Better risk management for sea containers
Risk assessment for Btk products
Plant pest list review

End-to-end Biosecurity
I t is over a year now since the new biosecurity structure was put in place and the Biosecurity New Zealand Pre-clearance Directorate was formed. It’s been a year of change and learning.

We have changed our approach from looking at biosecurity on a sector basis to now working across sectors and creating common processes. We have a broadened mandate, taking account of not just economic, but also environmental, human health and social/cultural values. To meet the challenges these changes present, it has been critical to focus our resources and effort in the right areas. We have had to learn how to say ‘no’ to some work that has not met the priority list. A significant challenge is managing the tension between the dual responsibilities for facilitating trade and protecting New Zealand’s natural advantage from exotic pests and diseases.

There is a lot at stake, so striking the right balance is critical. As an island nation we are fortunate to have a very favourable biosecurity status because many of the worst global pests and diseases are not present in New Zealand. We have a strong emphasis on agricultural trade, so biosecurity is essential to the continued well-being of our productive sectors.

In order to ensure we strike the right balance, we place a strong emphasis on risk assessment and risk management. Information is gathered from around the world to ensure our final decisions are robust and based on the best information available. Depending on the complexity of the issue, a risk analysis can take anywhere from four weeks to two years! Communication can be a challenge as stakeholders often hold views at opposite ends of the spectrum, depending on their interests.

Over the last year, a lot of effort has gone in to improving our risk analysis and import health standard processes. One of our key aims was to make the processes more transparent and, in doing so, to give stakeholders more confidence in the system.

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For prioritisation of applications, stakeholders now know the criteria used, the process that is followed, and the resultant annual work plan for the coming year. An outline of these processes will be the focus of some future articles in this magazine – so watch this space.

Our emphasis on putting these new core processes into action has already taught us a great deal, and we have identified numerous enhancements that we will build on in the next year.

The rigour that was applied to the prioritisation process this year has given us a clear picture of the gulf between the demand for import health standards and the resources we have for meeting it. Demand exceeds supply by a factor of 10!

The flipside of imports is exports. It is critical to remember that trade is a two-way street, and that our trading partners expect a similar level of assurance when it comes to our exported products. Successful negotiation with our trading partners hinges on us “playing by the rules”.

We are a small trading nation and we strongly advocate the use of sound science and a rules-based approach to international trade. It is important to bear this balance in mind in everything we do.

Monitoring the integrity of the biosecurity system is an important performance measure. With the change in the biosecurity structure, a new group was formed within Pre-clearance. This group has the task of monitoring risk across pathways and the biosecurity continuum.

The group’s work is providing valuable insights into the relative risks across pathways and the effectiveness of interventions within pathways. It also provides feedback for improvements in our import health standards, quarantine processes, surveillance, awareness campaigns and enforcement regimes.

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

Editors: Debbie Pearson
Director Pre-clearance
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“...
Environmental and human health risk assessment for Btk products being updated

Biosecurity New Zealand (BNZ) has started reviewing and updating the environmental and health impact reports for Bacillus thuringiensis var. kurstaki (Btk) products registered or likely to be registered for aerial application in New Zealand.

Ian Gear, Manager Eradication Programmes, Biosecurity New Zealand, says that it is vital to remain confident that the application of Btk products does not cause an unacceptable or irremediable harm to the environment or to human health.

“We cannot discount the possibility that aerial applications of Btk may be necessary to control and/or eradicate future invasions of exotic pest moth species. We need to continually review our eradication programmes, take what we have learnt and apply this to future responses. In this way our biosecurity programmes will remain responsive and dynamic,” he says.

While Australian toxicologist Dr Peter Di Marco recently found that the pesticide Foray 48B used in the successful eradication of a number of exotic moth incursions is not “injurious or offensive to health”, MAF intends to update the Environmental and Human Health Risk Assessment to ensure that it is current, Ian Gear says.

To this end, a project group of national and international scientists and public health experts has been engaged to review and revise the Environmental and Human Health Risk Assessment. Their work will draw upon previous assessments, scientific publications and reports published since the last review.

PAM spray cleared by toxicologist

A report commissioned by the Waitakere City Council has found that the application of Foray 48B during the aerial spraying in West Auckland for the eradication of painted apple moth (PAM) did not constitute a health nuisance.

The independent report by Australian toxicologist Dr Peter Di Marco concluded that the ingredients in Foray 48B were not injurious or offensive to health.

While it was noted that exposure to the spray in high doses might cause some irritation to skin, eyes, and the upper respiratory tract, those effects were unlikely to be seen in exposed communities in spray areas, because of the low concentration of the spray in the air.

