Aligning our biosecurity efforts

Australian equine influenza response: NZ involvement

Animal welfare trends: from fork to farm

Preparedness for aquatic animal diseases
Contents

Editorial
Aligning our biosecurity efforts ....................................3

Frontline News
Leverage for biodiversity protection on private land .................4
New Zealand’s forest survey activities praised .......................6
Pain management strategies generate international interest ...7
Incursion investigators support Australian equine influenza response ........................................8
Getting vets up to speed on equine influenza ........................9
Links with equine groups essential for disease preparedness ...10
NAEAC Three Rs Award for humane science ......................10
Making work a breeze at windy waterfront ........................11
Assisi Award for outstanding contribution to animal welfare ...11
Europeans developing a common vision for animal welfare ....12
Appointments to NAEAC ..............................................13
2020 view of food animal agriculture ................................14
Appointment to NAWAC ..............................................14
New Director, Border Standards ......................................16

Biosecurity Science
Laboratory learning experience in exotic disease response ........15
Responding to exotic disease alerts: role of IDC – Wallaceville ...18
Aquatic animal diseases: Spotlight on IDC ..........................20

Biosecurity Systems
Conservation management strategies ...............................23
Coordination adds value to pest management programmes ....24

Biosecurity Interface
Australian animal welfare workshop considers international perspectives 25
Workshop investigates conflict between conservation and animal welfare 25

Updates
Codes of ethical conduct .............................................26
Codes of welfare .........................................................26
Minor amendments to codes of ethical conduct ..................26

Directory .................................................................26

Cover: Aligning our biosecurity efforts. This youth volunteer is working as part of a summer programme controlling Pinus contorta tree weed on Mount Ruapehu, Tongariro National Park. See article page 23 on the Department of Conservation’s conservation management strategies.

Photo: Harry Keys, Department of Conservation.

Biosecurity Magazine
Biosecurity is published six-weekly by MAF 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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Aligning our biosecurity efforts

One of the outcomes from the New Zealand Biosecurity Strategy (2003) was the establishment of MAF Biosecurity New Zealand (MAFBNZ) as New Zealand’s lead agency for biosecurity. Our “whole-of-system” leadership role encompasses economic, environmental, social and cultural outcomes, and also involves international trade and animal welfare responsibilities.

The Biosecurity Strategy was a catalyst for MAFBNZ to build an end-to-end biosecurity role that incorporates strategic, regulatory and service functions.

One of the weaknesses that had been identified by the strategy was fragmented accountabilities and poor inter-agency coordination.

Much work has been done in the past four and a half years to address this. MAFBNZ has undergone its own transformations, to better position it to deliver what the Government wants. The most recent of these was the incorporation of the former MAF Quarantine Service within MAFBNZ, with staff now deployed into Passenger, Cargo Clearance and Border Standards Groups. We have also taken in biosecurity functions formerly done by other departments – leadership in pest management, for example.

While our role has been strengthened and broadened in recent years, it would be a mistake to assume that MAFBNZ is turning into a super-biosecurity organisation that does everything. We do not, and never will. We work closely with, and rely on, other departments, professional bodies, industry groups, research organisations, community groups, individuals and others to help us ensure New Zealand’s biosecurity efforts are coordinated and effective.

This issue of Biosecurity focuses on aligning our efforts, and the featured articles provide a snapshot showing how this works in practice.

The first of these looks at biodiversity. MAFBNZ’s frontline efforts support New Zealand biodiversity – which features in the recommendations of the Biosecurity Strategy – largely through efforts to keep out pests and diseases. But much can also be done at the individual landowner level to encourage and support biodiversity projects, and the article on page 4 looks at the funding mechanisms available to support these valuable local initiatives.

On page 6 we look at a very favourable independent assessment of the New Zealand Forest Owners Association’s forest health surveillance programme – an initiative that feeds valuable information into our biosecurity surveillance effort.

When exotic animal diseases of major significance are detected, plans for international cooperation and assistance swing into operation. The equine influenza outbreak in Australia late last year provides numerous examples of the cooperation and alignment of effort that takes place. MAFBNZ incursion investigators (see page 8) and laboratory staff (page 15) provided assistance to their Australian counterparts and, in doing so, gained valuable insights into how we could respond in the event of a similar outbreak here.

The Australian equine influenza outbreak prompted a response alert in New Zealand, and the important partnership role in this of the New Zealand Racing Board and New Zealand Equine Health Association is featured on page 10. New Zealand’s veterinarians would play an essential part in an equine influenza response, and on page 9 we look at a recent workshop for equine vets on methods for preventing spread of the virus between properties.

Pests and diseases have no respect for boundaries, either administrative or on the land. On page 23 we look at the Department of Conservation’s conservation management strategies for public lands and how these are aligned with regional pest management strategies.

In a related article (page 24) we look at how pest management programmes are coordinated when they cross regional or administrative boundaries. MAFBNZ is leading a project to provide a framework to support decisions on when a pest management programme should be coordinated, and which organisation should lead this.

Finally, animal welfare is an element of our biosecurity system which also features an alignment of effort both nationally and internationally. On page 12 we hear from the European Commission’s Dr Andrea Gavlinelli, who was in New Zealand recently describing how the EU is working with countries like New Zealand to help shape internationally accepted measures of farm animal welfare.

These examples of the work being done to align our biosecurity efforts are not the first we have published. Our stories on the November 2007 Biosecurity Summit, Working together at the border featured many others (Biosecurity 80, December 2007). It is an underlying theme that will continue to appear in the pages of Biosecurity. As always, we welcome your feedback on this and other issues.

Douglas Birnie
Director Policy and Risk
MAF Biosecurity New Zealand
incentive for landowners to invest in the fencing, pest control and other activities necessary to nurture biodiversity. But help is available.

The Government encourages biodiversity projects on private land through five separate mechanisms: the Biodiversity Condition and Advice Funds, the Queen Elizabeth National Trust (QEII Trust), the Nga Whenua Rahui Fund (NWR) and the Nature Heritage Fund (NHF). Pest control and fencing are important for many of the projects, but are not the sole focus.

A Statement of National Priorities for Biodiversity on Private Land (see sidebar) was announced by the Ministers of Conservation and Environment in 2007. It identifies the types of ecosystems and habitats most in need of protection. The priorities will inform future decisions of the QEII Trust and the four funds. They will also help coordinate and provide a focus for science and research funding, and the activities of central and local government, landowners and stakeholders.

Biodiversity Condition and Advice Funds

The Condition Fund ($2.2 million per year) pays for activities such as fencing, pest control, replanting and other restoration activities on private land. In 2007, for example, it funded pest control over 37,500 hectares, and contributed to 117 km of fencing. Funded projects have generally been sophisticated, integrated pest management and species recovery projects. Many of the areas are managed by community trusts or landcare groups working with groups of landowners, often across whole catchments.

The Advice Fund ($1.1 million per year) sponsors projects such as field days, workshops and publications, which provide information to land managers.

The two funds promote landowner and community involvement in biodiversity protection. The government funding also provides leverage for other support (see sidebar, Working together to control pests and protect biodiversity). For example, in April 2007 the $2.8 million provided by the two funds to 92 projects was complemented by $3.5 million from other sources including landowners, charitable trusts and local authorities. As part of these grants, eight councils collectively received $268,000 to assist with assessing natural areas, planning, and working with landowners and $279,000 to assist with the fencing, replanting and pest control being done on QEII covenants and other areas by the landowners working with councils.

QEII Trust

In June 2007, there were 3,253 QEII covenants on private land covering 102,779 hectares of forest remnants, wetlands, lakes, peat lakes, coastline, tussock grasslands, rural landscape, archaeological sites and geological formations. The landowner retains ownership and usually manages the covenant.

The QEII Trust ($2.8 million per year plus donations and contestable funds) is an independent organisation that helps landowners with ongoing management advice and support, inspects and monitors covenants and may fund half of a covenant’s fencing costs. In 2007, 25 projects the Trust submitted to the Biodiversity Condition Fund received $400,000 for fencing, weed and animal pest control.

National priorities for biodiversity on private land

Priority 1:
Indigenous vegetation associated with land environments that have 20 percent or less remaining in indigenous cover.

Priority 2:
Indigenous vegetation associated with sand dunes and wetlands; ecosystem types that have become uncommon due to human activity.

Priority 3:
Indigenous vegetation associated with ‘originally rare’ terrestrial ecosystem types not already covered by priorities 1 and 2. This priority includes:
• 12 types of coastal systems (e.g., coastal turf and coastal rock stacks)
• 25 inland and alpine systems
• four types of other inland systems (e.g., salt pans and geothermal systems)
• sinkholes and cave entrances.

Priority 4:
Habitats of acutely and chronically threatened indigenous species.
control and restoration planting on QEII covenants.

**Nga Whenua Rahui**

Nga Whenua Rahui ($4 million per year) focuses on Māori-owned land. It is administered by an independent committee. NWR works with the Māori landowners to protect areas through voluntary kawenata (covenants), deeds and management agreements. As with QEII covenants, the owners of kawenata retain ownership and control of the land, and public access is available only with the owners’ permission.

There are currently 230,000 hectares of indigenous wetlands, dunelands, tussocklands and forests protected. Areas vary from less than 100 to more than 10,000 hectares. NWR-supported activities have included fencing, weed and animal pest control, planting, reintroducing native species, wetland restoration and fire protection.

In 2007, NWR funding was granted for pest control covering 71,000 hectares. Projects included the control of feral goats and cattle in the Pohueroro block (6,500 hectares) and the Tapuaeharuru block (11,000 hectares) in eastern Bay of Plenty; control of possums, ferrets and stoats in Aorangi-Awarua (5,500 hectares) in Taihape; and pest control and fencing to exclude farm animals in Takenui (150 hectares) in Northland. The control protects high-value areas and threatened species such as kiwi and blue duck and allows regeneration.

**Nature Heritage Fund**

The Nature Heritage Fund is administered by an independent committee and responds to applications from landowners, organisations, local authorities and government departments. It funds and manages negotiations for direct purchases of areas of significant biodiversity value, or contributes to purchases by local authorities, Department of Conservation or other agencies. Landowners can also establish NHF covenants, which the NHF may assist through funding for fencing, survey and legal costs. The NHF can also help landowners with management costs, like fencing, on land already formally protected.

