WHAT IF?
Being prepared for an exotic disease emergency

Biosecurity Strategy
The first 10 steps

Market access for kumara

Marine biosecurity and regional councils
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.

For enquiries about specific articles, refer to the contact listed at the end of each article.

General enquiries (e.g. circulation requests or information about Biosecurity New Zealand):
Biosecurity Magazine, Biosecurity New Zealand, PO Box 2526, ASB Bank House, 101-103 The Terrace, Wellington, New Zealand.
Phone: 04 474 4100
Fax: 04 474 4257
Email: biosecurity@maf.govt.nz
Internet: www.biosecurity.govt.nz

Editorial enquiries:
Editor: Phil Stewart
Phone: 04 384 4688
Email: biosecurity@wordpict.co.nz

ISSN 1174 – 4618
Biosecurity New Zealand fax contacts:
Policy and Business: 04 474 4257
Animal Welfare: 04 474 4196
Pre-Clearance: 04 498 9888
Post-Clearance: 04 470 2730
Compliance and Enforcement: 09 300 1021
Incursion Investigation and Reference Laboratories: 04 526 5601

Contents

EDITORIAL
Reflections and themes from Biosecurity Summit... 3

FRONTLINE NEWS
FMD: The story we hope we never write ............. 4
New RNZSPCA Director appointed ................. 7
Weedbusters is 1 .................................... 7
Market access for kumara .......................... 8
Predators Gallop exercise .......................... 9

BIOSECURITY SYSTEMS
Biosecurity strategy progress ....................... 10
Exercise Taurus tests FMD preparedness .......... 13

BIOSECURITY SCIENCE
Trial for ‘air curtain’ incinerators .................. 14

INTERFACE
Laboratory animal scientists meet ................. 15
Biosecurity Summit: Marine biosecurity and regional councils .... 16

UPDATES ............................................. 18

DIRECTORY ......................................... 22
I have just returned from the second Biosecurity Summit in Auckland where I was very impressed with the quality of engagement and participation. There was a real sense of optimism and excitement about the future.

We are entering a new era for biosecurity. The vision was described in the Biosecurity Strategy last year and MAF has been busy since then building structures and systems that will allow us to turn that vision into reality. I also hope that we demonstrated that we had listened to, and acted on, the feedback from last year’s Summit.

Barry O’Neil launched Biosecurity New Zealand at the Summit. Built out of a restructured Biosecurity Authority and incorporating marine biosecurity, it signals MAF’s commitment to change and to build a platform for the future. I also expect that MAF’s focus will shift from the internal focus of the past 12 months, to a meaningful engagement with external stakeholders from now.

MAF is now accountable for overall management of the biosecurity system and I intend for us to provide leadership for biosecurity and deliver on our new accountabilities in pest management and marine biosecurity. We will do this without compromising the existing terrestrial programmes, which provide the basis for New Zealand’s reputation for biosecurity excellence.

But I am also very conscious that many other organization and people are involved. As Hon Marian Hobbs, Associate Minister for Biosecurity said, “biosecurity is everybody's business”. MAF needs to reach out and engage with regional councils, industry, Maori, community groups, and the general public.

We made a deliberate choice to focus on pest management and marine biosecurity as the two themes for the Summit because we recognise that this is new territory for MAF and we wanted your input, ideas and directions. I was delighted with the quality of the workshops and they showed me that there are some key opportunities in these two areas.

The need to clarify accountabilities and responsibilities was identified in both themes and MAF will be looking to facilitate and coordinate, particularly with regional councils and industry groups. As always, resources and funding issues go hand in hand with accountability questions, and I expect funding to be one of the key issues for the next 12 months. MAF will shortly be releasing a discussion paper about improving the consistency of biosecurity funding regimes.

There were also some useful discussions about the role of science in biosecurity – a theme that was also raised at last year’s Summit. There is still plenty of room to work together more effectively among agencies and research providers and also to be more strategic. The creation of specific roles in Biosecurity New Zealand for strategic science should significantly improve this situation.

A number of people suggested changes to the Biosecurity Act itself and we will add these to our own list of issues that need work. However, it was clear at the Summit that we cannot consider the Biosecurity Act in isolation – there is a large amount of legislation that overlaps with the Biosecurity Act, some of which already provides powers to manage biosecurity risks. One of our first tasks will be to understand and raise awareness of the complete legislative landscape.

We will also be concentrating on using and gathering information more effectively across the biosecurity system so that we better understand where the risks and gaps are, and so that we can better report on the performance of the whole system.

The wider mandate for biosecurity equates to more complexity in the system and in decision-making – all our decisions must be able to withstand scrutiny. Yet we cannot allow the system to become paralysed by this complexity. There will be times when MAF will have to act quickly and decisively – we have an obligation to clearly explain when we are doing so and why. I am also aware of the importance of building relationships and trust before we need to impose on communities.

All this adds up to a lot of work for MAF, and some difficult challenges to meet. A strong message emerging from the Summit was that MAF cannot succeed on its own and we will rely on continued engagement and help from all our stakeholders.

Finally, it is clear to me that we need to celebrate our successes in biosecurity. There are a lot of them and, together, we have much to be proud of.

Murray Sherwin, Director-General, MAF
THE STORY
we hope we never write
Hugh Davies doesn’t need reminding how serious his job is. The man in charge of coordinating New Zealand’s response to outbreaks of animal disease – such as the dreaded foot and mouth – has seen the devastation it can cause first hand.

In 2001, at the height of Britain’s foot and mouth outbreak, he was stationed in London with the British Government’s response team. It was an unbeatable learning experience for Davies – general manager at MAF’s National Centre for Disease Investigation – and not one he hopes to repeat.

British farmers were forced to undertake an animal cull of horrendous proportions.

Nearly five million sheep, 764,000 cattle, 428,000 pigs and 7500 goats were killed. The carcasses burned on huge funeral pyres that bathed the countryside in an apocalyptic glow. “It was shattering for the farmers,” Davies says. “Their livelihood, their herds and flocks that they’d built up over a lifetime were destroyed and they had no idea what the future held.”

Davies spent just one day visiting farms, although his veterinary staff were more closely involved in the containment operations. “I didn’t see panic,” he said. “But there was despair among the farming community. I was visiting an area where some flocks and herds had already been destroyed and the neighbours were expecting that in due course they would lose their livelihood as well.”

By the time the outbreak had run its course the costs had reached the multibillions. Compensation for stock alone cost the British Government about $6 billion. With the countryside off limits, the cost to the tourism industry was estimated to be $15 billion in the first year alone.

But British farmers, with their large domestic market and European Union subsidies, were not badly crippled by export bans as New Zealand farmers would be.

New Zealand farmers must stay vigilant, Davies says. In Britain, the virus spread to 57 farms in 16 counties before it was detected, making its impact far worse than it might have been. While the British crisis was in full swing it generated a lot of publicity about the disease in New Zealand, Davies says.

His team investigated about 40 suspected cases that year. That number has dropped to a historical norm of about 20 a year, he says.

“That being the case, any chance to emphasise the potential economic impact to the wider public is something to be seized. In this case, I must thank Philippa Stevenson who was my editor for the special Herald report on Agriculture in which this piece ran.”

Liam’s award-winning article, which ran in the New Zealand Herald in September 2003, is reproduced here with permission.

Hugh Davies

New Zealand Herald reporter, Liam Dann, has been awarded the Protect New Zealand Biosecurity Journalism Award, for a feature article on the likely impact of an outbreak of foot and mouth disease in this country.

This award was established by MAF Biosecurity (now Biosecurity New Zealand) in recognition of the increased media coverage of biosecurity ‘events’ and wider issues, and a desire to foster quality journalism which tells the story ‘behind the biosecurity event’.

“I’m really thrilled to accept the Protect New Zealand Biosecurity Award this year,” Liam says. “Border security is one of the most important issues the country faces, but such is the nature of the media that it seldom attracts much attention until something goes wrong.

“The subject of my article was foot and mouth disease. The thought of ever having to write a story about an outbreak in New Zealand is chilling to all ag journos, I’m sure. It would be the biggest story we would ever write but is one we all hope we will never have to.

“That being the case, any chance to emphasise the potential economic impact to the wider public is something to be seized. In this case, I must thank Philippa Stevenson who was my editor for the special Herald report on Agriculture in which this piece ran.”

Liam’s award-winning article, which ran in the New Zealand Herald in September 2003, is reproduced here with permission.
If a suspected case can’t be ruled out over the phone, a vet will be on the road to visit the farmer within 30 minutes. MAF has a team of vets throughout the country contracted to be on call 24 hours a day, seven days a week, Davies says. Of the 20 or so cases that warrant a visit each year, about half end up in the laboratory for additional testing. These are the ones that can sometimes be a cause for concern.

