>
<td>Other PPIN hosts include broad bean, kiwifruit, tamarillo, strawberry,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>viburnum, arrowwood, hydrangea, and agapanthus.</td>
<td></td>
</tr>
<tr>
<td>Alternaria alternata</td>
<td>Ensete ventricosum</td>
<td>Northland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(alternaria rot, sooty mould)</td>
<td>(Abyssinian banana)</td>
<td></td>
<td>This common fungus has a very wide host range.</td>
<td></td>
</tr>
<tr>
<td>Sphaerellipsoides filum</td>
<td>Puccinia menthae</td>
<td>Auckland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(parasitic fungus)</td>
<td>(no common name)</td>
<td></td>
<td>No other hosts recorded in PPIN.</td>
<td></td>
</tr>
<tr>
<td>Erysiphe biocellata (powdery mildew)</td>
<td>Mentha cordifolia (mint)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mentha spicata (spear mint)</td>
<td></td>
<td>No other hosts recorded in PPIN.</td>
<td></td>
</tr>
<tr>
<td>Stemphylium symphyti (no</td>
<td>Symphytum officinale</td>
<td>Auckland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>common name)</td>
<td>(comfrey)</td>
<td></td>
<td>Other PPIN hosts include Russian comfrey.</td>
<td></td>
</tr>
<tr>
<td>Puccinia menthae (no</td>
<td>Mentha x smithiana (mint)</td>
<td>Auckland</td>
<td>Other PPIN hosts include Mentha cordifolia.</td>
<td></td>
</tr>
<tr>
<td>common name)</td>
<td>Mentha x piperita var. citrata (Eau de Cologne mint)</td>
<td>Auckland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colletotrichum crassipes</td>
<td>Vriesea sp. (vriesea,</td>
<td>Auckland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>(no common name)</td>
<td>bromeliad)</td>
<td></td>
<td>Other PPIN hosts include passionfruit.</td>
<td></td>
</tr>
<tr>
<td>Phoma glomerata (stem</td>
<td>Vriesea hieroglyphica</td>
<td>Auckland</td>
<td>NPPRL</td>
<td></td>
</tr>
<tr>
<td>blight)</td>
<td>(vriesea, bromeliad)</td>
<td></td>
<td>Other PPIN hosts include apple, olive, perennial ryegrass, star</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yucca sp. (yucca)</td>
<td></td>
<td>jasmine and bangalow palm.</td>
<td></td>
</tr>
</tbody>
</table>
### CODES OF WELFARE – Animal Welfare Act Update

The table below is a quick guide as to the status of the various codes of welfare as they are developed under the Animal Welfare Act 1999.

<table>
<thead>
<tr>
<th>Code</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler Code</td>
<td>Came into force on 25 July 2003</td>
</tr>
<tr>
<td>Rodeo Code</td>
<td>Came into force on 1 January 2004</td>
</tr>
<tr>
<td>Pig Code</td>
<td>Came into force on 1 January 2005</td>
</tr>
<tr>
<td>Layer Hen Code</td>
<td>Came into force on 1 January 2005</td>
</tr>
<tr>
<td>Zoo Code</td>
<td>Came into force on 1 January 2005</td>
</tr>
<tr>
<td>Circus Code</td>
<td>Came into force on 1 January 2005</td>
</tr>
<tr>
<td>Commercial Slaughter Code</td>
<td>Public consultation completed. Final code to be presented to Minister of Agriculture mid-2005</td>
</tr>
<tr>
<td>Deer Code</td>
<td>Public consultation closed 28 February 2005</td>
</tr>
<tr>
<td>Cat Code</td>
<td>Under consideration by NAWAC</td>
</tr>
</tbody>
</table>

Work has also begun on codes of welfare for on-farm husbandry procedures (e.g. castration and dehorning), dogs, dairy cattle, and transport of animals by sea.

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### Extension to distribution reports

<table>
<thead>
<tr>
<th>Organism</th>
<th>Host</th>
<th>Location</th>
<th>Submitted by</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramularia persicaricola</td>
<td>Persicaria strigosa</td>
<td>Waikato</td>
<td>NPPRL</td>
<td>Other PPIN distributions include Auckland.</td>
</tr>
<tr>
<td>Uromycladium alpinum</td>
<td>Acacia mearnsii</td>
<td>Mid Canterbury</td>
<td>Forest Research</td>
<td>Other known distributions include Northland, Auckland, Bay of Plenty, Waikato, Gisborne, Hawke’s Bay, Rangitikei, Wairarapa, Wanganui, Wellington, Marlborough and Marlborough Sounds.</td>
</tr>
<tr>
<td>Peltochomis sp. (Chrysomelid beetle)</td>
<td>Acacia decurrens</td>
<td>Wellington</td>
<td>Forest Research</td>
<td>Other known distributions include Auckland, Gisborne and Wellington.</td>
</tr>
<tr>
<td>Hysterographium fraxinii</td>
<td>Fraxinus angustifolia</td>
<td>Nelson</td>
<td>Forest Research</td>
<td>Other known distributions include South Canterbury.</td>
</tr>
<tr>
<td>Anisoploca cosmia</td>
<td>Lagunaria patersonii</td>
<td>Bay of Plenty</td>
<td>Forest Research</td>
<td>Other known distributions include Auckland, Hawke’s Bay and Gisborne.</td>
</tr>
<tr>
<td>Stigmatella microtheriella</td>
<td>Corylus avellana</td>
<td>Bay of Plenty</td>
<td>Forest Research</td>
<td>Other known distributions include Nelson and South Canterbury.</td>
</tr>
</tbody>
</table>

---

### Validated new to New Zealand reports

<table>
<thead>
<tr>
<th>Organism</th>
<th>Host</th>
<th>Location</th>
<th>Submitted by</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syrphophagus aphidivorus</td>
<td>Myzus persicae</td>
<td>Auckland</td>
<td>Landcare Research</td>
<td>This hyperparasite (a parasite that attacks another parasite) is common and widespread internationally. It is associated with a large range of aphids, through a variety of (mostly) hymenopteran primary parasitoids. Specimens were reared from parasitised aphids.</td>
</tr>
</tbody>
</table>

---

### New host reports

No new host records during this period.

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### Extension to distribution reports

No new distribution records during this period.

---

Eleanor Morrison, Technical Support Officer, Biosecurity New Zealand, ph 04 498 9801, eleanor.morrison@maf.govt.nz

Suvi van Smit, Technical Support Officer, Biosecurity New Zealand, ph 04 460 8702, suvi.vansmit@maf.govt.nz

Wayne Ricketts, Programme Manager Animal Welfare, phone 04 474 4276, wayne.ricketts@maf.govt.nz
Exotic disease and pest emergency hotline: 0800 809 966
Animal welfare complaint hotline: 0800 327 027
www.biosecurity.govt.nz