Since 1990, the NHF has approved 718 applications and protected over 258,000 hectares of indigenous ecosystems. Much of this would otherwise have been logged or cleared, or damaged by pests.

For further information about the New Zealand Biodiversity Strategy:

- SJ Owen, Senior Policy Analyst
  Nicola Holmes, Relationships Group Manager
  Department of Conservation
  P O Box 10-420, Wellington 6143
Andrew Liebhold, a United States Department of Agriculture Forest Service research entomologist and Brenda Callan, a Canadian Forest Service research mycologist, say the programme is well-conceived, valuable to the New Zealand forest industry and generally well executed.

The programme “deserves commendation as part of a progressive approach to forest biosecurity that exceeds the sophistication level attained by forest health surveillance programmes elsewhere in the world,” they say in their report.

The extent to which the industry’s FHS programme and MAF Biosecurity New Zealand’s (MAFBNZ’s) biosecurity activities complement each other is also favourably commented on.

Programme evaluated

The NZFOA commissioned the review of their FHS programme to evaluate its effectiveness and make recommendations on how it might be improved to meet FHS objectives. The programme and its general efficiency were evaluated through a series of interviews and site visits. A formal cost-benefit analysis of the programme was beyond the scope of the review.

The report recommends that the surveillance survey, which was initiated 51 years ago, should be continued with few modifications.

Current Forest Health Surveillance Programme

Objectives
1. Detection of pest incursion
2. Monitoring pest spread
3. Confirmation of pest absence (usually for trade purposes).

Survey activities

Aerial survey
The entire area of the forest estate is surveyed via transects at 1,000-metre intervals. These transects are flown at 300 metres above ground level at 70–75 knots, while observers visually survey on each side of the plane. During these surveys, observers record on a map the location of any mortality, dieback, defoliation, discoloration or other damage.

Drive-through surveys
Forest health providers plan a driving trip that extends through most portions of the forest estate over a distance of at least 15 metres per hectare of the estate. While driving at around 15 km per hour, observers visually survey the forest on both sides, recording on a map the location of any mortality, dieback, defoliation, discoloration or other damage.

Temporary plots
These plots are placed anywhere damage was identified in either aerial or drive-through surveys. In situations where fewer than four locations per 1,000 hectares were identified over the estate, additional plots are placed at random to achieve this target density. Plots consist of 0.1 hectare transects where the damage is investigated by visual searches of trees for symptoms and causal organisms. Any symptoms or damage are recorded and a sample collected of any organism or potentially infected plant material considered unusual or unknown. Where a pest species is identified as previously known to be present, samples are occasionally collected to confirm that the identification is correct. All samples are forwarded to the ENSIS diagnosis laboratory for identification.

High-risk plots
Thirty-nine locations have been identified on NZFOA estates. These locations are considered to be at high risk to incursion because of their proximity to human activities (e.g., recreation, container storage) that make accidental movement of pest organisms more likely. These plots are surveyed in the same way as temporary plots.

Other sampling planned

Other sampling on forest estates under the objective of forest health condition monitoring is currently or being planned in forests by NZFOA. This sampling may include permanent view point plots or permanent forest condition plots.
“While the programme has not detected incursions by any potentially catastrophic pests, the threat of such invasions remains a significant and increasing threat and the programme is well designed to detect new arrivals in time such that eradication may be feasible,” it says.

Suggested modifications which will be considered by an NZFOA working group include an increase in the number of FHS high-risk sampling sites from the current 39. On the other hand, the experts recommended that sampling at randomly located ground plots, presently initiated without prior detection of symptoms from aerial and drive-by sampling, should cease.

“A network of attractant traps for detecting wood-boring insects could be implemented across New Zealand …. Ideally this network would consist of traps deployed in high-risk locations coupled with traps deployed in commercial forests.”

NZFOA forest health administrator Bill Dyck says the report has yet to be considered by his committee or the NZFOA executive, but he expects members will be heartened to learn that independent experts have endorsed their involvement in the programme.

Dependence on single species

Liebhold and Callan point out that New Zealand’s high dependence on a single plantation species, Pinus radiata, makes it particularly vulnerable.

“Exotic tree plantations can be highly productive when they are grown in regions that are distanced and maintained free from their natural pests. Should incursions and subsequent establishment of pests occur, however, [they] are exposed to major risks of either chronic or catastrophic losses,” they observe. “Therefore, detection of pest incursions must continue to be a critical component of New Zealand’s overall biosecurity strategy.”

Although new pest incursions are more likely in urban high-risk areas where MAFBNZ concentrates its detection efforts, the authors say commercial forests could be the site of establishment of new, invading pest species.

“New pests, particularly those that are limited to P. radiata as hosts, might also establish in urban areas but remain at low, undetectable levels for many years and therefore remain unnoticed until they reached commercial forests.”

This risk is heightened in forests used for recreational purposes by the public, who may be responsible for movement of forest pests.

Collaboration recommended to broaden coverage

The report also notes there are currently large portions of New Zealand where little forest surveillance is conducted and recommends MAFBNZ works with the Department of Conservation and with farm foresters to find ways for them to become involved in forest health surveillance.

Liebhold and Callan say the current intensity of drive-by and aerial surveys could not be reduced without severely detracting from their ability to detect pest incursions.

If the industry wants to reduce the costs of surveillance, the team considers the only current option would be to reduce the frequency of sampling from the current once a year schedule to, say, once every two years. The downside of this would be decreased ability to detect an incursion early enough to achieve eradication.

NZFOA chief executive David Rhodes says forest owners, through the FHS programme, make a significant financial contribution toward preventing new pests and diseases from becoming established in New Zealand.

Pain management strategies generate international interest

The pain caused by farm husbandry practices like castration, tail docking and dehorning has been a major focus for the Animal Welfare Science and Bioethics Centre at Massey University. This New Zealand research has contributed substantially to our current understanding of how much pain is caused by such procedures and, importantly, the methods that can be used to alleviate that pain.

During the last decade, scientific and veterinary interest in this work has increased, with invited conference presentations made in the United States – for example, at conferences on the biology of animal stress (California, 1999) and comparative aspects of animal pain management (Virginia, 2002). Invited presentations were given in Australia, Canada and the United Kingdom.

The New Zealand research has also had regulatory dimensions. Largely funded by MAF during the last 15 years, it provided much of the foundation for the code of welfare on painful husbandry procedures prepared by the National Animal Welfare Advisory Committee (NAWAC) and issued in 2005. This was a timely development because, during the same period, city-based consumers in New Zealand and in our welfare-sensitive markets overseas, increasingly expressed the view that methods of pain relief akin to those used in small animal veterinary practice should be used more widely on farms. NAWAC strongly supports this view. Now, together with farming, veterinary, welfare, regulatory and other groups, NAWAC is actively engaged in discussions aimed at resolving practical, economic, regulatory, safety and other issues associated with the wider use of analgesic drugs on farms.

This approach to improving farm animal pain management has now generated overseas attention, indicated by recent invitations to outline major aspects of it to the Australian Animal Welfare Strategy Science Summit on Pain and Pain Management held in Melbourne (see related article on page 25) and to the National Farm Animal Care Council in Ottawa, Canada, last year.

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Professor David J Mellor, Co-Director Animal Welfare Science and Bioethics Centre, Massey University, Palmerston North, d.j.mellor@massey.ac.nz

http://animalwelfare.massey.ac.nz/
Incursion Investigators from MAF Biosecurity New Zealand’s (MAFBNZ’s) Investigation and Diagnostic Centre at Wallaceville were recently seconded to help with the equine influenza (EI) response in Australia.

Over the last few months, five veterinary epidemiologists from the incursion investigation team joined the Australian response. Caleb King, Andrew McFadden and Thomas Rawdon initially joined the epidemiology and planning group, at Toowoomba and then Brisbane, to support the Queensland response effort. Matthew Stone and Paul Bingham later assisted the New South Wales response as part of the equivalent group based at Orange.

The New Zealand team members made much-appreciated contributions to the Australian response effort, and at the same time gained valuable experience in fighting EI should it ever arrive in New Zealand. Operational projects completed by the team included:

• investigating the effect of horse density on disease spread
• epidemiological investigation of outlier properties and properties where infection pathways were unknown
• assessing disease spread by feed supplies, vehicles, people and wind
• developing and implementing future disease surveillance and horse movement control strategies
• investigating the potential spread of disease by vaccination teams
• a risk analysis on horse movements from infected to free zones
• development of systems to manage and report adverse reactions to EI vaccines
• specifying the evidence required and reviewing specific cases for progression of disease control zones towards freedom
• determining the accuracy of tests used in the diagnosis of EI including identifying spatial patterns of false positive test reactors.

New Zealand now remains the only major horse breeding country free of EI. MAFBNZ continues to work with New Zealand’s horse industries to maintain our freedom while preparing for a possible incursion. The tracing of imported Australian horses in August 2007 at the start of the Australian outbreak (McFadden et al, Surveillance, 34[4]) highlighted the risks arising from close association between the Australian and New Zealand horse industries.

The experience gained by the New Zealand response team has helped with New Zealand’s own EI preparedness planning. MAFBNZ is in the process of assimilating experiences to learn from the Australian response. In December, the Wallaceville team delivered a series of nationwide training seminars to raise awareness of the Australian response and provide training in farm biosecurity measures. These seminars recognised that equine veterinarians will be at the frontline of early detection and response, and their actions and those of grooms, jockeys, farriers and owners will have a large bearing on spread prior to official detection if the disease does arrive here.

The 2008 New Zealand Veterinary Association conference (to be held in Wellington during June) will also have specific sessions...
Getting vets up to speed on equine influenza

Australia currently has outbreaks of equine influenza in New South Wales and Queensland, and with these cases occurring so close to home it has been timely to revisit biosecurity procedures for protecting New Zealand’s equine industry.