Red alert would be too strong a term to describe them, Davies says. “Maybe orange alert.”

Even though the cases have always been negative, the New Zealand economy is so vulnerable to the disease that just a rumoured case can spark a panic in financial markets.

“We did have one case where what appeared to be blister on a cattle beast was seen at a freezing works and that caused the dollar to drop,” he says.

“Word got out before we had anyone on the premises to look. That turned out to be just a scratch.”

More recently, in August, the dollar dived 1c on the back of European rumours that New Zealand had a foot and mouth outbreak. In that case it appears there was no basis for the rumour, and it may even have been malicious. There needs to be a balance between making sure the information gets to the right people and keeping a lid on the potential panic it can cause, Davies says. “People need to behave maturely and not start reporting rumours to their neighbours and saying MAF’s coming out.”

From a practical point of view, the last thing you’d want if it was real would be people rubbernecking and possibly taking the virus off the land with them, he says. If an outbreak was confirmed, all the animals on the farm would immediately be slaughtered. After that, inspections would be made of neighbouring properties, and movements of all stock and vehicles from the property for at least the past two weeks would be traced.

A control area of at least a 10km radius would be placed around the farm and stock and goods movements throughout the region would be stopped. Community and sporting events in the surrounding countryside would be cancelled.

Although agricultural exports would be stopped, people could continue to arrive and depart from New Zealand.

Davies believes New Zealand would be able to handle some aspects of the control process better than the British. New Zealand has shorter communication channels because of the simple national structure, he says. That would speed up the rate at which action could be taken.

He also believes our “can do” attitude would make a big difference. British organisations are more hierarchical, so the decision-making process is slower.

“In New Zealand we would have a greater expectation of the guys on the frontline to be making decisions.” New Zealand has also increased the country’s resources and capability as a result of what we learned in Britain, Davies says.

“The Government has invested a lot in the last year, and more this year, to enhance specifically the foot and mouth capability.” In this year’s budget an additional $2.46 million was allocated over four years for aircraft, passenger and mail inspection.

Another $2.3 million in the next financial year, rising to $2.5 million for the two following years, was allocated for responding to exotic diseases, specifically foot and mouth.

Last month the Cabinet approved a further $3.5 million to implement a new biosecurity strategy which, among other things, will ensure that every container that enters the country is screened for pests and undesirable organic matter.

Ultimately, everybody must play their part to keep diseases like foot and mouth out of the country, Davies says.

The most important thing is for people to declare everything they have when returning from overseas. That could be anything from a pair of dirty tramping boots to food scraps.

“The worst offenders when it comes to bringing things across the borders are New Zealanders,” he says. “That’s a bit scary.”

**FOOT AND MOUTH**

**The damage**

- A foot and mouth disease outbreak in New Zealand would plunge the country into an instant recession.
- In the first year, $6 billion would be wiped off GDP, rising to $10 billion in the second year.
- The dollar would immediately drop by 20 per cent.
- 20,000 jobs would be lost.
- Meat export volumes would fall about 80 percent in the first six months. They would not fully recover for almost two years.
- Inflation would fall by 1.5 per cent.

*Source: Reserve Bank Report 2003*

**What to look for**

- The sudden onset of lameness in sheep or cattle.
- Animals drooling or off their food.
- Anything that looks like a blister.

If you have any concerns, don’t hesitate to call the MAF hotline: 0800 809966. Most suspected cases are ruled out over the phone.
Weedbusters, the national interagency weeds education and awareness programme, is celebrating its first birthday.

Weedbusters’ National Coordinator, Amber Bill, says the first year of the Weedbusters programme has shown how keen New Zealanders are to protect the environment from weeds.

“There is currently New Zealand’s weeds problem costs the country more than $100 million a year in lost production and preventative measures,” says Amber.

“A Weedbusting effort can be something as simple as the home gardener having a good awareness about the plants in their garden and taking care not to grow invasive weeds, or for the really keen, they might want to join or form their own community Weedbusters group.”

So what’s in store for the following year? Weedbusters will be encouraging even more New Zealanders to join the groundswell of weedbusting action, and to help stop the spread of weeds.

www.weedbusters.org.nz

**STOP PRESS:**

WHERE’S WOODY?!

A New Zealand-wide search was launched last month for the loveable national Weedbusters mascot, Woody Weed, who went missing en route between promotional commitments for the Weedbusters programme.

Weedbusters national coordinator Amber Bill says Woody went AWOL after a Department of Conservation wetlands restoration workshop at Greymouth.

“Woody was next scheduled to attend an inspirational garden tour around Rangitikei and assist the Horizons Regional Council in a plants information programme for gardeners.”

Since being introduced to help promote the national inter-agency weeds education and awareness programme, Woody has embarked on a round of non-stop commitments, visiting community events, workshops and schools regularly for Weedbusters.

Like all good news stories, this one has a happy ending. The prankster Woody turned up safe and well but in Sockburn, Christchurch.
Biosecurity New Zealand is negotiating on behalf of kumara growers to gain access to markets for New Zealand kumara in Japan, Korea and Taiwan. Unfortunately, 10 years ago legislators in these countries misinterpreted information on the presence of two important weevil pests of kumara. They believed these two pests (the sweet potato weevil, *Cylas formicarius* and the West Indian sweet potato weevil, *Euscepes postfasciatus*) were present in New Zealand and the importation of New Zealand kumara has been prohibited ever since.

Biosecurity New Zealand confirms that neither species has ever established in New Zealand. The prohibitions were based on misinterpretations of articles by B.M. May (1993) and C.H.C. Lyal (1993).

Biosecurity New Zealand is liaising with the relevant plant protection authorities to seek modification and correction of these records, and to remove the prohibition on the importation of New Zealand kumara.

With careful reading, the articles clearly state that New Zealand is free of *Cylas formicarius* and *Euscepes postfasciatus*, but from a rapid scan or to a non-English speaker they could be ambiguous.

In *Larvae of Curculionoidea (Insecta: Coleoptera): a systematic overview*¹ the late Mrs May refers to an interception of *Cylas formicarius* at Auckland airport and states “the species has never established in New Zealand”.

The checklist of taxa in the article also confirms that neither species is present in New Zealand. In the subsequent, and definitive revision of the subfamily Cryptorhynchinae in New Zealand² (42 genera covering 258 species), the author makes no mention of *Euscepes postfasciatus* – because it does not occur in New Zealand.

Dr Trevor Crosby of Landcare Research says, “I believe that both Fauna N.Z. 28 and 29 provide definitive evidence that these two species are not established in New Zealand.” CAB International has recently revised the distribution list for both species in its Crop Protection Compendium Website and specifically notes that *Cylas formicarius* and *Euscepes postfasciatus* are absent from New Zealand.

This case demonstrates the need for absolute clarity in drafting of scientific or even general articles about pests and the unforeseen consequences that can occur if there is ambiguity.

It is very difficult to change a record once it is in the public domain but it is encouraging to note that all three countries are actively considering the request for change.

Bob Macfarlane,
Senior Advisor – Plant Exports,
Biosecurity New Zealand,
PO Box 2526,
Wellington,
New Zealand,
phone 04 474 4182,
fax 04 498 9888,
mobile 029 246 6093
www.biosecurity.govt.nz/exports/plants

¹ May, B. M. 1993: Larvae of Curculionoidea (Insecta: Coleoptera): a systematic overview. *Fauna of New Zealand* 28, 226 pages. (ISSN 0111-5383; no. 29)
A team of four MAF Quarantine Officers had a part to play in a recent New Zealand Defence Force joint ANZAC Exercise called Predators Gallop 04 in the Northern Territory of Australia. The officers undertook the pre-shipment inspection of vehicles and troops returning from Darwin during August – early September.

Unique to this exercise was the return of 18 of the Army’s new LAVs (Light Armoured Vehicles), deployed overseas for the first time. These had received a good workout, bashing through the bush in Australia’s red centre. On return to Robertson Barracks, Darwin, cleaning and inspection presented a challenge to both the LAV crews and the MAF team, as finding the contaminated areas was uncharted territory.

As a form of audit, following cleaning, the dirtiest LAV was taken into the workshops at Robertson Barracks and subjected to a more intensive inspection. A team of mechanics removed the power pack, consisting of the engine transmission and air conditioning, allowing MAF to assess what had become trapped in the belly of the compartment. Thankfully very little was found, soaked in oil and unable to escape. This was a major procedure involving a 20 tonne gantry crane and several mechanics working for much of the day. The result was a MAF team confident a good job had been done of the pre-shipment cleaning.

In addition to the LAVs, other NZDF vehicles and equipment were inspected prior to shipping home and all troops were cleared before departing.