Dr. Marco says the health concerns raised by the Waitakere Council community were likely to have been more closely related to the application method used, i.e., aerial spraying, and the associated adverse media coverage, rather than to Foray 48B.

The report also says future aerial spraying programmes are unlikely to constitute a health nuisance which is “injurious or offensive to health”, provided the risk management measures developed and implemented to date continue to be applied.


Plant pest list under review

New suggestions for more than 90 plants to be added to the National Pest Plant Accord have been received by the accord’s steering group.

The National Pest Plant Accord prevents the sale, propagation or distribution of specific pest plants. Established in 2001, the accord is a non-statutory agreement between organisations with biosecurity responsibilities. A steering group governs the accord and is made up of representatives from regional councils, the Department of Conservation, the Nursery and Garden Industry Association and Biosecurity New Zealand (BNZ).

The steering group is responsible for deciding which plants are listed on the accord, but the risk analysis advice is provided by an independent Technical Advisory Group (TAG).

Last year, the steering group began reviewing the accord list for the first time, and in July 2005 BNZ called for proposals from consultative groups for pest plants to be added to, or removed from, the list.

Ninety-two new plant proposals were received, along with one seeking the removal of a species from the list. The TAG completed risk analyses for each of the proposed new species and the existing accord list and gave a recommendation on whether they should be added to, or removed from, the list.

BNZ then began public consultation, which resulted in 36 submissions. The TAG has reviewed the technical aspects of the submissions and made its final recommendations to the steering group. In May, the steering group will decide which species are to be added to, or removed from, the accord list based on three considerations:

• advice from the TAG
• regulatory impact
• general submissions.

The steering group will then make a recommendation to the chief technical officer requesting that the plants be determined as unwanted organisms under the Biosecurity Act 1993, legally banning their sale, propagation and distribution.

Once the review is complete, a marketing campaign will be launched to inform stakeholders and the public of the changes. This is expected to begin in July.

Enforcement of the accord is undertaken by regional councils who carry out surveillance and enforcement in local nurseries. The authorised people who do this work are trained in plant identification and advise nursery owners on whether they have any plants on the accord list that should not be sold.

For more information on the National Pest Plant Accord:

Climbing spindleberry: attractive but a rampant pest

The climbing spindleberry is a vigorous vine which threatens native bush, forestry and open areas. It climbs over vegetation, smothering and killing underlying plants.

The plant has attractive berries and autumn colour and is spread by birds, which makes it rampant and hard to control.

The climbing spindleberry is a pest in many regions including Golden Bay, Taupo, and the Waikato and a number of regional councils have control programmes to target the species.

Before it was added to the accord list, the climbing spindleberry was sold in nurseries and plant shops for use in domestic gardens.

Including the species on the accord prevents it from reaching new areas and supports regional council and Department of Conservation programmes by ensuring that it is not being sold in areas near where it is being controlled.

The accord also helps to make people aware that this species is a pest and gives gardeners confidence that the plants they buy from nurseries are not going to become a problem in their garden.

For a fact sheet on climbing spindleberry:
Putting our heads together

MAF and industry join forces to exceed BSE surveillance targets

A partnership between government and industry has successfully risen to the challenge of meeting stringent new international requirements for BSE surveillance.

BSE is a progressive, fatal, non-contagious, feedborne nervous disease of cattle. The United Kingdom has the highest incidence with just over 184,000 cases confirmed since 1999. While New Zealand has never had a case of BSE, and has rigorous import safeguards to protect against its introduction, it is vital to our animal products export trade to have a targeted surveillance programme to identify BSE, should it occur here.

The international guidelines for a BSE surveillance programme are set by the World Organisation for Animal Health (OIE). In 1997, the OIE’s annual target surveillance programme are set by the World Organisation for Animal Health (OIE). In 1997, the OIE’s annual target was increased from 180 to 300 per annum.

While Biosecurity New Zealand’s (BNZ) surveillance programme has so far met the minimum guidelines set by the OIE, it has done so by testing a combination of cattle on farms as well as so-called “fallen stock”. These included cattle from pet-food slaughtering operations, rendering operations and meat export premises.

The number of on-farm cases has averaged 89 per annum since 1999. Many of the animals that were sampled at slaughterhouses might have been sampled on farms if there had not been a financial disincentive to the farmer, as the cash paid by MAF to farmers was not sufficient to cover veterinarians’ fees and cost of carcass disposal.