Equine influenza can be readily spread between properties by fomite transmission (carried on inanimate objects). These agents can include veterinary equipment and clothing, so veterinarians are among those who need to take precautions to reduce this risk.

MAF Biosecurity New Zealand (MAFBNZ) held a series of workshops for equine veterinary practitioners in December 2007 to discuss the biosecurity procedures that would be employed if there was an equine influenza outbreak in our country.

The workshops were conducted by Incursion Investigators Caleb King, Kylee Walker, Andy McFadden and Tom Rawdon from the MAFBNZ Investigation and Diagnostic Centre – Wallaceville. Most of this group had been seconded to help the epidemiological teams in New South Wales and Queensland manage the outbreaks of equine influenza there (see separate article on page 8).

Workshops were held in Auckland, Cambridge, Matamata, Palmerston North, Invercargill and Christchurch, with about 100 people attending in total.

The workshops were supported by the New Zealand Racing Board; New Zealand Equine Veterinary Association; New Zealand Thoroughbred Racing; Harness Racing New Zealand; Equestrian Sports New Zealand and the New Zealand Equine Industry Training Organisation.

Staff from AsureQuality also participated. They will in turn train other equine industry members (groomers, trainers, farriers, etc) in appropriate on-farm biosecurity procedures.

Each workshop featured a seminar on aspects of the Australian outbreak. This included the epidemiological findings that have shaped the biosecurity measures New Zealand equine veterinarians would need to adopt in the event of an outbreak, and the main components of the eradication plan MAFBNZ would put in place.

Following a presentation on biosecurity protocols, participants had a go at enacting the on- and off-farm cleaning and disinfection procedures necessary to stop the spread of infection to other properties.

In a genuine equine influenza response, veterinarians may be recruited to visit properties for disease surveillance; this would include clinical examinations of horses, sample collection (mostly nasal swabs) and obtaining history and tracing information. If vaccination became part of the response plan, vets would be visiting properties to carry this out as well.

The equine influenza virus is easily killed but can be transferred by fomites, especially clothing, so the main procedures involve the use of disposable overalls and gloves and disinfection of equipment and boots.

The suggested protocol is to use a tarpaulin with a centre-line to separate ‘clean’ and ‘dirty’ areas to aid with disinfecting when coming off a farm.

Although we are not facing an outbreak situation in New Zealand, there are important things equine veterinarians can do now to help while interacting with horse owners and other industry members:

• promoting the principles of farm-level biosecurity
• promoting prompt reporting of suspect cases through the MAFBNZ hotline number 0800 80 99 66
• encouraging horse owners to register their properties with Agribase.

Agribase is a farm and livestock database maintained by AsureQuality that will provide us with valuable information about horse numbers and locations to aid decision making in the event of an outbreak. One of the lessons learnt from the Australian outbreak is that it is vital to know where the horses are for any response planning.

We are grateful to the veterinarians and other industry members who participated in the seminars and showed their willingness to play their part to protect our equine industries.

To register properties on Agribase:

- www.agriquality.com/online_customer_services.cfm
- Kylee Walker, Incursion Investigator (Animals), Investigation and Diagnostic Centre – Wallaceville, MAF Biosecurity New Zealand, phone 04 894 5504, Kylee.Walker@maf.govt.nz

Workshop participants learning the measures needed to avoid spreading equine influenza when they are moving between properties. Photo: Kylee Walker.
Equine influenza:
Links with equine groups essential for disease preparedness

The New Zealand Equine Health Association and New Zealand Racing Board play key roles in MAF Biosecurity New Zealand’s equine influenza response and preparedness work.

In August 2007, equine influenza was confirmed in New South Wales and Queensland. MAF Biosecurity New Zealand (MAFBNZ) immediately initiated a response in New Zealand, as a number of horses had arrived from Australia during a period when equine influenza may have been present in Australia prior to detection.

As part of the first stages of the response, MAFBNZ contacted the New Zealand Equine Health Association (NZEHA) to serve an advisory role. For several years before this outbreak, the NZEHA sought to develop a pest management strategy for equine influenza; their expertise on this disease and insight into the equine-owning population in New Zealand were regarded as invaluable.

MAFBNZ’s investigation of the imported horses confirmed that none had equine influenza. The immediate closure of the borders to further horse imports from Australia and other border biosecurity measures ensured that, to date, New Zealand has successfully kept the disease out of the country.

Equine influenza has the potential to cause significant economic impacts on the equine community through its direct effects on equine health, and through its associated effects such as the cancellation of events and stringent movement controls needed to contain the disease. The equine community through the NZEHA has a recognised voice within MAFBNZ. The broad mandate of the group is of particular benefit to MAFBNZ as they represent the large proportion of horses in New Zealand that are not part of the racing industry. To strengthen its ties to MAFBNZ, the NZEHA has joined with the New Zealand Racing Board (NZRB) to form a Crisis Management Group.

To further improve preparedness around equine influenza, a number of MAFBNZ’s Animal Response Team and Investigation and Diagnostic Centre staff were seconded to Australia to assist with equine influenza response activities (see separate articles on pages 8 and 15). This real-life experience of dealing with an equine influenza outbreak confirmed how very important it is to engage with a broad representation of the equine sector in decision making.

The long-standing interaction between MAFBNZ and the NZEHA has given that group a profile and their mandate from the equine community has been strengthened by their involvement in the NZRB Crisis Management Group.

MAFBNZ is currently working with the NZRB Crisis Management Group to advance previous attempts to update information about the greater horse population of New Zealand in AgriBase, the database used to organise response activities in the event of disease outbreaks. The NZRB Crisis Management Group has also spearheaded several projects to promote preparedness for an outbreak of equine influenza, including an educational seminar series on biosecurity procedures for equine veterinarians and the staff of the larger equine enterprises.

Naya Brangenberg, Adviser Animal Response, Post Border Directorate, MAF Biosecurity New Zealand, naya.brangenberg@maf.govt.nz

NAEAC Three Rs Award for humane science

Professor Rob Hughes of the University of Canterbury has received the 2007 National Animal Ethics Advisory Committee Three Rs Award for his contributions towards the reduction and refinement of animal use in short-term memory testing.

The NAEAC Three Rs Award is a national award, now in its fifth year, recognising excellence in the humane use of animals in research, testing and teaching. The concept of the ‘Three Rs’ is to replace live animal subjects, reduce the number of animals used and refine experimental techniques to minimise pain and distress.

Professor Hughes’ behavioural testing methods, relying on animals’ natural curiosity to explore novel environments, have both reduced the number of animals used and avoided the need to use aversive methods.

The award was presented at the Royal Society of New Zealand’s Science Honours Dinner in Dunedin on 20 November.

Nominations for the 2008 Three Rs Award will open shortly. Details can be obtained from the NAEAC Secretariat:

naeac@maf.govt.nz

Joanna Tuckwell, Policy Adviser Animal Welfare, joanna.tuckwell@maf.govt.nz, phone 04 894 0369
MAF Biosecurity New Zealand (MAFBNZ) Quarantine Inspectors at main shipping ports are successfully incorporating new technology into their workday as they inspect imported vehicles.

The recently established use of PDAs (personal digital assistants) by MAFBNZ Cargo Clearance has made effective and practical change to the jobs of the inspectors and the systems used for portside clearance of vehicle imports.

The PDAs provide a direct link to the MAFBNZ Quarantine Quantum database, allowing Quarantine Inspectors to access and enter clearance information straight into the database in real time while out in the field.

Former frontline Quarantine Inspector, Ross Farnell, says the PDAs will help the inspectors to be able to spend more time in the field, and less time on paperwork and data entry. “If we can cut down on paperwork, we can get back to the important job – inspecting,” he says.

According to Leanne Gibson, who was Acting General Manager of MAF Quarantine Service during the introduction of the PDAs, a more effective job done by Quarantine Inspectors means quicker clearance for car importers and their customers.

“This has significantly decreased the turn-around time for car clearances,” she said in an address to the Customs Brokers and Freight Forwarders Federation last year.

Making work a breeze at windy waterfront

VALENTINA WALLIS

While initially, PDAs were being used solely for recording data related to the clearance of used vehicles, Leanne said that the PDAs are the beginning of a more mobile future. “The IT platform established will be adapted to other cargos and similar applications within MAF Biosecurity New Zealand.”

Business Project Manager for the implementation of the PDAs, Howard Hamilton, said commercial expectations of faster inspection and clearance were a factor in the introduction of the technology. “There are some imports, such as fresh produce or animals, where there is a sense of urgency. The PDAs are a mechanism to provide a better, faster information flow.”

The new technology has also made the work of inspectors more practical for the outdoors. Quarantine Inspector Jacqui Walls said the PDAs have helped her and her colleagues to soldier on in less than favourable conditions at CentrePort Wellington. While in the past, inspectors had to struggle with outdoor paperwork at the often blustery port, this new palm-sized technology is far more weatherproof than paper worksheets.

“It meets the challenges of the Wellington weather,” she says.

Assisi Award for outstanding contribution to animal welfare

A former member of the National Animal Ethics Advisory Committee, Catherine Smith, who served from the establishment of the committee in 1984 until 1995, was awarded an inaugural Assisi Award at the New Zealand Companion Animal Council Conference in Queenstown last September.

Catherine is a former President and Animal Welfare Coordinator of the New Zealand Veterinary Association, as well as a member of what was then the Veterinary Surgeons’ Board. She has a strong history of service to animal welfare, having been instrumental in the establishment of the Animal Welfare Chapter of the Australian College of Veterinary Scientists and the Animals in Schools Education Trust (AISET), and in ensuring the focus of the veterinary profession on animal welfare and the management of cruelty to animals.

Catherine’s contributions to both animal welfare and the community have previously been acknowledged with the award of a New Zealand Royal Honour for Community Service, and a New Zealand Science and Technology medal from The Royal Society of New Zealand.

Other New Zealand recipients of the Assisi Award were bird rescuer Pam Howlett, and Anne Batley Burton, described by Bob Kerridge (Chairman of the Companion Animal Council) as “a modern day Saint Francis”. Overseas recipients were Australian veterinarian Hugh Wirth, long associated with both RSPCA Australia and the World Society for the Protection of Animals (WSPA); Jill Robinson, inspirational founder of the Animals Asia Foundation; and Peter Davies, Director-General of WSPA.