During the exercise, vehicle crews noticed how easily some apparently substantial trees in the bush could be pushed over by the advancing LAVs. Termite attack hollows out the centre of the tree trunk, seriously weakening the tree’s structural strength (see photo).

Some species of subterranean termites build mud covered tunnels (runways or shelter tubes) to traverse structures above ground. These protect them from daylight and predators.

In the Northern Territory’s Litchfield National Park a significant tourist attraction is the magnetic termites, Amitermes meridionalis. These termites construct massive mounds that protect the colony and assist in controlling temperature fluctuations. The elongated mounds are aligned north-south. This ‘magnetic’ orientation controls the heat from the sun as it tracks across the sky from east to west.

Subterranean termites can be found almost everywhere in Australia’s Northern Territory and the Australian building industry has had to adopt practices to avoid the possibility of untreated timber coming into contact with the ground. Fortunately, in New Zealand they are virtually unknown. Anyone familiar with termites (white ants) and the damage they inflict will support efforts to keep them out of New Zealand.

The discovery of any suspected subterranean termite colonies in New Zealand should be reported to MAF for investigation. ■

---

**Predators Gallop in Australia’s Northern Territory**

By Jaimie Baird, MAF Quarantine Service

By Jaimie Baird, MAF Quarantine Service
The Biosecurity Strategy, released in August 2003, outlined a wide range of expectations of the biosecurity system. It also recommended 10 steps be implemented immediately. One year on, it is worth reviewing those first 10 steps. How have we done so far? In this article, Paul Stocks, Director Biosecurity Strategic Unit, gives a progress report on each of the first 10 steps.

Overall, we have made good progress to date, particularly on building the structures needed to implement the Biosecurity Strategy. There is wide acceptance of the need to progress these steps and MAF is committed to implementing them.

The steps cover a range of activities. Some are one-off activities, while some are ongoing changes to the way biosecurity is managed and the way we think about the challenges we face. The risk management and prioritisation steps will take time to establish across the biosecurity system and is acknowledged as a longer term programme.

### Progress on the First 10 Steps

#### 1

Make MAF clearly accountable for overall management of the whole biosecurity system, on behalf of all New Zealanders.

**Completed**

In August 2003, Cabinet assigned accountability to MAF for end-to-end management of the biosecurity system.

Roles of the four central government biosecurity agencies have subsequently been better defined, including the difference between system oversight and service delivery. Pest management roles in MAF have been clarified and capability planning begun. The Ministry of Fisheries’ marine biosecurity role has been transferred to MAF. MAF has increased its focus on coordination with other agencies, for example, closer relationships are being forged with regional councils and with the Environmental Risk Management Authority.

#### 2

Put in place the necessary systems, structures and capabilities within MAF to support its role — starting with strong strategic capability.

**Underway**
The Biosecurity Strategic Unit is up and running. It provides strategic direction for biosecurity as well as system monitoring and evaluation. The Biosecurity Strategic Unit reports directly to MAF’s Director-General, but also to the Chief Executives’ Forum. Restructuring the Biosecurity Authority, now Biosecurity New Zealand, has just been completed. Positions to scope and build pest management capability in MAF have been created. A review of MAF’s corporate capability was completed in June 2004. The report found that significant measures are needed to improve corporate services, which the Director-General has undertaken to implement.

Once the new structure has bedded in, Biosecurity New Zealand will be in a position to review capability requirements further.

A Biosecurity Chief Executives’ Forum is established and running well with the chief executives of MAF, the Ministry of Fisheries, the Department of Conservation, the Ministry of Health and Te Puni Kokiri. A Biosecurity Ministerial Advisory Committee should be appointed by the end of the year and its first meeting is expected to be in early 2005. Membership encompasses the following interests: production/economy; environment/conservation; human health; Maori; marine; regional councils; science, research and technology; transport (including ports and airports); tourism; and public interest.

The Regional Central Government Forum has been established and has already met twice. A specific work plan has been developed and MAF has a specific project to address the main priorities in the work plan. Existing industry and stakeholder forums are continuing for the time being. The forums will be revisited in future to see whether they need to be rationalised.

The Protect New Zealand brand was reviewed due to concerns about its effectiveness and a new Biosecurity New Zealand brand created to replace it, following market research and stakeholder input. The Biosecurity New Zealand brand will be used by both central and regional government biosecurity agencies. A full communications plan and strategic framework for biosecurity awareness and communication was completed and enabled by additional appropriation of $1 million for 2004/2005. Current social marketing activities include: improving pre-travel information for arriving passengers (including updating the website), improving airport signage, and working with industry bodies on specific pest responses.

This step will require ongoing delivery and will continue to be a priority in the long term.
The Ministry of Research Science and Technology has started coordinating a biosecurity research strategy. Preliminary steps have been taken to engage agencies, including MAF, DOC and MoH and research providers, in early 2005.

MAF has recognised the need for better science coordination and has created three senior science adviser positions (plants, animals and marine) to help improve science overview.

New funding of $19.5 million over four years was allocated to marine biosecurity in Budget 2004 and a significant proportion of this funding is for science. The priority for next year is to identify biosecurity-wide research priorities.

Risk management processes are fundamental to the biosecurity system. Many decision making processes already consider the full range of risks, but there is still a need for more robust, transparent and consistent approaches. The need to consider the full range of risks is now reflected in the risk management framework, MAF’s statement of intent, the outcomes framework and in the structure of Biosecurity New Zealand.

Priorities for next year will be to use the outcomes framework more widely in strategic planning and use the risk management framework in a wider range of areas to change the way decisions are made.

Funding for biosecurity has consistently increased over time. The 2004/05 budget added $40 million over four years to Votes Biosecurity, including: $19.5 million over four years for marine biosecurity, $1 million a year for Protect New Zealand, and $7.8 million over four years for border monitoring and effectiveness. Funding was also provided to: help with MAF’s restructuring; provide for new positions in pest management and health risk assessment; and to build capability in core services, including financial management. MAF will consider capability further when the structure has settled.

There is still a long way to go before all the first ten steps have been completed, and many of them are ongoing tasks that will never be finished, but progress is encouraging. The next 12 months will be an exciting time.

Paul Stocks, Director, Biosecurity Strategic Unit, phone 04 471 5524, paul.stocks@maf.govt.nz

Camilla Cox joins the Biosecurity Strategic Unit as a senior analyst in the Design and Delivery team.

It’s her second stint with the unit following a six-month secondment from MFish last year to work on the implementation of the Biosecurity Strategy.

Prior to joining MAF, Camilla was part of MFish’s Marine Biosecurity team. She was responsible for coordinating the ministry’s input into the Biosecurity Strategy.

She is looking forward to continuing the work she started during her secondment and facing “the challenge of working in a larger team that brings different approaches to problem solving”.

Maria Cassidy began working for Biosecurity New Zealand at the beginning of November 2004. She takes up a role as Senior Policy Analyst for the Policy and Business group, headed by Chris Baddeley.

Maria will focus on marine issues, providing policy support to other directorates within Biosecurity New Zealand, the Biosecurity Strategic Unit, and other relevant government agencies.

Maria comes to MAF after a nine-year stint at the Ministry of Fisheries where she worked in both the fisheries and marine biosecurity policy teams and as the Fisheries Private Secretary to the Hon John Luxton. She has an MSc in Zoology from Otago.

Allan Bauckham recently completed a full circle when he returned to MAF in November this year.

Allan began working for MAF in 1976, where he was involved in agriculture policy and fishery management. In 1995, Allan went to work as Manager of Biosecurity for MFish when fisheries management functions transferred from MAF.

He returned to MAF on 1 November as a team manager within the Policy and Business directorate when Biosecurity New Zealand acquired responsibility for marine biosecurity from MFish.

His main role is currently providing the government with advice on the Ballast Water Convention, which has been adopted by the International Maritime Organisation.

Liz Jones spent four years in MFish’s Marine Biosecurity Group before shifting to MAF to become a policy analyst in Biosecurity New Zealand’s Policy and Business directorate.

Her specialist area at MFish was shipping ballast water controls. Among her projects, she was responsible for initiating research on ‘bio-fouling’ as a pathway for unwanted organisms.

Prior to joining MFish, she worked in DOC’s coastal planning team for eight years. Having worked in small teams during her time at MFish and DOC, she is looking forward to “taking advantage of MAF’s established resources and processes” to help improve New Zealand’s marine biosecurity.
Exercise Taurus will test FMD preparedness

A simulated foot and mouth disease (FMD) outbreak in the North Island early next year will be the focus for two interlinked exercises to strengthen national technical and management capabilities for dealing with an exotic disease outbreak in New Zealand.

Preparation by Biosecurity New Zealand (BNZ) and the New Zealand Food Safety Authority (NZFSA) for Exercise Taurus is well advanced.