In 2003, the OIE surveillance guidelines became more stringent. New Zealand was now faced with the challenge of testing about 600 cattle per annum, and they all had to be from on farm. There was no longer the provision to make up any shortfall in on-farm cattle numbers with surveillance targeted at fallen stock.

To meet these new guidelines, BNZ’s surveillance programme required significant and speedy improvements. In April 2005, BNZ convened the BSE Surveillance Advisory Group (BSE SAG).

The group included representatives from MAF and all affected sectors of the cattle industry. The SAG agreed to meet regularly until all the issues facing New Zealand to meet the revised OIE guidelines had been examined.

Series of outcomes

The group met four times during April to August 2005, with the following outcomes:

• An agreed interpretation of the 2005 OIE guidelines for BSE surveillance was developed, which provided clarity for the range of symptoms, and ages of cattle, that should be eligible for BNZ’s BSE surveillance programme.

• The amount of the cash incentive payments paid by BNZ to farmers and veterinarians for submission of samples from suitable cattle was revised. The increased cash payment removed the financial disincentive to on-farm sampling. For full details of the increased cash incentive visit: www.biosecurity.govt.nz/pests-diseases/animals/bse/surveillance-incentives.htm

• An agreed communication strategy was developed to launch the revised BNZ surveillance programme.

• BNZ sponsored a series of workshops for veterinarians on removal of cattle brains.

• A CD on proper brain removal technique was posted by BNZ to all large animal veterinarians.

Excellent results from strategy

The results from these efforts have been quite remarkable (see accompanying graph). Between July 2005 and March 2006, over 1,880 cattle brains have been tested, which has well exceeded the new recommended annual target of 600. All brains tested were negative for BSE.

But this programme is expensive to run. During this same nine-month period, the total costs for BSE surveillance reached about $1.3 million, with projected costs of about $2 million until the end of June. In view of this, BNZ is currently reconsidering its BSE surveillance strategy for the period July 2006 to June 2007, to see where greater efficiencies can be introduced.

BNZ’s BSE surveillance programme is a good example of what can be achieved when there is a collective effort made by government and industry. The success of the programme, which saw the rate of testing of suitable on-farm cattle rise from an annual average of 89 to 1,880 cattle in a nine-month period, speaks for itself.

Ruminant protein requirements tightened

None of the transmissible spongiform encephalopathies of animals, including BSE or mad cow disease, occurs in New Zealand. Nevertheless, we have in place measures to mitigate any risks. Following a MAF review, animal feed processing practices are to be further tightened to help reduce the risk of these diseases spreading by way of animal feed, should they ever occur here.

The Biosecurity (Ruminant Protein) Regulations 1999 prohibit the feeding of ruminant protein (RP) in any form to ruminants. These regulations were put in place because consumption of ingredients derived from bovine spongiform encephalopathy (BSE) infected cattle is believed to be the only way the disease is spread among ruminants.

The regulations require premises that produce feed for ruminants, and which also utilise ruminant protein for other purposes, to prepare, register, and implement Ruminant Protein Control Programmes (RPCP). An RPCP is a set of procedures outlining how ruminant protein will be kept out of rations intended for ruminants. It is a risk mitigation strategy to prevent the cycling of the BSE agent through the feed chain were it to ever occur here.

A review last year of the 21 premises with RPCPs registered found that ruminant feeds produced in mills sharing feed transfer lines and processing equipment with non-ruminant feeds carried an unacceptably high risk of being contaminated with RP. Given the infective dose for BSE could be as little as 0.1 g of infected brain tissue, the aim is therefore to ensure that feed intended for ruminants is completely free from ruminant protein.

MAF has concluded that the single-line processing is incompatible with the purposes of the ruminant protein regulations and that the only way forward is to implement dedicated ruminant feed processing lines. This means that there should be physical separation of feed transfer lines and feed processing equipment used for producing feeds for ruminants from those used for producing feeds containing RP. A chain is only as strong as its weakest link, and in order to ensure that ruminants have access only to feed that is free of ruminant protein, the physical separation must occur from the source of the raw materials through to the premises of buyers of processed animal feed and should include owners’ responsibility of providing their ruminant animals with feed that is fit for the purpose.

At a meeting on 9 February 2006, industry representatives endorsed MAF’s view of implementing, by 1 July 2006, a new requirement for dedicated ruminant feed processing lines. To mitigate the risk of contamination of the feed at the pre-mill and post-mill stages, MAF will develop a code of practice for feed transporters that will complement the separate feed line policy.

Biosecurity New Zealand and industry partners have undertaken an extensive communications campaign to ensure feed manufacturers, renderers, retailers, transporters, and farmers are aware of their obligations under the regulations and make the necessary control programme changes by the 1 July 2006 deadline.