While initially, PDAs were being used solely for recording data related to the clearance of used vehicles, Leanne said that the PDAs are the beginning of a more mobile future. “The IT platform established will be adapted to other cargos and similar applications within MAF Biosecurity New Zealand.”

Business Project Manager for the implementation of the PDAs, Howard Hamilton, said commercial expectations of faster inspection and clearance were a factor in the introduction of the technology. “There are some imports, such as fresh produce or animals, where there is a sense of urgency. The PDAs are a mechanism to provide a better, faster information flow.”

The new technology has also made the work of inspectors more practical for the outdoors. Quarantine Inspector Jacqui Walls said the PDAs have helped her and her colleagues to soldier on in less than favourable conditions at CentrePort Wellington. While in the past, inspectors had to struggle with outdoor paperwork at the often blustery port, this new palm-sized technology is far more weatherproof than paper worksheets.

“It meets the challenges of the Wellington weather,” she says.

Catherine Smith: Strong history of service to animal welfare recognised.
Europeans developing a common vision for animal welfare

If there is to be a meaningful link between consumer attitudes and standards of welfare for production animals, then we need to start by talking the same language.

Dr Andrea Gavinelli. Based with the European Commission in Brussels, Dr Gavinelli is in charge of developing community policies and legislation on animal welfare. This is being done within the framework of a five year (2006–2010) community action plan for welfare encompassing farmed, wild and laboratory animals.

He was in New Zealand during November, where he made a presentation on European perspectives of animal welfare at the 25th OIE (World Organisation for Animal Health) Regional Commission Conference for Asia, the Far East and Oceania in Queenstown.

Research programme shaping standards

Speaking at a post-conference seminar in Wellington, he said the EU’s Welfare Quality® research programme is starting to shape common standards for measuring farm animal welfare in a way that is scientifically robust but also meaningful to consumers (see Biosecurity 75:16 and 79:21). Far from being limited to the EU membership, the dialogue surrounding this programme is extending to partnerships between the EU and many of its trading partners – including New Zealand.

“Europeans want to know and support a global sustainable market in animal products,” Dr Gavinelli said. “We need to find common ground with our partners to identify what consumers want and how we can provide the information they need.”

Animal welfare features in the European Commission’s development strategy to preserve the environment, and has emerged as a powerful marketing tool, he added. The ‘fork to farm’ link – in which consumer attitudes drive changes in on-farm practices – can add impetus.

Legislation a slow process

Legislation via the European Parliament is a notoriously slow instrument of change. Once passed, it becomes a directive which then must be translated into national legislation state by state. In the case of pig stalls – banned since 2001 – individual states, including Belgium, Finland and the United Kingdom, moved ahead of EU-level initiatives and set their own, higher standards. While admirable, this can present some distortions in trade and competitiveness.

Dr Gavinelli said the more bogged down in detail welfare measures became, the slower the change. “We have already spent two and a half years discussing welfare standards for broiler chickens,” he said. “This process can take years!”

But while the legislative wheels grind slowly, the impetus for quicker action is constantly building. A comprehensive EuroBarometer survey of 27,000 people throughout the EU showed high but variable interest in animal welfare – interest that will continue to sharpen the ‘fork’ of public pressure.

For example, 43 percent, on average, said purchasing decisions would be influenced by animal welfare standards. In the case of eggs, 81 percent of Swedish consumers were prepared to pay more for free-range eggs, although only 28 percent of Portuguese were prepared to shell out extra. Better animal health and ethical considerations were the main motivators for accepting a price premium on welfare-friendly eggs, with food quality and safety rating a lower but still significant mention.

Overall, 80 percent of those surveyed identified welfare as an important issue. And, significantly for trade partners such as New Zealand, 89 percent felt that imported animal products should have been raised

Linkage between Europe and New Zealand strengthened

Dr Andrea Gavinelli is the Deputy Head of Unit with Special Responsibility for Animal Welfare at the European Commission in Brussels. During his visit to New Zealand in November 2007 he met with New Zealand stakeholders, with representatives from MAF Biosecurity New Zealand (MAFBNZ) Policy, Meat Industry Association, National Animal Welfare Advisory Committee, New Zealand Food Safety Authority, Meat and Wool New Zealand, AgResearch and the MAFBNZ Animal Welfare Directorate. Dr Gavinelli also attended an informal meeting of the European Commission/New Zealand Animal Welfare Cooperation Forum. This forum was established to allow for regular information exchange and cooperation on animal welfare issues of operational and strategic importance (including international animal welfare issues and shared research opportunities) and met for the first time in September last year. During his visit, Dr Gavinelli emphasised the importance of the European Commission’s relationship with New Zealand, highlighted by the recent signing of the Joint Declaration on Relations and Cooperation between the European Union and New Zealand and the presence of a Commission Delegation here in Wellington (see http://ec.europa.eu/external_relations/new_zealand/intro/index.htm).
using welfare standards that matched those of Europe.

Power of public opinion

While the World Trade Organisation's Sanitary and Phytosanitary Agreement prevents welfare standards from being used as a trade barrier, the power of public opinion is an important consideration in the marketplace. Dr Gavilini noted the example of the public outrage surrounding the cruel treatment of a load of pigs being trucked from the Netherlands to Italy. “Our EU servers crashed, such was the volume of email traffic about this issue.”

Long-distance transport of animals, a source of much animal welfare concern in Europe, is now being more rigorously policed through new standards supported by a system of licensing and satellite tracking of individual vehicles, he explained.

He said that the European Commission did not have the power to directly enforce animal welfare legislation. “There is some power available through directives, and we can audit members and use publicity. Within countries some animal welfare sanctions can be very heavy in relation to other crimes, and so are rarely used.”

So, could market forces deliver the animal welfare outcomes that people want – outcomes based on shared values that are being developed across national boundaries?

Dr Gavilini acknowledged the power of consumers and the ability of big supermarket chains to dictate the welfare standards used by its suppliers, but he does not believe the market can deliver animal welfare outcomes unassisted.

“The fork to farm’ effect is working, but there is no transparency in that process. If that pressure on producers is dropped, what will replace it?”

Appointments to the National Animal Ethics Advisory Committee (NAEAC)

The Minister of Agriculture recently reappointed NAEAC member, Dr Roger Marchant, for a further three-year term and appointed two new members, Dr Martin Kennedy and Dr Justine Stewart, also for three-year terms.

Dr Martin Kennedy

Martin is the Research Associate Professor in the Department of Pathology at the University of Otago’s Christchurch School of Medicine, as well as the Director of the Carney Centre for Pharmacogenomics. He is a member of the Health Research Council’s Biomedical Research Committee and Biomedical Assessing Committee, chairing the latter. Martin was a board member of the Australia New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) from 2001 to 2006 and acted as Convenor of the ANZCCART Conference “Lifting the veil: finding common ground” in Christchurch in 2003. He is the author of many peer-reviewed papers and has acted in an editorial advisory role for a number of journals. Martin’s current research focus is on psychiatric genetics and pharmacogenomics. He was nominated by the Health Research Council of New Zealand and replaces Dr Simon Malpas who had served on NAEAC for six years and was the committee’s Deputy Chairperson from 2003–2005.

Dr Justine Stewart

Justine graduated in veterinary science from Massey University in 1992 and began her veterinary career in clinical veterinary practice. She has also worked for the MAF (now NZFSA) Verification Agency, in the veterinary pharmaceutical area as veterinary adviser and in marketing and sales, and as a Biosecurity Officer with the MAF Quarantine Service. Justine is now the Animal Welfare Officer at the University of Auckland, a role that involves acting as veterinary adviser to university researchers and animal care staff, as well as to the University’s animal ethics committee. Her work includes veterinary control of prescription animal remedies, training of personnel in surgery and anaesthesia, and monitoring of both animals and facilities. Justine replaces New Zealand Veterinary Association (NZVA) nominee Dr Kathy Parton who had also served on NAEAC for six years and was the committee’s Deputy Chairperson from 2006–2007.

Dr Roger Marchant

Roger is a Massey graduate in science and veterinary science whose career spans many aspects of the profession. He has worked in mainly rural practice, for MAF as a field veterinarian and in the meat residues area, as Director of Veterinary Continuing Education at Massey University and in the animal health industry. He was also president of the New Zealand Veterinary Association for two years and was an elected member of the Veterinary Council. Roger was nominated by Agcarm; his knowledge of, and experience in, the commercial use of animals have been invaluable to NAEAC.

He wryly acknowledged that public officials such as himself rate among the least trusted by European consumers, while farmers enjoy the highest levels of confidence. Undaunted, Dr Gavilini said public awareness and confidence in animal welfare standards within Europe appeared to be growing.

“One people in Europe are forming their own values about welfare. As a child I never thought about welfare, but the next generation have learned to ask questions about it. A new overarching concept – that of a ‘duty of care’ – should set the basis for what we do in the future. That’s my vision.”

http://ec.europa.eu/food/animal/welfare/index_en.htm
The symposium is one of a series on future trends in animal agriculture organised by the US Department of Agriculture's Cooperative State Research, Education and Extension Service (CSREES) agency. Speakers covered the spectrum from industry, academia, government and animal advocacy groups. They presented their perspectives on what agriculture could or should look like in 2020, the economic changes that would impact on the agriculture industry over the next 12 years, the role of regulators in food animal production monitoring and auditing, the cultural differences between scientists in the United States and Europe and how this impacted upon their views on animal welfare, the role of universities, the future of global standards for food production, outsourcing of animal production to developing countries and its impacts on animal welfare and the impacts of biotechnology on animal welfare.

Although not as prominent as in previous years, there was still a strong focus on animal welfare issues, highlighted by a presentation from Wayne Pacelle, CEO of the Humane Society of the United States. Speaking as a member of a panel on ‘What should animal agriculture look like in 2020?’, Pacelle noted the need for open dialogue and animal welfare reforms to address current imbalances that have resulted from the development of modern farming systems over the past 50 years. He believed that the US consumer was generally unaware of modern animal-raising practices but that understanding was growing and would continue to do so, resulting in changes being made on the farm.