The Taurus field exercise will focus on activities centred in the Manawatu-Wanganui region and the role of the field operations response team (FORT) and the Exotic Disease Response Centre (EDRC). The general objectives are to:

- define the level of technical resource requirements for dealing with an outbreak
- translate the FMD technical policies into operational procedures at the regional level
- test communication within the exotic disease response structure.

The National Response Centre (NRC) exercise will practise functions of the NRC and its interface with the Domestic and External Security Coordination system (DESC) which would be activated during an outbreak of any nationally significant exotic disease. This exercise will take place in the National Emergency Management Centre in the basement of the Beehive.

The objectives of that component of Taurus are to:

- provide familiarisation with FMD technical response policies and their implications
- practise MAF’s NRC and Whole of Government Response Procedures
- address key policy decisions such as a national livestock standstill and disposal of infected carcasses plus contiguous cull or vaccination
- build on earlier planning and exercising involving the DESC system
- exercise the interagency communications group
- engage key industry stakeholders; and to clarify the responsibilities of other government departments and external agencies that have a role in FMD response.

Planning for Exercise Taurus has been underway for more than a year, and has involved regular meetings within MAF and across relevant government agencies. This process has allowed the lessons learned from the previous ODESC exercise in December 2002 to be incorporated into planning, and has helped clarify the responsibilities and involvement of the main players. It has also revealed a number of areas where further work is required prior to the simulation.

A preliminary walkthrough took place on 8 December 2004 in the National Emergency Management Centre for all MAF planners, exercise participants as well as BNZ and NZFSA Directors. Progress to date is now being reviewed and the final simulation exercise dates will be confirmed.

Dr Dorothy Geale DVM PhD BSc (Hons), Senior Adviser (Animals) Surveillance and Incursion Response, Biosecurity New Zealand, PO Box 2526, Wellington, New Zealand, phone 04 496 9884, mobile 027 223 1932, fax 04 474 4133
Biosecurity New Zealand is currently undertaking contingency planning for emergency animal carcass disposal in the event of an outbreak of foot and mouth Disease (FMD) or similar type of animal disease. As part of this programme, various disposal options are being investigated.

Air curtain incineration (ACI) technology is a potentially appropriate method for on-site disposal. ACI involves blowing a curtain of air across the top of a rectangular pit in which carcasses are burned on a wood fire. The high velocity air curtain is deflected into the heart of the fire to facilitate fierce oxygenated combustion conditions. The products of combustion are mixed with entrained air from above the air curtain to give a smokeless exit gas discharging to air above the ACI unit.

Biosecurity New Zealand will be conducting a trial on the performance of a pit burning ACI unit in disposing of sheep, cattle and poultry carcasses in the Waikato using an ACI unit presently in New Zealand. This unit is a small pit burning model manufactured by Concept Products Corporation, Paoli, United States (pictured).

The primary purpose of the project is to investigate the efficiency and effectiveness of the available unit from a combustion engineering perspective and then to compare its performance with a range of other ACI systems of equivalent or larger size.

Key aspects of the project include investigating how to optimise the performance of the pit burning unit (primarily through temperature control); determining the optimum carcass disposal rate; and identifying the national and regional compliance implications, specifically the consents process under the Resource Management Act and the Ministry for the Environment’s Environmental Standards for Air Quality. Discharges to air and any wider environmental effects will be accurately monitored and assessed.

The trial is currently being designed and managed by a multi-disciplinary environmental and engineering consulting firm that specialises in ambient air monitoring and emissions testing. The methodology considers:

- compliance issues and RMA consent
- site location and timing of the trial
- sourcing and transport of materials to the site
- health and safety
- fuel type and efficiency
- effectiveness of carcass incineration
- calibrating monitoring equipment
- combustion monitoring and control
- emissions and downwind monitoring
- site aftercare.

Project oversight is provided by a steering committee with representatives from Biosecurity New Zealand, Agriquality, the Ministry for the Environment, and Environment Waikato. The project steering committee will report to Biosecurity New Zealand’s wider Disposal Steering Committee, which comprises representatives from Biosecurity New Zealand, Agriquality, the Ministry for the Environment, the Ministry of Health, the Department of Conservation and Local Government New Zealand.

The project started in November 2004 and will finish in May 2005.

Dorothy Geale DVM PhD BSc (Hons), Senior Adviser (Animals) Surveillance and Response, Biosecurity New Zealand, PO Box 2526, Wellington, New Zealand, phone 04 498 9684, mobile 027 223 1932, fax 04 474 4133
Laboratory animal scientists meet in Tampa

M AF’s Director Animal Welfare, David Bayvel, recently visited Tampa, Florida, as an invited speaker at the 55th national meeting of the American Association of Laboratory Animal Science (AALAS). David was invited to give the third annual Charles River Foundation Lecture. His presentation was entitled ‘A Global Perspective on Animal Welfare – Issues, Trends and Challenges.’

Charles River Laboratories (CRL) was founded in 1947 by a young veterinarian, Dr Henry Foster, in a warehouse on the Charles River in Boston. Dr Foster began breeding rats for the local research community. As demand grew for these specially bred animals – used as models for human disease – Dr Foster moved the operation to Wilmington MA, where the corporate offices remain today.

CRL has grown from this one-man company producing rats to a company of over 7000 employees located in more than 20 countries around the globe. In addition to producing an array of animal models, CRL is the world’s largest source of specific pathogen free (SPF) eggs used in vaccine work, and provides in vitro and in vivo pre-clinical testing, clinical testing of pharmaceuticals and contract consulting and staffing to academic, governmental and private institutions.

Through the Charles River Laboratories Foundation, CRL supports local, national and international public outreach programmes to help people understand the important work done with animals in research. The Foundation also supports several research efforts which are focused on the ‘Three Rs’ and improving research animal welfare.

AALAS is a non-profit organisation made up of individuals and institutions concerned with the production, use, care, and study of laboratory animals. Through its national meetings and publications, information on all phases of the care and management of laboratory animals is collected and disseminated.

The Tampa meeting attracted more than 4000 delegates from over 30 countries and the programme included presentations on:

- Developing animal care and use guidelines in the global environment
- The animal rights movement: its history and its current and future impact
- Proactive programmes countering animal rights violence
- Building a legal labyrinth towards rights for animals
- The world of the automated vivarium [transparent study enclosure for small animals].

David was also invited to attend the ICLAS/AALAS International Consortium meeting.

The International Council for Laboratory Animal Science (ICLAS), established in 1956 under the auspices of UNESCO, is a non-governmental and non-profit scientific organisation for international cooperation in laboratory animal science. The ICLAS mission is to advance human and animal health by promoting the ethical care and use of laboratory animals in research worldwide.

The aims of ICLAS include:

- To promote and coordinate the development of laboratory animal science throughout the world and as a matter of priority in developing countries;
- To promote international collaboration in laboratory animal science;
- To promote quality definition and monitoring of laboratory animals;
- To collect and disseminate information on laboratory animal science;
- To promote worldwide harmonisation in the care and use of laboratory animals;
- To promote the humane use of animals in research through recognition of ethical principles and scientific responsibilities;
- To promote the ‘Three Rs’ tenets of Russell and Burch: replacement, reduction, refinement.

David’s overview of international animal welfare developments, including the role of the OIE (the World Organisation for Animal Health), was well received. It is anticipated that both AALAS and ICLAS will be active participants in the OIE animal welfare strategic initiative.

www.aalas.org
www.iclas.org
David Bayvel, Director Animal Welfare, phone 04 474 4251, fax 04 474 4196, david.bayvel@maf.govt.nz

National Animal Welfare Advisory Committee

Bruce Warburton recently retired from the National Animal Welfare Advisory Committee (NAWAC), having served three terms as the nominee of Manaaki Whenua Landcare Research. Mr Warburton, who has expertise in pest management and conservation, provided significant input into NAWAC’s discussions on the humaneness of pest control methods. He was also deputy chair of the Committee for several years.

He is replaced on the Committee, from 1 November 2004, by Dr Cheryl O’Connor, a scientist with a doctorate in animal behaviour, and also the nominee of Manaaki Whenua Landcare Research. Dr O’Connor’s term of appointment runs until 31 October 2007.

National Animal Ethics Advisory Committee

Long-serving member, Lynne Milne, recently retired from the National Animal Ethics Advisory Committee (NAEAC). Mrs Milne served three terms on NAEAC and her significant contribution to its work will be greatly missed.

Mrs Milne is replaced on the Committee by Dr Philip Lyver, a vertebrate ecologist with Manaaki Whenua Landcare Research. Dr Lyver brings knowledge and experience of environmental and conservation management to the Committee, plus a Māori perspective. His term of appointment runs until 31 October 2007.

www.iclas.org
www.aalas.org
In the last few years, regional councils have become increasingly involved in marine biosecurity. At the Second Biosecurity Summit, Lindsay Vaughan from Tasman District Council provided a personal view about the future role of regional councils in this area.