For more information on BSE and RPCPs:

www.biosecurity.govt.nz/bse

Nasser Ahmed, Technical Adviser, Biosecurity New Zealand, phone 04 819 0550, nasser.ahmed@maf.govt.nz

It is essential that there is no opportunity for supplements fed to ruminant animals in New Zealand to have been contaminated with ruminant protein.
Quick action hoped to nip smut in the bud

Biosecurity New Zealand (BNZ) has been investigating and working to eradicate an outbreak of the maize disease common (or boil) smut from a field of sweetcorn near Gisborne. The disease has not previously been detected in New Zealand.

On 13 January the seed production manager of a maize and sweetcorn growing company alerted BNZ to the suspected presence of a new to New Zealand fungus (Ustilago maydis) in a single field at Gisborne. The manager had observed this disease in the United States and knew that it was not present in New Zealand, so wasted no time informing BNZ.

BNZ Incursion and Diagnostic Centre (IDC) scientists examined the samples submitted and confirmed the presence of Ustilago maydis, the agent that causes common smut. The identification was subsequently validated by mycologists at Landcare Research. This fungus affects only corn/maize (Zea mays) plants and is present in most of the corn growing areas around the world.

Incursion investigators visited the site to determine the spread of the disease and its possible route of arrival into New Zealand, as well as assessing any likely future management or eradication options. The investigation quickly established that the infection (see photo above), was confined to a small area of a single field of maize being grown for seed production.

Spores in seed consignment

Tests carried out by the IDC revealed the presence of common smut spores on seeds from the same consignment as those planted in the affected field. The affected field was the only one in New Zealand planted with the imported seed. All imported maize seed comply with the relevant import health standard requirements to prevent or mitigate risk of diseases such as common smut from becoming established. BNZ and overseas colleagues are investigating the treatments applied to the affected consignment.

Based on this information, the fact that the disease was at an early stage of development and that no significant spore release was detected, BNZ decided to put a restricted place notice on the property and destroy all sweetcorn plants in the field. All infected plants were carefully placed in plastic bags and incinerated. The remaining plants were harvested and placed in specially designed compost heaps and covered with polythene sheets to create a high temperature environment to ensure any spores present were destroyed.

No further incidence

BNZ provided industry representatives with information on the disease so that they knew what to look for during crop surveys. No further incidences of the disease have been reported. In addition, BNZ survey teams and maize crop growers adjacent to the affected field examined their crops for the disease, and, again, no disease was detected.

As this fungus can be dispersed by the wind, the field has been direct drilled with fast-growing grass seed and the field has been covered with polythene sheets so that the soil can be heaped, an environmentally friendly process called soil solarisation. At the end of the period, this area will again be planted in grass and the field retired so that the soil can be heat treated, an environmentally friendly method of disease control. BNZ survey teams and maize crop growers adjacent to the affected field examined their crops for the disease, and, again, no disease was detected.

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Based on this information, the fact that the disease was at an early stage of development and that no significant spore release was detected, BNZ decided to put a restricted place notice on the property and destroy all sweetcorn plants in the field. All infected plants were carefully placed in plastic bags and incinerated. The remaining plants were harvested and placed in specially designed compost heaps and covered with polythene sheets to create a high temperature environment to ensure any spores present were destroyed.

No further incidence

BNZ provided industry representatives with information on the disease so that they knew what to look for during crop surveys. No further incidences of the disease have been reported. In addition, BNZ survey teams and maize crop growers adjacent to the affected field examined their crops for the disease, and, again, no disease was detected.

As this fungus can be dispersed by the wind, the field has been direct drilled with fast-growing grass seed and the field has been covered with polythene sheets so that the soil can be heaped, an environmentally friendly process called soil solarisation. At the end of the period, this area will again be planted in grass and the field retired so that the soil can be heat treated, an environmentally friendly method of disease control. BNZ survey teams and maize crop growers adjacent to the affected field examined their crops for the disease, and, again, no disease was detected.
Composting of poultry carcasses

Review of New Zealand’s capacity to respond to a biosecurity emergency

Biosecurity New Zealand (BNZ) is finalising a programme of work on contingency planning for emergency disposal of animal carcasses in the event of an outbreak of a communicable animal disease. As part of this programme, BNZ investigated the suitability of various carcass disposal options including burial, air curtain incineration, composting and rendering.