This sentiment ties in with the emphasis that the European Commission is placing upon ‘fork to farm’ as a driver for change in animal welfare (see article on Andrea Gavinelli, on page 12 of this issue). Another panellist was Steve Kopperud, an agriculture industry consultant at Policy Directions Inc. He agreed with Wayne Pacelle and stressed that farmers who did not incorporate practices to improve animal welfare “would go out of business, it’s that simple”.

Another panel addressed the outsourcing of animal production to developing countries and its impacts on animal welfare. Mildred Haley, USDA Economic Research Service, noted that increases in costs of production associated with animal welfare in North America would not lead to outsourcing of pork production to third countries in the near future.

It was agreed that agriculture needed to be dynamic and adapt to change, that technology would continue to play an important role in providing for a population that would demand twice the amount of food in the next 50 years, and that, as the world’s largest food producer, the United States would need to continue to drive technological developments in agriculture.

For further information and copies of proceedings and presentations:
- Dr Kate Littin, Technical Adviser Animal Welfare, phone 04 894 0373, kate.littin@maf.govt.nz
- www.csrees.usda.gov/nea/animals/in_focus/wellbeing_if_trends07.html

Appointment to the National Animal Welfare Advisory Committee (NAWAC)

The Minister of Agriculture recently appointed Mrs Margaret (Peggy) Burrows JP to the National Animal Welfare Advisory Committee for a three-year term. Peggy has over 20 years’ experience in teaching at the primary, secondary and tertiary levels and is currently Principal of Rangiora School. She also has a strong background with horses, having been business manager of a harness racing stables for over 20 years and a member of the Marlborough Harness Racing Club Committee, the Marlborough Dressage Committee, secretary of the Cambridge Pony Club and an instructor at the Cambridge East Pony Club during this time. Peggy was a Ministerial appointee to the Deportation Review Tribunal, where she served three terms, and is a Justice of the Peace and a member of the Senior Positions Advisory Committee of the Post Primary Teachers’ Association. Peggy was nominated by the Ministry of Women’s Affairs and replaces Mrs Edna McAtamney QSM.
Equine influenza: A laboratory learning experience in an exotic disease response

By Clive Pigott

In the final quarter of 2007, the Investigation and Diagnostic Centre was fortunate enough to have staff members (two technicians, a scientist and a team manager – Katherine Garnett, Ushma Desai, Wlodek Stanislawek and myself, respectively) from the Animal Health Laboratory, Wallaceville assist with the exotic equine influenza (horse flu) response in Australia.

Our mission was to gain first-hand experience of a full-scale response and use this to assist with our own preparedness in New Zealand. We were aware that molecular diagnostic techniques were now suitably reliable and rapid for frontline response screening, but that there were limits, especially in the bulk manual handling steps. It was invaluable, therefore, to gain first-hand experience of these techniques in a response – to observe that appropriate automation could increase output at least tenfold, and that automation helps maintain an effective and healthy workforce over prolonged periods.

The response

An outbreak of equine influenza was confirmed on 24 August 2007 in New South Wales and a full-scale response immediately followed. The coordinated national response plan (AUSVETPLAN) was initiated by Canberra in New South Wales and also in Queensland, where fewer cases have been detected. Immediately following confirmation of the outbreak, there was a national clampdown on all horse movements. The rapidity with which the initial results were reported (within six hours of sample receipt) and the subsequent clampdown restricted the disease to the two states and prevented a national outbreak.

Up until 24 August, Australia had remained free of equine influenza (as New Zealand remains). The intention is to eradicate the disease through movement restriction and isolation, together with a huge screening programme and vaccination.

Equine influenza

The current circulating (RNA) virus is from the H3N8 subtype of the orthomyxovirus family. The influenza virus is able to infect all equid species and thus all horses are susceptible. This virus causes an acute, highly contagious disease that is not usually fatal in adults but can be for foals, aged and infirm horses. The major clinical signs are pyrexia (fever) and a dry hacking cough and overall lack of performance. Fit and healthy adults usually clear the disease within 10 days and there is no recognised carrier state.

There have been no cases reported of transmission to humans under natural conditions. The disease, therefore, has economic consequences rather than posing any risk to human health. In Australia, this means costs of the response are shared between government and industry.

The exact costs incurred from the disease remain uncertain, but one estimate suggests that $A4 million per day is being lost from the economy (www.horsetalk.co.nz/news/2007/11/012.shtml) and that the cost of the eradication had reached about $A36 million.

The cause of the initial spread throughout New South Wales remains uncertain.

The experience in New South Wales

The outbreak was first confirmed by the virology laboratory at the Elizabeth MacArthur Agricultural Institute (EMAI), Menangle, New South Wales, under the direction of Dr Peter Kirkland. This was where we were seconded and also where the Local Disease Control Centre (LDCC) was stationed.
Biosecurity

The Border Standards Directorate has a wide and varied brief that includes functions from both the old and new strategic plan. It functions as a portfolio directorate that includes: developing and maintaining risk management systems; providing statistical analysis services for MAFBNZ; approving and auditing transitional and containment facilities within New Zealand and offshore, including New Zealand and off shore, including

- developing and maintaining technical and operations standards for imported risks goods
- translating import standards into procedures and guidelines for the border inspection directorates (Cargo and Passenger)
- training border inspection personnel and assessing their competence
- developing and maintaining risk profiles for imported goods and passengers
- risk screening of imported goods to determine inspection priorities
- providing linkages to the New Zealand Customs Service national targeting centre
- monitoring and advising on the performance of border risk management systems
- providing statistical analysis services for MAFBNZ
- approving and auditing transitional and containment facilities within New Zealand and offshore, including

All laboratory-generated results were first approved by the Chief Veterinary Officer (CVO) prior to release to the LDCC, for their input into the epidemiological algorithms. Informing the CVO of the results before their release ensured there were no surprises at the highest level. This reinforced the importance of the laboratory results and the part they played in the response. The LDCC used the data to help determine where vets might be deployed around the state and for indicating where disease-free and infected properties were.

It was clear from the word go that the response was a massive undertaking, requiring energy, effort and commitment and that we were lucky to have the chance to experience it.

Laboratory perspective

Our posting to New South Wales was organised through the logistics team at the LDCC and we were to be on site for a minimum of two weeks, working six days in every seven. All 25 virology staff were working in blocks of six days and there was a shift roster. In that time, we were brought up to speed with local procedures for the real-time PCR (polymerase chain reaction) or the ELISA (enzyme-linked immunosorbent assay) tests and also able to assist with specimen reception. These procedures require concentration, accuracy and high levels of technical aptitude but are often subtly different between laboratories. Therefore, being able to demonstrate technical proficiency in a short timeframe meant that our Australian counterparts were able to benefit rapidly from our quality technical and scientific input.

Upon arrival, it was very clear just how busy the laboratory was – often handling more than a thousand samples a day (nasal swabs and sera).

Specimen reception

Upon arrival we were immediately inducted with the rules and regulations of the site, given security/photo-ID cards and shown around the ever-expanding campus – which resembled a set from MASH with its constant activity and growing collection of mobile portacabins.

The EMAI/LDCC was a real hive of activity; importantly there was a canteen and food supply for all people working on the response, there was the control centre where epidemiologists, logistics staff and mappers worked and twice a day there was a debrief. Heads of section were easily identified with coloured bibs – important with a constantly changing workforce.

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New Director, Border Standards

Tim Knox is the new Director Border Standards, MAF Biosecurity New Zealand (MAFBNZ).

The Border Standards Directorate has a wide and varied brief that includes enforcing Hazardous Substances and New Organisms Act new organism containment approvals • negotiating and implementing export standards and official assurance systems covering biosecurity requirements for exported plants and plant products, and live animals and germplasm.

Tim joined the MAFBNZ team in late August 2007 from the New Zealand Food Safety Authority (NZFSA). He has been with MAF and NZFSA for 27 years, the last 11 spent in senior management roles dealing with the food sector. Tim’s most recent position at NZFSA was Director, New Zealand Standards group. Prior to that, Tim held a range of director roles covering the dairy sector, agricultural compounds, horticulture and wine and, more recently, domestic and imported food.

He is well known to many of our biosecurity stakeholders and is looking forward to further strengthening and building those relationships and contributing to the successful implementation of MAFBNZ’s new strategic plan.
This is generally regarded as the most important step in the processing of any samples within a laboratory – samples need to be correctly matched to paperwork; paperwork needs to provide the appropriate information from the submitting vets; the samples need to be intact; samples themselves need to be labelled sequentially for effective lab tracking and traceability; data needs to be entered correctly into the laboratory information management system (LIMS).

At times, the specimen reception bay was occupied by 10 people, with the sole aim of getting the samples ready for the molecular diagnostics testing in the evening.

Although specimen reception was resource hungry, it did allow samples to be set up for testing before any data needed to be entered into the LIMS.

Polymerase chain reaction (PCR)

The PCR method employed in Dr Kirkland’s laboratory is a real-time PCR. One of the benefits of this method is that the rate-limiting step of gel electrophoresis is removed and product visualisation is automated through laser technology.

Serology

Antibodies raised in immunological response to influenza viral antigens can be detected in sera by the ELISA test. This assay relies on the specific affinity of antibody for its particular antigen (part of a viral protein). ELISA technology has been used since the early 1970s and has become a mainstay in many laboratories that utilise serology. It has become a flexible tool and is useful to screen bulk numbers of serum samples. However, when large numbers (hundreds to thousands) of samples are to be tested, then automation again becomes a useful tool; robotics interfaced with effective software has removed the laborious tasks of plating out sera.

Automation

While the specimen reception process relied heavily on staff resources to prepare samples for testing, the actual diagnostics and testing procedures utilised high-throughput technology and automation.

It was useful to observe the benefits of automation, and how it could be utilised to manage the large numbers of samples consistently and over long periods. Such technology enabled the laboratory to continue with business as usual, maintain staff morale and welfare and reduce the incidence of repetitive strain injuries.