Biosecurity Summit:

Marine biosecurity and regional councils

The twelve regional councils and four unitary authorities with regional responsibilities have certain responsibilities for coastal marine areas to the 12-mile territorial limit and these are defined in the Resource Management Act 1991 (RMA); their biosecurity responsibilities are governed by the Biosecurity Act 1993.

The RMA and regional council responsibilities for coastal marine areas

Relevant sections of the RMA include:

- Section 6 (protection of significant habitat, and the relationship of Maori to coastal waters)
- Section 7 (natural resources, enhancement of amenity values, intrinsic values of ecosystems, and the quality of the environment)
- Section 12 (restrictions on the introduction of exotic or introduced plants into the foreshore or seabed)
- Section 15 (discharge of harmful substances into the coastal water, including micro-organisms).

Councils are required to prepare coastal plans for all coastal marine areas. These plans need to give effect to the National Coastal Policy Statement.

Two relevant policies (1.1.3 and 1.1.4) include protection of coastal ecosystems. Clarification is needed on the application of these aspects of the RMA to councils’ marine biosecurity responsibilities.

The Biosecurity Act and regional councils

The Biosecurity Act emphasises the importance of pre-border controls, as well as the management of pest species once they have arrived. It is the latter role that primarily concerns regional councils.

Section 12 deals with the powers of regional councils:

- monitoring and surveillance
- assessment, management and eradication
- preparation and implementation of regional pest management strategies.

Regional pest management strategies (RPMS) are a five-year plan outlining how councils will manage the animal and plant pests listed in the document. These strategies have mostly focused on terrestrial plants. There are about 130 plants listed in the different councils’ strategies, excluding those listed in the National Pest Plant Accord, but only two are marine pest plants – *Spartina* (cord grass) and *Undaria* (Asian kelp).

*Undaria pinnatifida* (Asian kelp)

This fast-growing seaweed was first identified in Wellington Harbour in 1987. During the 1990s, it spread to other ports, arriving in Port Nelson in 1997 and in Golden Bay in 1998. Within two years, it had spread through much of Nelson Haven and onto a vessel in the marina. In the following year, it had spread to another 35 vessels. Nelson City Council waited three years for a response from central government after repeated requests for policy guidance.

*Undaria* in Golden Bay threatens the rocky shoreline of Abel Tasman National Park. Both Tasman District Council and the Department of Conservation (DOC) are monitoring its progress. The high population of browsing animals in the coastal waters, an unintended consequence of over-fishing, is probably helping keep *Undaria* under control on the rocky shorelines at present.

DOC attempted to eradicate *Undaria* from Bluff Harbour and Stewart Island. Although eradication was unsuccessful, it did achieve containment at low densities. Eradication was achieved on a fishing trawler that sunk off the Chatham Islands (*Biosecurity* 48:14, December 2003).

The Government’s decision not to proceed with a National Pest Management Strategy and not to fund control work in Bluff and Stewart Island has raised concern about the potential impact of *Undaria* on World Heritage...
Didemnum vexillum removed from the hull of the Steel Mariner, Shakespeare Bay, Marlborough Sounds. Photo: Cawthron Institute

sites in Fiordland and the sub-Antarctic islands.

Didemnum vexillum (sea squirt)
In December 2001, a heavily-fouled barge from Tauranga was anchored near the Port of Picton. The fouling included two potentially harmful species: Undaria and Didemnum. Of the estimated 25 tonnes of fouling, Didemnum made up about 3 tonnes on the hull and a further 0.5 tonnes on the seabed.

Cawthron Institute was contracted by the Port Marlborough NZ Ltd to provide recommendations for managing the infestation. Concern about potential impacts to the mussel industry led the stakeholders to select immediate eradication as the preferred option.

Didemnum was removed from the hull using a specially-designed cutter that ensured debris and spores were retained in its filtering system. Further treatment included dumping dredgings on the seabed under the barge site, placing plastic wrappings around the wharf piles, covering the seabed under the wharf with filter fabric, and treating infested moorings and vessels. Treatment costs were estimated to be around $300,000. The Marlborough District Council eventually obtained a court order to have the vessel removed and scuttled.

A delimitation survey in July 2004 showed that eradication was unsuccessful. Didemnum was found on the plastic wrappings, alive under the filter fabric, and on some vessels and moorings. It had also been transported to Arapawa Island in outer Queen Charlotte Sound.

An updated report reviewed four options and their costs and benefits to the mussel farming industry. Although the active management options provided benefits that substantially exceeded costs, estimates of success were less than 50%. The Marine Farmers’ Association recommended an option involving monitoring and information; this was adopted by the Council.

Spartina (Cord grass)
Spartina is an introduced estuarine plant that grows in the upper inter-tidal zone. Three species are recorded in New Zealand: S. alterniflora, S. anglica, S. x townsendii.

S. x townsendii was introduced into New Zealand in 1913 from North America to assist in estuary stabilisation. S. alterniflora and S. anglica were introduced into Nelson in the 1950s to assist in estuary reclamation.

Spartina forms dense stands that trap sediment, dramatically changing estuarine habitat. Concern about its impact in Nelson led to ground-based treatment starting in the mid-1970s and aerial spraying in the mid-1980s. An estimated 45 ha was treated in Waimea Estuary and two small areas (2 ha) in Whanganui Inlet, west of Golden Bay. A small annual programme of hand-spraying is needed to treat regrowth from vegetative fragments.

Eradication of small patches has been achieved in estuarine areas near Farewell Spit, Kaiteriteri, and Riwaka. Extensive areas are currently being sprayed in other regions, often involving the local council and DOC.

The programme has succeeded because of the plant’s visibility, fixed location, slow rate of spread, the ability to use herbicides, and intensive site treatment with experienced operators. Unfortunately, none of these factors apply to the management of most marine organisms.

Nelson – Tasman Regional Marine Biosecurity Management Plan
To improve regional response to future incursions, a marine biosecurity committee involving regional stakeholders has been set up under the auspices of the Port Nelson Environmental Committee and is developing a Nelson – Tasman Regional Marine Biosecurity Management Plan.

It aims to:
• clarify the roles and responsibilities of the various agencies, and
• achieve a rapid and effective response.

It could provide a useful model for other regions to use in integrating the roles of a wide range of stakeholders. A doctoral study on risk management pathways will feed into this plan.

Regional councils and marine biosecurity
Regional councils have experience and expertise in terrestrial biosecurity and are generally well-supported in this work by councillors and ratepayers. However, regional councils have little or no expertise in marine biosecurity and apart from Cook Strait, there are few barriers to the spread of marine organisms. Land-based rates are not considered to be the appropriate method for funding biosecurity work in the coastal marine area.

Central government will maintain the primary responsibility for management of new incursions, and for the management of pests that require national coordination. Regional government is seeking a dialogue with central government over the transition of responsibilities for specific marine pests.

Legislative responsibilities for the councils have not been well defined and, while the RMA outlines some general principles, it is not clear what this means in practice, particularly in regard to the Biosecurity Act.

If regional councils are to participate effectively in marine biosecurity, they will need:
• clarification of legal responsibilities
• adequate resourcing
• access to marine biosecurity expertise
• access to key staff members in central government agencies
• a strong commitment to cooperation from central government agencies
• a mandate from ratepayers
• acceptance of this role by regional councillors.

Lindsay Vaughan, Tasman District Council, phone 03 543 8432, lindsay@tdc.govt.nz

A dense colony of Undaria pinnatifida in Lyttelton Harbour. Photo: Cawthron Institute.
New import health standards

Feathers for commercial, fly-tying and ornamental purposes from all countries

Clause 6.5 of the previous standard referred to Clause 6.5 of the “Import Health Standard for ornamental animal products from all countries”. This has been changed to refer to Clause 6.6. The number of this clause changed in the latest reissue of “Import Health Standard for ornamental animal products from all countries.” Minor editorial changes have also been made. This standard is dated 7 October 2004 and replaces that dated 9 July 2002.

Juvenile yellowtail kingfish (Seriola lalandi) from Australia

The new import health standard was dated 18 October 2004.

This standard was then reissued on the 22 October as Clause 3 of the Veterinary Certificate which refers to the type of cell line the samples should be cultured on. It was changed from the Goldfish Cell Line to the Grunt Fin Cell Line. The acronym 'GF' was incorrectly interpreted.

Specified animal products and biologicals from all countries

Minor editorial changes were made to clarify product eligibility on 18 October 2004 and this has replaced the IHS dated 26 June 2004.