The Canadian experience during the 2004 avian influenza outbreak in British Columbia demonstrated that composting can serve as a successful disposal method for managing catastrophic poultry mortality. In September 2005, BNZ contracted a review of the potential to use existing – or improved – New Zealand composting technologies to dispose of poultry carcasses in a biosecurity emergency, either as a stand-alone option or in combination with other methods such as burial, incineration or rendering.

A final report was completed at Christmas. This work will be reported on 16 May at a Waste Management Institute of New Zealand workshop at Taupo, for which BNZ is a sponsor.

New Zealand composting technologies

Technologies available in New Zealand and reviewed in the report for their suitability to process poultry carcasses in the event of an outbreak include the:

- HotRot™ system (horizontal, in-vessel system)
- VCU™ system (vertical, in-vessel system)
- Rotocom™ system (horizontal, in-vessel system)
- IPS™ system (enclosed bay/window system)
- Gore™ system (covered windrow system)
- Ag-Bag™ system (enclosed horizontal bag system).

An advantage of composting commercial flocks is that it is feasible to compost infected animals on the farm, thereby decreasing any risk of disease transmission through movement of dead birds, or trucks and people. In the Canadian outbreak, carcasses were initially composted in windrows inside sheds, where temperatures reached were sufficient to deactivate the avian influenza virus. The composted material was then moved out to composting ‘bins’ constructed while the initial process was being conducted in the sheds.

Producer support needed

Producer support for composting is needed as their time and commitment can be used to manage the process under the supervision of trained personnel. Centralised composting is also an option. In Canada this was used for the disposal of non-infected birds that were slaughtered as part of the control programme. Facilities available in New Zealand all appear well-suited to the application of composting poultry carcasses, including those generated as a result of an avian influenza outbreak. Key issues include:

- In order to prevent cross-contamination/re-infection of processed material, sufficient plant should be on site so that no machinery/equipment is in contact with both raw waste and composted product.
- It may be necessary to intercept trade waste and/or leachate discharges so that they may be contained, potentially treated on site and disposed of in an appropriate manner.

A number of New Zealand facilities are already involved in processing poultry mortalities and/or animal by-products, including VCU facilities in Tirohia landfill, Paeroa, and Matamata and a windrow composting facility in Ureti. HotRot, IPS and the Gore™ composting technologies have also been used to compost such wastes at overseas facilities and on a trial basis here in New Zealand.

All composting facility operators with whom contingency planning for an avian influenza outbreak was discussed during the course of the study (being the larger, commercial facilities) were open to further discussions with BNZ. In many cases the operators are already considering the suitability of their facilities to cater to such events.

Although the composted material may be considered safe for use, any emergency planning should include its management. Not all poultry operations have enough land available for use of the finished compost and there may be reluctance for other land owners to accept it for use on their land without validation by MAF that the product is safe for the intended purpose.

Reference

Composting of Poultry Carcasses: A review of New Zealand capacity to respond to a Biosecurity Emergency – prepared for BNZ by IA MAF 2006 – URS.

Dorothy Giselle DrMVM PhD ElSc (Hons), Senior Adviser Surveillance and Incursion Response, Biosecurity New Zealand, phone 04 819 0544, dorthy.giselle@agm.govt.nz

On-site composting after 22 days in Canada, using a two-stage composting procedure. Repotted by J Lloyd Spencer, Janine Givan and Bryan Kerney, Canadian Food Inspection Agency, Animal Diseases Research Institute, Ottawa, Ontario.

Canadian Food Inspection Agency veterinarians inspecting contents of an on-farm compost pile one month after birds and litter were moved from the poultry shed. Photo: Paul Bingham, IDC – Wallaceville. 

Proposed changes to border clearance fees

Consultation is underway on a review of the Biosecurity (Costs) Regulations 2003 and proposed changes to border clearance fees. MAF has issued a discussion paper and supporting information paper that will be of interest to anyone who ships or imports goods (including passengers bringing in risk goods in their baggage) or anyone who operates a transoceanic or continental fleet.

The main changes being proposed include:

- a simpler, streamlined charging regime
- increased charges to reflect the true cost to MAF of providing these border clearance services
- introduction of a system of memorandum of accounting for key services (used vehicles and sea containers) to provide for any under- or over-recovery of costs to be ‘carried forward’ into subsequent years and, if necessary, reflected in higher or lower costs over time.