Conclusion

It has been invaluable to experience a full-scale response at first hand and to observe the interfacing of automated technology with modern and traditional diagnostic procedures. From this, we have been able to look at our own state of preparedness with more understanding of what may be achieved, if we are ever called upon to respond to an exotic infectious disease at IDC – Wallaceville.

Dr Clive Pigott, Immunology Team Manager, Investigation and Diagnostic Centre – Wallaceville, phone 04 894 5638, clive.pigott@maf.govt.nz
Responding to exotic disease alerts – the role of IDC Wallaceville

Call the MAF 0800 exotic disease and pest emergency hotline and you could potentially set in motion a chain reaction involving dozens of people, all highly skilled and drilled in their role in a complex response process. Maintaining New Zealand's freedom from serious livestock diseases requires reliable systems to investigate and respond to suspected incursions of exotic pests and diseases.

The MAF Biosecurity New Zealand (MAFBNZ) Investigation and Diagnostic Centre (IDC) in Wallaceville, Upper Hutt manages these investigations and the initial response to any suspected exotic animal disease. (IDC – Wallaceville is one of three Investigation and Diagnostic Centres in New Zealand but is the only centre that deals with animal and marine life. The others – in Auckland and Lincoln – are concerned with plants and environmental pests.)

Veterinarian Paul Bingham is the manager of IDC – Wallaceville's animal and marine incursion investigation team of six veterinary epidemiologists and a marine parasitologist. These are the people who assess phone calls to the 0800 number and decide which ones need to be investigated.

The 0800 calls can come in at any time of the day and night, so each veterinarian in Paul's team is on call for one week in every six. The only marine parasitologist, Rissa Williams, has to be on call all the time.

“By talking with the caller on the phone we can eliminate exotic disease in many cases and stand them down there and then. Others get re-directed and a few warrant comprehensive investigation if we suspect an unwanted organism or a new or emerging disease,” explains Paul. “The system has high sensitivity, which is essential so we don’t risk missing something significant.”

Investigating calls from the public

Calls come in from members of the public, veterinary practitioners, regional diagnostic laboratories or from another part of MAF or another public sector agency. The number needing investigation is higher than you might expect. In the year to July 2007, IDC investigated 155 calls – about three every week.

“Ninety-three of these were disease investigations and, of those, 49 were for suspected OIE List A or List B diseases,” says Paul. “The other 62 were suspected new animal introductions such as exotic lizards, marine invaders or snakes.”

Fortunately, most of the disease investigations proved negative, although in five animal investigation cases, a new or unwanted organism was diagnosed. These included deformed wing virus in bees, three exotic ticks and two diseases that are first reports for New Zealand – Moraxella (Branhamella) catarhalis and rabbit oral papilloma virus. Thirty-six investigations identified new animal species, many of them marine animals or post-border interceptions of exotic lizards. The team also managed MAFBNZ’s initial response to the Varroa destructor detection in the South Island and more recently the surveillance to establish that horses imported into New Zealand following the diagnosis of equine influenza in Australia, were free of disease.

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Ready-to-go kits for field investigators

Field investigations may be conducted by IDC staff or one of its service providers. Depending on the species involved and the location, this could be an AsureQuality veterinarian, an apiary technical officer, Massey University staff member, private veterinarian or MAFBNZ Quarantine Officers. All IDC veterinarians are equipped with their own investigation ‘kit’, consisting of two hard-shell suitcases containing protective clothing; equipment for clinical examination, necropsy, sample collection and containment; and legal documents. Opened out, the suitcases serve as convenient footbaths. The IDC also has kits specifically for investigating different suspected diseases or pests, such as snake handling kits. The ready-to-go kits allow investigators to travel quickly anywhere in New Zealand.

The IDC includes the Exotic Disease Response Centre and the Animal Health Laboratory, and the staff work closely together. Both are involved when an initial investigation cannot eliminate an exotic pest or disease. The Animal Health Laboratory is the national reference centre for diagnostic laboratory testing for exotic diseases of animals and has a collection of expertise and facilities not available elsewhere in the country.

“If an investigation turns up something we suspect is an exotic disease, this can trigger a response involving many people from outside IDC. IDC becomes the Exotic Disease Response Centre managing the day-to-day operational activity, which will vary according to the circumstances,” says Paul.

During a large response, the IDC building will house large numbers of people. Teams of IDC and AsureQuality staff will...
work around the clock doing traceback, surveillance, movement control, logistics, intelligence and planning.

“The coordination of such an operation is massive. That’s why we bring all these people together in one place. We can assemble a large group of veterinary epidemiologists in a short time.”

Demanding work environment

Working in this sort of environment can be stressful.

“It puts a high demand on individuals," says Paul. "They work hard and long hours during a response so we need to support them to prevent burnout. The people who work here need to be good communicators and have good balance in life, otherwise they will not last. However, we have some staff who have been here at least seven years, so we must have recruited the right sort of people.”

IDC also requires its staff to be highly skilled and qualified. All veterinarians employed there have a Master of Veterinary Science in epidemiology or equivalent and also have to be proficient in legal matters, interviewing, database use and geographic information systems.

When not involved in investigations or responses, there is technical project work to be done. Preparedness planning for dealing with exotic diseases falls to the IDC staff. Its importance was illustrated when equine influenza broke out in Australia – a response plan for New Zealand was ready to swing into action. Similar plans are available or underway for other serious threats to New Zealand’s animals.

At any given time, the investigation team is involved in a range of other projects. Graham Mackereth is leading a large multi-agency vector-borne disease and ecology project. Andrew McFadden has just completed a sero-surveillance project on Ross River virus and is now involved with AsureQuality and the Massey University EpiCentre (a veterinary epidemiology training and research centre) in designing an epidemiological toolkit to help monitor and manage exotic disease outbreaks.

Caleb King is leading a project to refine the industry liaison functions during a disease response, in particular, aspects of movement controls and welfare slaughter of animals. Tom Rawdon is involved with numerous avian influenza projects and research. Chris Morley has just returned from the United Kingdom, where he was seconded to the Department for Environment, Food and Rural Affairs during their foot and mouth disease (FMD) and bluetongue outbreaks. Rissa Williams is analysing and interpreting results from an ongoing baseline marine survey and is leading a project looking at ganglio-neuritis in abalone. The investigation team is also assisting in the Australian equine influenza outbreak by resourcing an epidemiological position in the outbreak area on a two-week ongoing rotation (see Incursion Investigators support Australian equine influenza response on page 8 of this issue).

Keeping the system fine tuned

To test the response systems and keep them fine tuned, exotic disease or pest simulations are conducted regularly and without warning. In recent times, simulated outbreaks of anthrax and FMD have put the systems to the test.

Members of the incursion investigation team undergoing training in ‘Breathe easy’ air hoods used for contact with potentially zoonotic diseases.

The Animal Health Laboratory (AHL), managed by veterinarian Joseph O’Keefe, has three diagnostic teams: virology (managed by Susan Cork), bacteriology (under Wendy McDonald) and immunology (managed by Clive Pigott). All teams assist in a response and are involved in surveillance for exotic diseases like avian influenza and the transmissible spongiform encephalopathies. They also carry out project work and export testing and provide diagnostic services not available from other providers (for example, classical virology). The AHL also houses a PC3 high-level containment laboratory, New Zealand’s highest containment designation.

Clive Pigott, whose background is in the human transplant area in the United Kingdom, says the lab brings together a highly specialised team of scientists and veterinarians.

“Their expertise means we can subcontract work as well as do the investigative work. Our staff keep up to date by attending conferences overseas and liaise closely with other laboratory agencies,” says Clive.

Strict security for PC3 lab

Containment of material that may carry infectious disease is a particular concern for the laboratory staff, whose diagnostic team receives specimens and despatches them around the world with appropriate containment designation. The PC3 laboratory allows for testing that previously had to be done outside of New Zealand.

“The staff who work in the PC3 lab require special training, as we do diagnostic testing for potentially exotic disease,” says Clive. “We also carry out post mortems here. No material can leave the PC3 lab; it must all be autoclaved, disinfected or fumigated. Staff working in the PC3 lab have to follow strict procedures, including showering on the way out. At all times we have a record of who is in the laboratory. Negative pressure means that air is sucked in when the door is opened, and the air is filtered.”

Clive explains that having a PC3 lab in New Zealand allows more rapid testing and therefore a more rapid response for tests for vesicular and other exotic diseases such as equine influenza.

“Anything that becomes an investigation gets tested here. For example, we dealt with specimens from the Waiheke Island FMD hoax.”

The AHL is currently expanding its aquatic animal disease capability, reflecting the importance of the marine environment to New Zealand’s biosecurity concerns. (See Aquatic animal diseases: Spotlight on IDC on page 20 of this issue.)

The laboratory staff are also involved in research projects and developing tests. This increasingly involves molecular techniques, such as a molecular test for infectious bovine rhinotracheitis developed recently and now approved by the World Organisation for Animal Health, the OIE.

This article was originally published in the November 2007 issue of Vetscript, and is reproduced with permission.
Aquatic animals are important to New Zealand for a number of reasons:

- They are a source of food that is worth about $1.4 billion to the economy.
- Almost 1.2 million animals are imported every year to fulfil the demand for aquarium fish as pets.
- They have important cultural and customary significance.
- Our native species interact with each other to form a complex, beautiful and important ecosystem.

How secure are we?

New Zealand is an island nation and our isolation provides some protection from exotic diseases. Pathways that could permit the entry of pathogens still exist, however. There is good evidence of diseases being carried in seafood (e.g., raw prawns), biofouling (e.g., oyster parasites in Eureka harbour) and with users of the aquatic environment (e.g., kayakers, fishers).

With this in mind, MAF Biosecurity New Zealand (MAFBNZ) is committed to continually improving its diagnostic capability and range of tests available.

What aquatic animal disease capability does IDC currently have?

The Investigation and Diagnostic Centre at Wallaceville (IDC – Wallaceville) houses the Animal Health Laboratory, where all the diagnostic tests are carried out, and the incursion investigators, who carry out field investigations.