In Eligibility Clause 6.10 the Manufacturer’s name has changed from ‘Aplin and Barret’; to ‘Danimos’ has also been changed.

This standard is now dated 27 October 2004 and replaces the IHS dated 18 October 2004.

Dairy products for human consumption from Malaysia

The manufacturer’s company name in clause 7.2.1 ‘Chocolate Products Manufacturing SDN BHD’ has been updated to ‘Maestro Swiss Food SDN BHD’.

Minor editorial changes were also made.

This standard is dated 18 October 2004 and replaces the IHS dated 8 May 2000.

Specified bee products from all countries

‘Propolis’ has been added to the notes section of Eligibility Clause 6.6.

This standard is dated 26 October 2004 and replaces the IHS dated 25 March 2004.

Shelf-stable pet foods containing animal products from all countries

The 10 new EU Member States (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia) have been added to the EU definition.

Clauses 8.2, 8.3, 8.4 and 8.9 have been amended regarding the European Union Member states and eligibility.

This standard is dated 21 October 2004 and replaces the previous IHS dated 20 April 2004.

Equipment used with animals from all countries

The 10 new EU Member States (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia) have been added to Eligibility Clause 7.1.

This standard is dated 21 October 2004 and replaces the IHS dated 11 May 2004.

Meat and meat by-product samples for evaluation from specified countries

The EU Member States have been deleted as meat products can be imported under specific EU IHSs and these products have equivalence. An NZFSA clause regarding BSE has also been added.

This standard is dated 21 October 2004 and replaces the IHS dated 25 January 2002.

Animal sentence conference


This ground-breaking international conference, organised by the Compassion in World Farming Trust, will focus on important new scientific discoveries about the sentience of animals and the profound effects these might have on all areas of human life.

This gathering will be addressed by some of the world’s leading experts in animal and veterinary science, agriculture, conservation, food supply, retailing, government policy, education, philosophy and ethics. A keynote address will be given by renowned primatologist Dr Jane Goodall.

New Zealanders scheduled to speak at the conference include:

- Dr David Bayvel, Biosecurity New Zealand Director of Animal Welfare, member of the Australian College of Veterinary Scientists and chair of the OIE permanent working group on animal welfare.
- Professor David J Mellor, director of the Animal Welfare Science and Bioethics Centre at Massey University.
- Oliver Ryan, principal engineer, International Finance Corporation (the private sector arm of the World Bank) based in Washington DC. A New Zealander, he is responsible for the technical and commercial support of IFC’s livestock and aquaculture projects world wide.

- Carol Mckenna, phone +44 (0) 1962 793003, carolmckenna@aol.com or ciwftrust@ciwf.co.uk
- www.ciwf.org/conference2005

Strategic Science Group (Policy and Business)

Chad Hewitt has joined Biosecurity New Zealand as the Senior Science Adviser – Marine in the Strategic Science Group. In this role he will provide expert scientific advice to the new authority on strategic marine science issues and oversee the marine focused strategic science programme. Prior to moving to MAF in November 2004, Chad was the Chief Technical Officer – Marine Biosecurity. In this role, he was responsible for the management of marine incursions within the New Zealand EEZ and developing and managing the marine invasive species research portfolio. Chad has an extensive background in the field of marine bio-invasions both in the United States and Australia.

Risk Analysis Group (Pre-clearance)

Marnie Campbell has joined Biosecurity New Zealand as Senior Adviser – Marine in the Risk Analysis Group. She comes from the Ministry of Fisheries where she has worked since September 2003 in the aquatic environment team developing a risk assessment for the effects of fishing on the environment. Previously she was employed at the CSIRO Centre for Research working on introduced marine pests. She also has four years’ consultancy experience working with introduced marine species bio-invasions. Marnie has also worked with the Marine Protected Areas Division of the Department of Environment and Heritage in Australia.
Specified products for human consumption containing dairy/egg/meat from all countries

Changes to this IHS include:

- The addition to the definitions section of the 10 new EU Member States (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia), commercial packaging and F03 treatment;
- The deletion of EU countries from Clause 2.4;
- Specific EU countries in Clauses 8.3, 8.4 and 8.9 have been replaced with the words ‘European Community’;
- NZFSA details in clause 2.4 have been updated;
- The words ‘not a risk good’ have been removed from clause 8.23;
- The addition of Clause 8.6 ‘Private consignments of kangaroo and kangaroo meat products originating from Australia may be imported provided that the following requirements are met:
  i. The country of origin shall be identifiable from the packaging,
  ii. The product shall be commercially packaged,
  iii. The product shall be sealed within its original packaging on arrival.’
(NB: a meat product (e.g. salami) contained within a casing is acceptable for importation provided that the country of origin and types of meat within the product are printed indelibly on the outside of the casing);
- ‘NB: Cakes containing meat must comply with Clause 8.1, e.g. Moon cakes’ has been added to clause 8.15 for clarification.
This IHS is now dated 10 November 2004 and replaces the IHS dated 20 April 2004.

Shelf stable pet foods containing bovine ingredients from specified countries

The Czech Republic, Poland, Slovakia, Slovenia have been removed from Definition of Specified countries.
This IHS is now dated 10 November 2004 and replaces the IHS dated 12 January 2004.

Heat-and-eat meals from specified countries

Changes to this IHS include:

- the removal of EU countries from the Definitions section and the addition of Specified Risk Materials (SRMs) to the Definitions section
- the IHS title has changed from HEAMEAIC.ALL to HEAMEAIC.SPE
- certification has been added – SRMs free
- an update of NZFSA details in Clauses 2.3 and 2.4
This IHS is now dated 10 November 2004 and replaces the IHS dated 20 April 2004.

Horse semen from Australia

Clauses 5.5 and 5.6 have been amended to clarify requirements with respect to storage and transport. This IHS is now dated 10 November 2004 and replaces the IHS dated 31 March 2004.

Pig meat or pig meat products for human consumption from the United States

This IHS is now dated 16 November 2004 and replaces that dated 20 June 2002.

Unprocessed pig meat or pig meat products for human consumption from the United States

This IHS is now dated 16 November 2004 and replaces that dated 31 August 2001.

Changes to these standards include:

- An update of the NZFSA details under ‘Importer’s Responsibilities’ in both standards;
- The manufacturer’s declaration in the pig meat and pig meat products standard has been modified to allow microwave heating as an option for achieving minimum temperature/time requirements for managing the risk of porcine reproductive and respiratory syndrome (PRRS) and to allow pork from animals resident in Canada and exported to the United States for slaughter;
- The section on the ‘Transitional facility’ in the unprocessed pig meat and pig meat products standard has been modified to allow microwave heating as an option for achieving minimum temperature/time requirements for managing the risk of porcine reproductive and respiratory syndrome (PRRS), and to include rendering as an option for control of waste product. The manufacturer’s declaration was also modified to allow pork from animals resident in Canada and exported to the United States for slaughter.

Chicken hatching eggs from Great Britain

Turkey hatching eggs from the UK

At the request of DEFRA the following clause on the procedure for mycoplasma test positives has been added to the veterinary certificates:

In the case of birds with test results that were positive or inconclusive, a further sample must be taken and retested by ELISA at the Veterinary Laboratories Agency. Any birds positive to this test must be subject to post mortem and bacteriological examination and must show no evidence of Mycoplasma infection

Editorial changes have also been made.
These IHSs are both now dated 16 November 2004 and replaces that dated 15 September 2004 and 22 July 2004.

Bovine semen from the United States

Changes have been made to the following clauses to clarify the meaning of the semen collection period, i.e. a period of 60 days or less:

- Clause 6.2 of Eligibility;
- Clause 3.1, Q fever and IBR testing clauses in the veterinary certificate.
This standard is now dated 15 November 2004 and replaces that dated 24 February 2004.

Dogs and cats from specified countries and territories recognised as countries or territories in which canine rabies is absent or well controlled

The only change to this IHS is the addition of the clauses specifying that all pre-export laboratory test result forms must accompany the consignment.
This IHS is now dated 10 November 2004 and replaces the IHS dated 31 March 2004

The following IHSs were notified for consultation in Biosecurity 53 regarding the accession of the 10 new EU member states (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia). Since consultation the additional amendments include:

- EU Directives and Assignment Numbers (AN) have been updated from the latest versions of Annex V and Annex A;
- Minor editorial.

Cervine (deer) meat for human consumption

This standard is dated 30 September 2004 and replaces that dated 1 February 2003.

Casings for human consumption (from pigs) for human consumption

This standard is dated 30 September 2004 and replaces that dated 1 December 2003.