For copy of the discussion paper and supporting information paper: www.biosecurity.govt.nzerdings/consultationDiscussionDocuments

Submissions are welcomed on the proposed changes. The closing date for submissions is 24 May 2006. Submissions can be made to the HotRot New Zealand Incursion Response, Biosecurity New Zealand, PO Box 2526, Wellington, phone 04 819 0407, fax 04 819 0570, elizabeth.palmer@agm.govt.nz
Aquatic pest weed found in Timaru

Hornwort (Ceratophyllum demersum) has been confirmed in Timaru’s Centennial Park Lake. Control work is due to start shortly. A BNZ is working with the Timaru District Council and residents have been asked to call BNZ if they see hornwort in other waterways or ponds.

Hornwort is an invasive aquatic weed, well established in the Centennial Park Lake. Control work is due to start shortly. A BNZ is working with the Timaru District Council and residents have been asked to call BNZ if they see hornwort in other waterways or ponds.

Hornwort has been detected. Monitoring of the site will continue for some time to ensure that no reoccurrence of the plant. Surveys will also be conducted around the Timaru area to establish whether other waterways are affected. Timaru residents have been asked to contact BNZ if they see hornwort in other waterways or ponds.

**Conference explores alternatives to methyl bromide**

Under the Montreal Protocol on Substances that Deplete the Ozone Layer, New Zealand is among the developed countries taking steps to reduce the use of methyl bromide. While its use as a fumigant in this country has been cut significantly in the past 15 years, its importance for pre-shipment treatment of some exports, especially logs, continues. Finding alternatives to methyl bromide for quarantine and pre-shipment has been difficult, and for this reason it has been exempt for these purposes under the Montreal Protocol (see Biosecurity 58, 15 March 2005). A range of promising alternatives to methyl bromide for fumigation was presented at a recent conference.

Sessions at the 2005 Alternatives to Methyl Bromide conference in San Diego were divided evenly between alternatives to methyl bromide for quarantine and pre-shipment treatments, and alternatives to replace methyl bromide in soil fumigation.

The conference provided a forum to bring together data on potential alternatives and enhance the technology transfer needed to economically and commercially implement methyl bromide alternatives. The conference was well attended by researchers, users of methyl bromide and legislators from around the world.

The following is a brief summary of some of the papers presented on promising alternatives to methyl bromide.

**Carbon dioxide (CO₂)**

The use of controlled atmospheres is proving successful in disinfesting products over a sustained time. Using 95% CO₂ and 1% O₂ over 5 days achieved 100% mortality of insects in dried fruit. Other experiments showed adding nitrogen to the mix also worked.

**Propylene oxide (PPO)**

This is a new fumigant for foodstuffs that is quickly converted to non-toxic glycols in the human stomach. Use in combination with low pressure reduces the flammability of this product. It is approved in the United States to control microbial contamination on dry and shelled walnuts, cocoa powder and spices.

**Ethyl formate**

This gas (trade name Vomapurmate) shows promise for fumigating foodstuffs in less than two days, rapidly breaking down into ethanol and formic acid. The addition of CO₂ improves effectiveness and lowers flammability. It has no effect on the germination of seeds.

**Ethanedinitrile (C₂N₂)**

This gas (patented by CSIRO), while still in trials, shows promise as a replacement for methyl bromide by not only having the same penetration and insect killing ability but also being more effective on fungi. Another attribute, which is a disadvantage for some, is destroying seed viability at low concentrations. It is currently estimated to be at least another two years before registration in Australia. The proposed threshold level for workplace exposure at 10ppm compares favourably with methyl bromide at 5ppm and phosphate at 0.3ppm.

**Sulphuryl fluoride**

This gas has been used for fumigating structures infested with termites in the United States and is now being registered for other uses, including foodstuffs. It has been successfully trailed on artefacts and used commercially for disinfecting flour mills. It does require higher concentrations than methyl bromide at lower temperatures for a comparable kill rate. The stewardship of research being undertaken in other countries, will be utilised in developing New Zealand’s own alternatives research programme. Contacts made during the conference have already proved useful in solving treatment issues and sharing of information.

For the conference proceedings:

www.mbaq.org/2005/05Proceedings/mbrpro05.html

The next conference is at the Double Tree Hotel, Orlando, Florida on 5–8 November 2006 and would be valuable for both researchers and treatment suppliers to attend.
**Trans-Tasman Animal Welfare Working Group meets in New Zealand**


The committee meets face to face twice a year and holds teleconferences throughout the year. It is made up of representatives from all Australian states and territories, the Federal Government and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). New Zealand is represented by MAF’s Director Animal Welfare, David Bayvel.