The diagnostic laboratory carries out a range of aquatic animal disease work including:

- testing for the salmon export programme
- diagnostics for incursion investigations
- testing of samples from ornamental fish importers
- routine diagnostic submissions for external clients
- characterisation of newly detected disease organisms
- development of new diagnostic tests
- blind tests to maintain quality diagnostic standards.

Aquatic animal disease capacity at Wallaceville includes specialised areas such as bacteriology, virology, immunology, aquatic pathology and epidemiology. Aquatic diagnostic work is coordinated through the Bacteriology and Aquatic Animal Diseases (BAAD) team.

What goes on in bacteriology?

Apart from traditional bacterial culture and identification using agar plates and biochemical tests, we also run rapid molecular tests that can detect disease-causing bacteria – for example, those responsible for brucellosis in dolphins and
bacterial kidney disease, furunculosis and red mouth in salmon. DNA sequencing is used to help definitively identify bacterial species. As the government diagnostic facility, it is important that this work is done quickly and accurately.

Our bacteriology scientists also develop new molecular tools that are capable of identifying small numbers of specific bacteria very quickly.

It doesn't stop at bacteria either; the bacteriology laboratory can also culture and identify pathogenic fungi.

A peek at virology

The dedicated cell culture and virology laboratories at Wallaceville are where virus isolation is carried out using fish cell lines. This method of detecting live virus is supported by immunological and molecular techniques to definitively identify pathogenic aquatic viruses.

Electron microscopy allows the scientists to see viral particles in infected cells and can help identify new viruses or confirm diagnoses where molecular and immunological tests do not yet exist.

We can also use electron microscopy to characterise very small protozoan fish parasites and see changes in diseased organs at a cellular level, perhaps providing valuable clues to what is causing a new or emerging disease.

Aquatic animal pathology

Although some samples submitted may only be swabs or parts of organs, it is useful in disease investigations to get the whole aquatic animal and water samples. This is what generally happens after a fish kill. Once the fish have arrived at the laboratory, we carry out a comprehensive external examination including skin scrapes and wet gill preparations to look for parasites, certain bacteria and the condition of the gills. This is followed by a thorough necropsy where the fish is dissected and samples taken for virology, bacteriology, histopathology, molecular tests, immunology and electron microscopy as required.

Histopathology is the study of very thin slices of tissues under the microscope. At Wallaceville, we can carry out histopathological examinations on fish, molluscs and crustaceans. It is an important discipline that allows the pathologist to see disease processes in the internal organs, understand the type of pathogen that may be involved and how significant any changes are.

Tracking aquatic diseases

At IDC – Wallaceville we are fortunate to have incursion investigators and epidemiologists on-site. These highly experienced and skilled people help with the investigation of aquatic animal disease outbreaks as well as providing essential input into sample size selection, research protocol design and the development of surveillance programmes.

Our dedicated marine incursion investigator will respond to reports of potential exotic aquatic pests and diseases, carry out the field investigation and coordinate technical response plans when they are required.

Advancing aquatic animal disease diagnostics

MAFBNZ operational research funding is being used to develop rapid real-time PCR-based tools for the detection of a range of important aquatic pathogens. Five bacterial diseases of importance to New Zealand’s wild and farmed fish were selected initially. This project is now in its second year and has already developed sensitive and specific rapid diagnostic tests. Two other projects have started this year to develop classical cell line isolation techniques and molecular probes for three
important viruses of fish and molluscs:
• aquatic birnaviruses known to cause disease in flatfish
• iridoviruses that can be carried by ornamental fish and may pose a threat to native fish and amphibian populations
• the herpes-like virus affecting abalone in Victoria, Australia. As native paua are closely related to Australian abalone, MAFBNZ recognised and prioritised work on this pathogen. To help protect our paua populations, it is important that we develop techniques to detect this virus quickly before clinical signs develop.

Looking forward

As demand for seafood continues to increase and the focus on sustainability of seafood stocks sharpens, the health of our aquatic animals also increases in importance.

The Investigation and Diagnostic Centre at Wallaceville will continue to work at the forefront of aquatic animal disease capability in New Zealand and play its part in protecting our aquatic natural advantage.

To report suspected exotic aquatic pests or diseases, call 0800 80 99 66.

Colin Johnston, Aquatic Animal Diseases Scientist, Investigation and Diagnostic Centre – Wallaceville, MAF Biosecurity New Zealand, phone 04 894 5628, colin.johnston@maf.govt.nz
Conservation management strategies

Biosecurity crosses many administrative boundaries, including those that separate public conservation lands and other lands. The conservation management strategy (CMS), is one of the tools the Department of Conservation (DOC) uses to outline how it manages public conservation lands, and its relationship with other lands.

CMSs are strategic, 10-year documents that set out the objectives for the integrated management of the places and species that DOC is responsible for (including for recreation, tourism and other conservation purposes). CMSs are prepared under the Conservation Act 1987 with input from the public and affected interest groups, and are approved by the New Zealand Conservation Authority. The strategies are required to implement the Conservation General Policy and the General Policy for National Parks, both of which include specific directions on biosecurity matters. Generally, each conservancy has one CMS, and it guides the conservancy’s day-to-day decision making.

In relation to pests, a CMS is likely to contain direction on:
- an overview of the conservancy’s approach to pest management (in land, freshwater and marine environments) and the rationale behind it
- conservancy priorities for pest management by location and/or for the management of threatened species
- actions regarding surveillance and control in weed-led and animal pest-led programmes.

Some CMSs may contain particular direction for pest management on islands; and more important matters may be specifically identified at places (a separate section in a CMS). A CMS may also potentially provide for closing areas managed by DOC in circumstances where this may be necessary to control a biosecurity threat.

For pest management on public conservation lands, the role of CMSs is therefore similar to that of Regional Pest Management Strategies (RPMSs) for other lands. There are opportunities for CMSs and RPMSs to be better aligned. Where relevant, agreements reached through the RPMS process should be reflected in a CMS; similarly, those reached through the CMS process should be reflected in an RPMS. For this reason it is important that council and conservancy staff who have responsibilities for managing pests involve themselves in the preparation of each other’s strategies. Opportunities for involvement in the development of CMSs occur at two stages: the first is before the formal part of the process starts (when the ideas are being formulated); the second is through the formal submission process.

Many CMSs are now being reviewed. These include Northland, Auckland, Bay of Plenty, East Coast/Hawke’s Bay, Waikato and Rakiura (Stewart Island).

If you have an interest in biosecurity matters, contact your local DOC office to get involved or look at the DOC website. Other planning documents to keep an eye out for include national park management plans and conservation management plans. These contain more detailed direction on how particular places are to be managed.

For information about DOC consultations:

For DOC’s Conservation General Policy and the General Policy for National Parks:
- Dr Carol J. West, Threats Improvement Manager, Research, Development and Improvement Division
- Marie Long, Senior Planner, Legal Services Unit
- SJ Owen, Senior Policy Analyst
- Department of Conservation, PO Box 10-420, Wellington 6143

Possum on the ground, Nelson/Marlborough Conservancy. Photo: DOC image library.
Coordination adds value to pest management programmes

A pest management programme can often be carried out by more than one organisation and extend across regional or jurisdictional boundaries. Improving the coordination of such programmes has the potential to ensure better alignment and increased effectiveness across pest management organisations.

There are a number of instances where coordination already exists, with programmes carried out by regional councils, the Department of Conservation (DOC), MAF Biosecurity New Zealand (MAFBNZ), territorial authorities, industry organisations, community groups and non-governmental organisations (NGOs). Examples of this include:

- park volunteer programmes – coordinated by DOC or local government
- community possum control programmes – coordinated by DOC, local government or NGOs
- Didemnum vexillum management – coordinated by the Didemnum Working Group (see Biosecurity 76:6 for article on the group's work in Marlborough)
- phylloxera management programme – coordinated by New Zealand Winegrowers
- didymo long-term management – coordinated by MAFBNZ.

Central and regional government biosecurity agencies have agreed on the need for a framework that will support decisions on when a pest management programme should be coordinated, and which organisation is best placed to undertake the coordination role on a case-by-case basis. MAFBNZ is leading this project, which is to develop resources that any organisation can apply to determine:

- when coordination is needed
- what type of coordination activities will add value
- who is best placed to undertake the coordination role (including at what level coordination should sit – national, regional or local)
- whether providing coordination for a single pest programme or suite of pests is the best approach.

The project will include development of supporting guidelines and tools to assist those either seeking or providing coordination services – for example, how and where to access relevant information and a clear process that decision makers can follow. The intent is to create simple and user-friendly resources that will help to ensure coordination is provided in the best place, and by the organisation that can add most value.

The project steering group includes representatives from all central and regional biosecurity agencies. The project is expected to commence in early 2008 with a draft framework completed by October. The framework will then be trialled using a range of pests and programmes prior to being finalised and released for implementation in 2009.

For further information, contact your representative on the Central Regional Biosecurity Coordination Group or Mike Harré at MAFBNZ.

NETS2008
YOUR CHANCE TO SHOUT IT FROM THE ROOFTOPS!

Have you:
- been working on a biosecurity project?
- been doing research with interesting results?
- a burning issue that you want to raise in the wider biosecurity community?

Share your knowledge, experiences and thoughts. Papers are now being sought for the New Zealand Biosecurity Institute’s National Education and Training Seminar (NETS), being held from 23-25 July 2008 in Hamilton. The NETS2008 theme is “Biosecurity Connections: Touch, Pause, Engage”, focusing on new technologies and techniques in the biosecurity field, and how these can be applied to on-the-ground efforts.

For more information, check out: www.biosecurity.org.nz
Australian animal welfare workshop considers international perspectives

After three years of concerted effort to develop an integrated national approach to animal welfare, the Australian Animal Welfare Strategy (AAWS) has made impressive progress. This was demonstrated clearly at the Third AAWS National Workshop held in Canberra on 5–6 December 2007, where achievements to date were outlined in some detail.

Reports were received from working groups in six animal sectors: animals in the wild, aquatic animals, companion animals, livestock/production animals, research and teaching animals, and work, sport, recreation and on-display animals. Two cross-sector working groups – one on research and development and the other on education and training – also reported, as did a group charged with developing a national communications strategy after analysing animal welfare attitudes and perceptions of stakeholders and the Australian public.