Sheep and goat meat for human consumption

This standard is dated 4 October 2004 and replaces that dated 1 February 2003.
<table>
<thead>
<tr>
<th>RABBIT MEAT FOR HUMAN CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 4 October 2004 and replaces that dated 1 February 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HORSE MEAT FOR HUMAN CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 4 October 2004 and replaces that dated 1 December 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EGG POWDERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 6 October 2004 and replaces that dated 11 May 2004.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROCESSED (RENDERED) ANIMAL PROTEIN DERIVED FROM FISH MATERIAL FOR ANIMAL FEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 6 October 2004 and replaces that dated 1 February 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROCESSED (RENDERED) ANIMAL PROTEIN FOR FURTHER PROCESSING INTO PET FOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 6 October 2004 and replaces that dated 1 December 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CATTLE, SHEEP, GOAT, DEER, HORSE, AND PIG BY-PRODUCTS DERIVED FROM CATEGORY 3 MATERIAL ONLY FOR PHARMACEUTICAL USE, TECHNICAL USE OR PET FOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 11 October 2004 and replaces that dated 1 February 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CATTLE, SHEEP, GOAT, PIG OR DEER HIDES AND SKINS</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 11 October 2004 and replaces that dated 1 February 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROCESSED PET FOOD CONTAINING CATEGORY 3 MATERIAL ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 11 October 2004 and replaces that dated 1 December 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIG MEAT FOR HUMAN CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 13 October 2004 and replaces that dated 1 February 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LARD, RENDERED FATS AND OILS, AND FISH OIL NOT FOR HUMAN CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 11 October 2004 and replaces that dated 1 December 2003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DAIRY PRODUCTS FOR HUMAN CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>This standard is dated 6 October 2004 and replaces that dated 7 July 2004.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SWEETENED CONDENSED MILK FROM ARGENTINA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweetened condensed milk from Indonesia</td>
</tr>
<tr>
<td>Sweetened condensed milk from Vietnam</td>
</tr>
<tr>
<td>These are all new IHSs dated 10 November 2004.</td>
</tr>
</tbody>
</table>

### Revocation of import health standards

<table>
<thead>
<tr>
<th>LLAMAS AND ALPACAS FROM NIUE DATED 4 SEPTEMBER 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>This IHS was revoked because the conditions no longer provide an appropriate level of biosecurity protection. This standard was last used in 1997 and the Niue quarantine facility has since closed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIG BLOOD PRODUCTS (DERIVED FROM LOW RISK MATERIALS) FOR PHARMACEUTICAL OR TECHNICAL USE FROM THE EUROPEAN COMMUNITY DATED 1 FEBRUARY 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>This IHS was revoked as per the agreements under the EU Vet Agreement.</td>
</tr>
</tbody>
</table>

### Shelf stable pet foods containing bovine products from the European Community dated 13 August 2002

This IHS was revoked because shelf stable pet foods from the European Community can be imported under the Import health standard for the importation into New Zealand of processed pet food containing Category 3 material only from the European Community.

- Kerry Mulqueen,
  Senior Adviser, Animals Imports and Exports,
  Biosecurity New Zealand,
  phone 04 489 8624,
  kerry.mulqueen@maf.govt.nz

### Amended import health standards

#### Nursery stock

The import requirements for nursery stock were amended on 22 October and 22 November 2004.

The purpose of the first amendment was to:

- (a) update the import requirements for cycads (Bowenia, Ceratozamia, Cycas, Dioon, Encephalartos, Lepidozamia, Macrozamia, Stangeria, Zamia) and Yucca by restricting the type of material that may be imported, the countries from which material may be imported and the post-entry quarantine inspection requirements;
- (b) revise the import requirements for Anthurium, Beaucarnea, Guzmania, Philodendron, Polyscias and Tillandsia so that tissue culture of these genera must be imported into post-entry quarantine in a transitional facility for 4 weeks; and
- (d) revise the measures for Helicobasidium mompa so that the current requirements for nursery stock to be imported from areas free from the disease and to be fungicide treated are applied only to those areas in which the disease is present. To maintain confidence in the continued pest free status of the remaining countries in Asia, these countries will be required to provide a declaration of pest free area for H. mompa.

The purpose of the latest amendment was to:

- (a) revise the import requirements for Allium, Hippeastrum, Iris, Lilium, Sandersonia, Tulipa and Zantedeschia so that there are effective measures to prevent the entry of the associated pests and diseases. The new requirements for Iris, Lilium and Tulipa will not come into force until 1 March 2005;
- (b) revise the import requirements for Dracaena by restricting the type of material that may be imported and/or the treatments required, and the post-entry quarantine inspection requirements;
- (c) remove Uromyces transversalis as a regulated pest from the Gladolius and Tritonias schedules; and
- (d) introduce import requirements for Ficus microcarpa.

The new requirements can be found in the revised version of MAF’s import health standard ‘155.02.06 Importation of nursery stock’.


### Import Health Standards Team

Biosecurity New Zealand, PO Box 2526, Wellington, phone 04 498 9843, fax 04 474 4257, plantimports@maf.govt.nz

#### Entry conditions for Avena (oat), Hordeum (barley), Phaseolus (green bean), Pisum (pea), Triticum (wheat) and Vicia (broad bean) seeds for sowing

The import requirements for Avena, Hordeum, Phaseolus, Pisum, Triticum and Vicia seeds for sowing were amended on 1 December 2004. The changes include additional declarations on the phytosanitary certificate to certify that seed has been imported from pest-free areas.

The new requirements can be found in the revised version of MAF’s import health standard 155.02.05 Importation of seed for sowing.

Biosecurity New Zealand’s response to the submissions made during consultation is available on the MAF website under ‘Review and analysis of submissions’ at:


Import Health Standards Team,
Biosecurity New Zealand, PO Box 2526, Wellington,
phone 04 498 9843, fax 04 474 4257,
pam.edwards@maf.govt.nz

Biosecurity (Gypsy Moth) Levy Order 2004

Notification of levy rate

Pursuant to clause 11(1) of the Biosecurity (Gypsy Moth) Levy Order 2004 I give notice that I have fixed the rate of levy on all shipping containers and used vehicles imported into New Zealand, for the levy year beginning on 11 November 2004 and ending on 30 June 2005, at $0.65 (inclusive of GST) per shipping container or used vehicle. The levy money collected will be spent on a nationwide surveillance programme for gypsy moth (Lymantria dispar).

- M A Sherwin, Director-General of Agriculture and Forestry

National Pest Plant Accord

Biosecurity New Zealand is establishing a list of people to act as key contacts for consultation on matters relating to the National Pest Plant Accord. Those on the list will be kept informed of work relating to the accord and their input and feedback may be sought on this work. Biosecurity New Zealand is aiming to get contacts in all the relevant industry and environmental groups. If you would like to be on the consultation list, please forward your details to the Accord Coordinator.

The National Pest Plant Accord is a cooperative agreement between regional councils and government departments with biosecurity responsibilities. Under the accord, regional councils undertake surveillance and enforcement to prevent the commercial sale and/or distribution of an agreed list of pest plants. The Accord pest plant list was published in Biosecurity 30, 15 September 2001 and can be accessed on:


MAF has recently resumed work on the National Pest Plant Accord (it had been deferred during development of the Biosecurity Strategy).

- Suzanne Main (Accord Coordinator),
  phone 04 498 9930,
suzanne.main@maf.govt.nz

Biosecurity (Bovine Tuberculosis – Otago Land Levy) Order 1998

Levy set for 2004/05

In accordance with the regulations as set out in the Biosecurity (Bovine Tuberculosis – Otago Land Levy) Order 1998, the Animal Health Board has notified all Otago land occupiers (as defined in the above Order), of the Otago land levy applicable for the financial year 1 July 2004 – 30 June 2005. The levy is used to fund a partial share of the costs of control of vectors (mainly possums and ferrets) of bovine tuberculosis in the Otago Region. Other funding comes from contributions from the cattle and deer industries, the Otago Regional Council and the Crown.

For this financial year the levy is payable at the rate of 0.0176% of the property land value recorded in the district valuation roll on 1 July 2004. For the purpose of calculating the levy payable, no property shall be valued at more than $5,000 per hectare. Where the levy payable is less than $10 excluding GST for the property, then the occupier is exempt from payment of the levy. Changes to the levy from 2003/04 are in accordance with the Biosecurity (Bovine Tuberculosis – Otago Land Levy) Amendment Order 2004. Levy invoices will be mailed out to appropriate land occupiers in February 2005 for payment by 31 March 2005.