Chairied by Robin Vandegraaff, the Chief Veterinary Officer of South Australia, this year’s meeting covered a wide range of animal welfare issues of direct relevance to both New Zealand and Australia. The gathering helped reinforce strong existing bonds and provided a good opportunity to identify areas for future collaboration. Visits to the Investigation and Diagnostic Centre (IDC) at Wallaceville and Schering-Plough Animal Health Ltd in Upper Hutt were included in a very busy agenda.

The 2003 Cosmo Express incident (in which a live sheep shipment was rejected by Saudi Arabian authorities) and People for the Ethical Treatment of Animals’ campaign against mulesing continue to dominate animal welfare issues in Australia. Goals have now been set in place so that the Australian wool industry can phase out mulesing by 2010 as agreed in response to the PETA protests in 2004.

Other issues discussed included:
- model codes of practice – e.g., pigs, horse, deer and land transport of sheep
- national collection of statistics for use of animals in research, testing and teaching
- vertebrate pest control
- international activities (OEI animal welfare initiative and World Society for the Protection of Animals’ campaigns)
- live animal export standards
- animal traps
- welfare-friendly labelling of foods
- legislative status of blood harvesting within Australian states.

The face-to-face meeting for the working group will be held in Australia in July 2006.

**Dr Kathy Parton**

Dr Kathy Parton has been elected by the National Animal Ethics Advisory Committee as its deputy chairperson for 2006, under the Animal Welfare Act 1999. Dr Parton is a senior lecturer in pharmacology, toxicology and small animal medicine at Massey University, in the Institute of Veterinary, Animal and Biomedical Sciences, and an author of the New Zealand Veterinary Clinical Toxicology 2nd edition. She is the New Zealand Veterinary Association’s nominee to the National Animal Ethics Advisory Committee. Appointed in 2001, Dr Parton will complete her second term on the Committee in late 2007.

**Dr Selwyn Dobbinson**

Dr Selwyn Dobbinson has been re-elected as the National Animal Welfare Advisory Committee’s deputy chairperson this year. A former president of the Otago SPA and member of Otago University’s Animal Ethics Committee, Dr Dobbinson is a veterinarian with specialist knowledge of the pig industry. He is currently employed as technical manager for New Zealand’s largest pig farming and trading company. Dr Dobbinson has been the New Zealand Veterinary Association’s nominee to the National Animal Welfare Advisory Committee since November 2002. He is currently serving his second term on the Committee.

**CONTAINING RISK**

**Better risk management, less paperwork with new system**

The more than half a million sea containers arriving at New Zealand ports each year present a significant pathway for new pests and diseases to cross our borders. But not all risks are equal. By building an accurate risk profile for containers before they arrive in New Zealand, biosecurity efforts can be focused on the most likely sources of trouble.

In December 2004 a new era began for sea container biosecurity with the advent of ESCRIP. This is an acronym for Electronic Sea Container Risk Profiling and represented a cooperative initiative between Biosecurity New Zealand (BNZ) and the New Zealand Customs Service (NZCS).

**The objectives were:**
- nationally consistent risk profiling of sea containers
- electronic profiling for biosecurity risk purposes carried out prior to arrival in New Zealand
- harmonisation of MAF electronic systems for sea containers with those used by NZCS
- automatic notification of customs brokers and port companies about the MAF status of containers
- automatically created records in MAF’s QuantCargo database and NZCS’ one-way data transfer
- a single, on-line, entry point for all container cargo and quarantine declarations via CasMod, the NZCS electronic operations system (Formerly, MAF handled this process manually via fax and phone. Consequently, MAF and NZCS ran two parallel entry systems requiring broadly similar information.)
- an ability to add, remove or modify alerts in real time, contributing to an evolving, versatile and ‘quick-on-its-feet’ monitoring system.

**ESCRIP information flow**

ESCRIP starts at the point where a customs broker (red box) enters the information needed by NZCS for a Customs sea container import declaration.

This information also includes a MAF container declaration that attests to the cleanliness of the exterior and interior surfaces of the container, the presence of wood packaging, and its level of treatment.

The MAF declaration data are validated in CasMod (blue box). At the same time, MAF alert profiles are compared with the brokers’ declaration for the containers’ shipping details and cargo. CasMod generates a response to the declarant, outlining MAF’s biosecurity requirements in terms of inspection or treatment, or providing authority to remove the container to an approved transitional facility (ATF).

Within about three minutes of sending the declaration, the response is sent simultaneously (blue lines) to the declarant, the port company handling the container and to QuantCargo (green box), where it populates data record fields and produces formal documentation for container release (green lines).

After inspection by a Quarantine Officer or an accredited person (API) at an AFT (purple box), the inspection result, including details of any biosecurity contaminants found, is sent back to QuantCargo via either webinar entry or fax. Confirmation of final container clearance is sent by email (purple lines).