Good news delivered at the workshop is that the new Australian Government has decided to continue funding the AAWS and its associated projects.

European perspectives on animal welfare were provided by Dr Andrea Gavinelli (European Commission – Health and Consumer Protection Directorate General – see separate article on page 12 of this issue). He described the significance of the current ‘fork to farm’ approach. Its direction, which is from the consumer back to the farmer, and the manipulative function of the fork in the hands of consumers, recognised their power to demand that high standards of welfare be maintained on livestock farms. Animal welfare in this sense now ranks alongside safety and quality as part of food acceptability.

Professor David Mellor (Animal Welfare Science and Bioethics Centre (AWSBC), Massey University) outlined some New Zealand perspectives on animal welfare. He noted that the successful establishment of a comprehensive animal welfare management infrastructure was a good demonstration of a wide cooperative commitment to the economic interests of New Zealand Incorporated. Exports of animal-based products to welfare-sensitive markets, like Europe, represent a high proportion of the country’s GDP. Other key features of the New Zealand system are inclusiveness, seeking incremental – not revolutionary – change, and basing minimum welfare standards on sound science. He emphasised the importance of relevant scientific expertise of high international standing.

The existence of the five research centres and groups was acknowledged as a strength for the region: in New Zealand, the Animal Behaviour and Welfare Research Centre (AgResearch, Hamilton) and the AWSBC (Massey University, Palmerston North), and in Australia, the Animal Welfare Science Centre (Universities of Melbourne and Monash, and Department of Primary Industries, Melbourne), the Centre for Animal Welfare and Ethics (University of Queensland, Brisbane) and the Animal Welfare Research Group (CSIRO, Chiswick). Steps to further enhance the currently good interactions between these five centres were also discussed.

■ Professor David J Mellor, Co-Director Animal Welfare Science and Bioethics Centre, Massey University, Palmerston North. Email d.j.mellor@massey.ac.nz.
■ http://animalwelfare.massey.ac.nz/

Workshop investigates conflict between conservation and animal welfare

A recent workshop in Canada looked at the management of animal welfare and conservation goals in human–wildlife interactions in forestry, agriculture, aquaculture, captive wildlife management, urban wildlife and pest control, and recreation. Dr Kate Littin, Technical Adviser Animal Welfare at MAF Biosecurity New Zealand, was an invited speaker.

Animal welfare and conservation goals may be difficult to meet in situations where humans interact with wildlife, such as in wildlife tourism or fish farming in the sea. Furthermore, they may conflict. For instance, the management of an endangered species can compromise the welfare of individuals of that species and individuals of other animals in the environment.

Fundamentally, however, care and respect for animal life and well-being and the environment is at the core of activity in both areas. The key is to establish potential areas and causes of conflict and to work out practical approaches to ensuring that both conservation and animal welfare goals are considered, if not met, in all human–wildlife interactions. These were the key aims of this workshop. A range of experts from various fields and countries spoke and are working together to develop some guidance. Papers from the workshop will be published in a special issue of the journal Animal Welfare and possibly disseminated more widely in publications targeting conservation biologists.

The workshop was organised by faculty of the University of British Columbia, including Professor David Fraser, a member of the OIE Permanent Animal Welfare Working Group who is involved in OIE initiatives on animal welfare in wildlife management. Kate Littin’s attendance was supported by the Peter Wall Institute of Advanced Studies at the University.

For further information:
■ www.interactions.pwias.ubc.ca/
■ Kate Littin, Technical Adviser Animal Welfare, phone 04 894 0373, kate.littin@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:

- Agrivet Services Ltd
- Christchurch Polytechnic Institute of Technology
- South Pacific Sera Ltd
- University of Auckland
- University of Canterbury
- University of Otago
- Victoria University of Wellington
- Waikato Institute of Technology

Transfers of codes of ethical conduct approved: Nil

Code holder name changes: Nil

Amendments to codes of ethical conduct approved:

- Thermo Fisher Scientific Inc

Notifications to MAF of minor amendments to codes of ethical conduct: Nil

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

- AMZ & Associates (to use University of Waikato’s code)
- Baldock, Anne (to use Waikato Institute of Technology’s code) (renewal – code expired)
- Eastern Institute of Technology (to use Waikato Institute of Technology’s code) (renewal – code expired)
- Karori Reservoir Wildlife Trust (to use Victoria University of Wellington’s code) (renewal – code expired)
- Malaghan Institute of Medical Research (to use Victoria University of Wellington’s code) (renewal – code expired)
- Otago Polytechnic (to use University of Otago’s code and Dunedin AEC) (renewal – code expired)
- Tegel Foods Ltd (to use Extendart Ltd’s code)
- Wakefield Gastroenterology Research Trust (to use University of Otago’s code and Wellington AEC) (renewal – code expired)
- Ward, Christopher (to use Waikato Institute of Technology’s code) (renewal – code expired)

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

- ICPbio Ltd
- Institute of Environmental Science & Research 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

Linda Carsons, Senior Policy Adviser, Animal Welfare, phone 04 894 0370, fax 04 894 0747, linda.carsons@maf.govt.nz

Codes of welfare – update on issues, consultation, development and review since the last issue of Biosecurity

Codes of welfare issued 2008:

- None
- Note that new requirements came into force on 1 January 2008 under the existing code of welfare for layer hens.

Consultation on codes of welfare:

- Commercial slaughter: recommended to Minister
- Dairy cattle: submissions being considered by NAWAC
- Dogs: public consultation closed 1 November 2007

Codes of welfare under development:

- Transport in New Zealand
- Sheep and beef cattle
- Temporary housing (including boarding establishments)

Codes of welfare under review:

- Broilers

Cheryl O’Connor, Programme Manager Animal Welfare, phone 04 894 0371, fax 04 894 0747, cheryl.o’connor@maf.govt.nz

Minor amendments to codes of ethical conduct

Code holders may make minor amendments to their code of ethical conduct. Code holders are reminded that if they have made any minor amendments during 2007, they are required by law to notify MAF in writing of the changes as soon as practicable and by 31 March 2008 at the latest. The Animal Welfare Act 1999 defines a minor amendment as one ‘that would not materially affect the purposes of the code.’

Linda Carsons, Senior Policy Adviser, Animal Welfare, phone 04 894 0370, fax 04 894 0747, linda.carsons@maf.govt.nz


Biosecurity is about managing risks – protecting the New Zealand environment and economy from exotic pests and diseases. MAF Biosecurity New Zealand devotes much of its time to ensuring that new organism records come to its attention, to follow up as appropriate. The tables below list new organisms that have become established, new hosts for existing pests and extension to distribution for existing pests. The information was collated during 12/11/2007 – 21/12/2007 and held in the Plant Pest Information Network (PPIN) database. Wherever possible, common names have been included.

**ANIMAL KINGDOM RECORDS 12/11/2007 – 21/12/2007**

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<td><strong>Organism</strong></td>
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<td>No new host records during this period.</td>
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**New host reports**

| | **Organism** | **Host** | **Location** | **Submitted by** | **Comment** |
| No new host records during this period. | | | | |

**Extension to distribution reports**

| | **Organism** | **Host** | **Location** | **Submitted by** | **Comment** |
| | **Raphignathus gracilis** (insect: no common name) | Cymbidium sp. (cymbidium orchid) | Mid Canterbury | IDC (general surveillance) | |
|-----------------------------------------------|
| **Validated new to New Zealand reports**      |
| **Organism**                                  |
| *Puccinia chrysanthemi*ica* (fungus: leaf rust)* | Chrysanthemum coronarium (annual chrysanthemum) |
| **Tulip virus X (TVX)**                       |
| Zantedeschia sp. (calla lily)                 |
| **Significant new reports**                   |
| **Organism**                                  |
| *Liocladius minor*                            |
| *Icerya purchasi* (insect: cottony cushion scale) |
| **Calostrica spathiphylly**                   |
| **Oenoma hirta** (insect: lemon tree borer)   |
| **Hemiberlesia lataniae** (insect: latania scale) |
| **Saissetia oleae** (insect: black scale, olive scale) |
| **Eriococcus coriaeus** (insect: gum tree scale) |
| **Cercospora api** (fungus: cercospora leaf spot) |
| **Phoma exigua** var. *exigua* (fungus: black spot, olive spot) |
| **Aphelenchoides fragariae** (filar nematode) |
| **Aspidiotus nerii** (insect: oleander scale) |
| **Cucumber mosaic virus (CMV)**               |
| **Pseudopholax macleayi** (insect: pit weevil) |
| **Discostroma callistemones** (fungus: no common name) |
| **Carpographina eucalypti** (fungus: no common name) |
| **Ophelius eucalypti** (insect: black gum scale) |
| **Lindera *rosa* (insect: circular black scale, rose’s black scale) |
| **Toxoptera auranti** (insect: black citrus aphid) |
| **Bethelum signiferum** (insect: no common name) |
| **Astrotholea lepturuoides** (insect: no common name) |
| **Calliprason pallidus** (insect: pallid longhorn) |
| **Saissetia coffeae** (insect: hemispherical scale) |
| **Acrocerops laciniella** (insect: stout scale) |
| **Sawadaya bicornis** (fungus: powdery mildew) |
| **Coptomma sulcatum** (insect: striped horned scale) |
| **Extension to distribution reports**         |
| **Organism**                                  |
| *Calostrica spathiphylly* (fungus: no common name) |
| **Elisne matisi** (fungus: no common name)     |
| **Diaportha abdita** (fungus: no common name)  |
| **Discostroma callistemones** (fungus: no common name) |
| **Toxoptera auranti** (insect: black citrus aphid) |
| **Pseudoceraspora japonica** (fungus: no common name) |
| **Entyloma fergussonii** (fungus: no common name) |
| **Pulvinaria follicula** (insect: no common name) |
| **Alternaria anagallidis** (fungus: no common name) |

**Issues**

1. **TVX is potentially widespread in the retail nursery trade.**
Exotic disease and pest emergency hotline: 0800 809 966
Animal welfare complaint hotline: 0800 327 027
www.biosecurity.govt.nz