- Susan Keenan, Senior Policy Analyst,
  Biosecurity New Zealand, ph 04 470 2745, susan.keenan@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: Nil
- Transfers of code of ethical conduct approved: Nil
- Amendments to codes of ethical conduct approved: Nil
- Notifications to MAF of minor amendments to codes of ethical conduct: Nil
- • AgResearch Ltd
- •notifications to MAF of arrangements to use an existing code of ethical conduct
- • Marlborough Lines (to use Nelson Marlborough Institute of Technology’s AEC)

Codes of ethical conduct revoked or expired or arrangements terminated: Nil

- 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

- Linda Carsons,
  Senior Policy Adviser, Animal Welfare,
  phone 04 470 2746, fax 04 474 4196,
linda.carsons@maf.govt.nz

Animal manipulation statistics due

All organisations/individuals with a code of ethical conduct or who have an arrangement to use another organisation’s animal ethics committee are reminded that their annual return of animals manipulated during 2004 is due to be submitted to MAF by 31 January 2005. Returns must be in writing and should be made on the forms provided by MAF for this purpose.

- Pam Edwards,
  Executive Coordinator Animal Welfare,
  phone 04 474 4129, fax 04 474 4196,
pam.edwards@maf.govt.nz

Biosecurity New Zealand, PO Box 2526, Wellington,
phone 04 498 9843, fax 04 474 4257,
pam.edwards@maf.govt.nz
<table>
<thead>
<tr>
<th>Organism</th>
<th>Host</th>
<th>Location</th>
<th>Submitted by</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phytophthora cinnamomi (phytophthora root rot)</td>
<td>Magnolia grandiflora (magnolia)</td>
<td>Auckland</td>
<td>National Plant Pest Reference Laboratory (NPPRL)</td>
<td>This organism has a wide host range</td>
</tr>
<tr>
<td>Mycocentrospora acerina (licorice rot)</td>
<td>Borago officinalis (borage)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>Other PPIN host include carrot, olive and parsley</td>
</tr>
<tr>
<td>Cercospora apii (cercospora leaf spot)</td>
<td>Rumex sanguineus (bloody dock)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>This fungus has a very wide host range</td>
</tr>
<tr>
<td></td>
<td>Nicotiana sp. (Tobacco)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gallum palustre (marsh bedstraw)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coreopsis sp. (coreopsis)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deutzia purpurascens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deutzia elegantissima</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deutzia x Rosea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phoma pinidella (ascochyta blight)</td>
<td>Lathyrus latifolius (everlasting pea)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>Other PPIN hosts include garden pea, green bean, broad bean, liquorice, and scarlet runner bean</td>
</tr>
<tr>
<td>Phoma aquileligicola</td>
<td>Thalictrum dipterocarpum (meadow rue)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>No other hosts recorded in PPIN</td>
</tr>
<tr>
<td>Chrysomphalus aonidum (Florida red scale, purple scale)</td>
<td>Spondias cytherea (Golden apple, Ambarella)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>Other hosts in PPIN include Gnetum pendulum, Dendrobiom spp., dracaena, Arabian jasmine, Pitcairnia andreana, neem, Calanthe vestita, and Peristeria elata</td>
</tr>
<tr>
<td></td>
<td>Ctenanthe lubbersiana (bamburanta)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monstera obliqua var. expliata</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cycas sp. (Cycad)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleospora herbarum (black mould rot)</td>
<td>Pittosporum sp. white clay (pittosporum)</td>
<td>North Canterbury</td>
<td>NPPRL</td>
<td>Other PPIN hosts include kiwifruit, onion, asparagus, Citrus spp., melon, kiwano, cucumber, pumpkin, carrot, tomato, apple, banana passion fruit, garden pea, azalea, viburnum and grape</td>
</tr>
<tr>
<td>Ramularia primulae</td>
<td>Primula veris (cowslip)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>No other hosts recorded in PPIN</td>
</tr>
<tr>
<td>Mycosphaerella superflua</td>
<td>Urtica dioica (perennial nettle)</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>Other hosts in PPIN include tree nettle</td>
</tr>
<tr>
<td>Plumichiton flavus (golden plumed scale)</td>
<td>Corokia x virgata (Bronze King)</td>
<td>Wellington</td>
<td>Forest Research</td>
<td>No other hosts recorded in PPIN</td>
</tr>
<tr>
<td>Carulaspis juniper (juniper scale)</td>
<td>Chamaecyparis lawsoniana (Lawson’s cypress)</td>
<td>Mid Canterbury</td>
<td>Forest Research</td>
<td>Other PPIN hosts include Cupressus sempervirens</td>
</tr>
<tr>
<td>Platypus apicalis (pinehole borer)</td>
<td>Eucalyptus sideroxylon (eucalyptus, mugga, red iron bark)</td>
<td>Nelson</td>
<td>Forest Research</td>
<td>Other PPIN hosts include English Oak, Pin Oak, Radiata pine, Contorta pine, Cluster pine, Kaki, and a range of Eucalyptus species</td>
</tr>
<tr>
<td>Leucaspis morrisii (scale)</td>
<td>Pseudopanax colensoi (mountain five-finger, three-finger)</td>
<td>Auckland</td>
<td>Forest Research</td>
<td>Other PPIN hosts include Five-finger and Houpara</td>
</tr>
<tr>
<td>Uraba lugens (gum leaf skeletoniser)</td>
<td>Eucalyptus conferruminata (eucalypt)</td>
<td>Auckland</td>
<td>Forest Research</td>
<td>This moth has been found on a wide range of Eucalyptus species as well as Angophora costata, pohutakawa, pin oak, brush cherry, apple gum, scarlet oak and ash</td>
</tr>
<tr>
<td>Phoma exigua var. exigua (blight, gangrene, leaf spot, moudly core, stem spot)</td>
<td>Passiflora tarminiana</td>
<td>Auckland</td>
<td>Forest Research</td>
<td>This common fungus has a very wide host range</td>
</tr>
<tr>
<td>Fairmaniella leprosa</td>
<td>Eucalyptus conferruminata</td>
<td>Auckland</td>
<td>Forest Research</td>
<td>This fungus has been found on a range of Eucalyptus species</td>
</tr>
<tr>
<td>Euocolaspis brunnea (bronze beetle)</td>
<td>Beilschmiedia tawa (Tawa)</td>
<td>Northland</td>
<td>Forest Research</td>
<td>Other PPIN hosts include Radiata pine, apple, grape, feijoa, bean, persimmon, Citrus grandis hybrid, garden pea, Rose sp., apricot, Japanese plum, kiwifruit, Eucalyptus delegatensis, and Eucalyptus sp.</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>Stricticomus tobias</td>
<td>Thalictrum dipterocarpum</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>Other members of the family Anthicidae are omnivorous and feed on a variety of food types. These include organic debris, mites, scales, other small invertebrates, pollen, plant exudates, and fungal hyphae &amp; spores. NPPRL are investigating further to learn more about local distribution, biology and pest status.</td>
</tr>
<tr>
<td>Tryonicus parvus</td>
<td>Citrus sp.</td>
<td>Nelson</td>
<td>NPPRL</td>
<td>National Plant Pest Reference Laboratory Overseas this species is restricted to rotting logs in Nothofagus rainforest. There is little information on its biology and ecology although it is likely this species feeds predominantly on decayed plant matter. Initial delimiting survey work indicates an established population over an area of at least 50 metres. Biosecurity New Zealand is considering what further investigation and response activities are appropriate.</td>
</tr>
</tbody>
</table>

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>Phoma aquilegicola</td>
<td>Thalictrum dipterocarpum</td>
<td>Auckland</td>
<td>NPPRL</td>
<td>No other distributions recorded in PPIN</td>
</tr>
<tr>
<td>Orchameoplatus citri</td>
<td>Citrus sp.</td>
<td>Nelson</td>
<td>Landcare Research</td>
<td>Other PPIN distributions include Auckland</td>
</tr>
<tr>
<td>Kalotermes banksiae</td>
<td>Pinus radiata</td>
<td>Bay of Plenty</td>
<td>Forest Research</td>
<td>Other known distributions include Coromandel, Wanganui, Wellington, Marlborough, Nelson and Buller</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>Final code issued by Ministry of Agriculture on 26 June 2003</td>
</tr>
<tr>
<td>Pig Code</td>
<td>Final code presented to Ministry of Agriculture on 25 November 2003</td>
</tr>
<tr>
<td>Rodeo Code</td>
<td>Final code issued by Ministry of Agriculture on 4 December 2003</td>
</tr>
<tr>
<td>Layer Hen Code</td>
<td>Final code presented to Ministry of Agriculture on 3 September 2004</td>
</tr>
<tr>
<td>Zoo Code</td>
<td>Final code presented to Ministry of Agriculture on 26 August 2004</td>
</tr>
<tr>
<td>Circus Code</td>
<td>Final code presented to Ministry of Agriculture on 26 August 2004</td>
</tr>
<tr>
<td>Commercial Slaughter Code</td>
<td>Public consultation completed. Final code to be presented to Ministry of Agriculture mid-2005</td>
</tr>
</tbody>
</table>

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

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

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