**Consistent risk profiling – nationwide**

Electronic container risk profiling via ESCRIP is designed to provide a nationally consistent result, based on technical, electronic evaluation of data. All containers meeting a specific set of criteria will have the same biosecurity requirements applied to them, regardless of the port of arrival.

The data for all containers, including those requiring declarations, is entered electronically into MAF’s systems, resulting in a substantial reduction in data entry and paperwork for MAF Quarantine Service (MQS). This is estimated at a minimum of three minutes per container entry. Given that about 5800 containers per year arrive in New Zealand, this amounts to around $500,000 saved in data entry work alone.

The only paperwork that MQS processes is for risk goods, high-risk containers and some manual entries, such as empty containers, not yet fully compatible with ESCRIP.

**Continued on page 16**
Alert profiling

Central to the operation of ESIRSP is an electronic container risk alert profiling process. The alert profiling is written and maintained by the Biosecurity Monitoring Group, and utilise the specialised profiling capability of CusMod to identify high-risk loaded sea containers, prior to their arrival at New Zealand border.

A sea container alert profile is a set of instructions coded electronically, using both NZCS and MAF sea container declaration data, that can select sea containers fitting a broad range of criteria, such as specific ports of loading, shipping vessels, shipping or receiving firms, content described by tariff code, country of origin, or MAF container quarantine declaration data.

There are nearly 70 data fields on the customs declaration and quarantine declaration that can be used to build profiles. Combinations of criteria serve to narrow down groups of high-risk containers, to make the most efficient use of available quarantine inspection personnel. Alert profiles can be written to target all, or just a percentage, of containers meeting the criteria.

The alert profiles result in one or more actions being required just a percentage, of containers meeting the criteria. Derived from data about active organisms in quarantine or risk goods for containers, including external or internal examination by inspection personnel. Alert profiles can be written to target all, or just a percentage, of containers meeting the criteria.

Sources of data for alert profiles

A wide range of sources are used to construct profiles. These include searches of data that have accumulated over time in QuantCargo, intelligence that has been acquired by NZS and MAF Quarantine Service. If accepted, the profile is recommended for implementation. If such a profile is likely to impact on the activities of specific companies or agents they will be advised. When the procedures are finalised, the profile is formally signed off by the Group Manager, Biosecurity Standards Group. It is then entered into CusMod for a defined lifetime, or defined number of hits, before an effectiveness review takes place.

Current alert profiles

Alert profiles can be targeted at specific high-risk organisms when these are known to travel in association with sea containers, but are not often targeted at contamination of various types. Currently active sea container alert profiles include:

- Asian gypsy moth: The larvae of this and related species from eastern Russia are capable of defoliating forest tree species, and are a major threat to New Zealand silviculture. All containers originating from a Russian far-east port, or with goods of Russian origin and shipped through an east Asian port, are targeted.
- Giant African snail: This fast-breeding, crop-damaging snail is abundant in tropical and sub-tropical parts of southeast Asia and the western Pacific. All containers from Wallis and Futuna, Papua New Guinea and Vanuatu are targeted.
- Bricks, roofing and masonry from Australia: Palletised cargoes of this type, often stored outdoors prior to shipment, provide a tempting home for snails, ants and the occasional lizard. Containers with contents matching various tariff codes for these products are targeted. Shipment of these items from Brisbane, site of recent red imported fire ant incursion, receive special attention.
- Cable reels from China: These are often made from low-grade wood and can harbour wood-boring beetles and fungus. These are identified by the targeting of the appropriate tariff code and the country of origin and/other port of export, to pick up consignments of cable drums from China exporting to Korea.

Profiles written to target all, or just a percentage, of containers meeting the criteria. Derived from data about active organisms in quarantine or risk goods for containers, including external or internal examination by inspection personnel. Alert profiles can be written to target all, or just a percentage, of containers meeting the criteria.
Biosecurity is about managing risks – protecting the New Zealand environment and economy from exotic pests and diseases. Biosecurity New Zealand

Pest watch: 07/02/2006 – 17/03/2006

Biosecurity is about managing risks – protecting the New Zealand environment and economy from exotic pests and diseases. Biosecurity New Zealand devotes much of its time to ensuring that new organism records come to its attention, to follow up as appropriate. The table below lists new organisms that have become established, new hosts for existing pests and extension to distribution for existing pests. The information was collated during 07/02/2006 – 17/03/2006, and is held in the Plant Pest Information Network (PPIN) database. Wherever possible, common names have been included.