

Spring – 2013

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Protect



Canterbury Branch member Kevin Gallagher points out some highlights to Alice McNatty from Hawke's Bay during the NETS2013 TransAlpine train journey. Woody Weed lends a hand.



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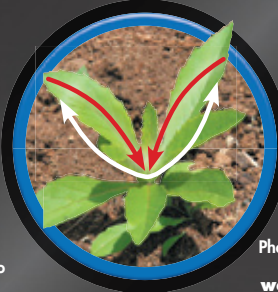
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Spring 2013

Magazine of the New Zealand Biosecurity Institute Contents

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NZBI News

From the Editor

It was great to see so many familiar faces and meet new ones at NETS2013 aboard the train and at Shantytown.

It is pleasing to see that it was a very well-supported get-together. I hope you all learned about some of the biosecurity challenges facing Canterbury and the Coast while enjoying the scenery along the way, particularly the bus trip across Arthurs Pass which was a bonus we hadn't expected.

Unfortunately there is never enough time to meet everyone.

In this issue you will find a summary

of the three very busy days. There is never enough space to recognise all the presentations of which there were about 70.

Summaries of the presentations are in the conference handbook which is also on the Institute website.

I hope you find plenty of interest in this issue. As usual thank you all for your contributions and feedback.

Best wishes
Chris Macann
Editor

Report from the Executive

Kia ora and hello from the Executive.

The Executive would like to thank the organising committee and Carolyn Lewis for a most memorable and successful NETS 2013 held from July 31 to August 2nd.

An outstanding start on the TranzAlpine train set the scene for a great few days of sharing information and technology. Shanty Town provided a unique location for the conference and gave many of us an opportunity to learn of the history of the West Coast and the very hardy souls who have lived and worked in this rugged and often unforgiving location.

I would like to thank Pedro Jensen for all his work during his role as President. The Executive is made up of a great group of biosecurity representatives and I would like to thank you all for your hard work. As your incoming President I would like to thank you for your support and I look forward to the challenges which lie ahead of us, especially with ensuring we keep the

biosecurity brand at the forefront of people's minds.

The Archives project is continuing to develop with Chris Macann as our Archive Co-ordinator and the Lotteries Grant secured earlier in the year to help fund this project. The Executive is looking forward to updating you of progress on this project which will secure NZBI history in one location for all to access.

NETS 2014 has been confirmed for Taranaki, this will come around very quickly if the past few months are anything to go by. Please support the organising committee when they ask for sponsorship and speakers. Your input will be greatly received.

Finally, our next Executive meeting will be held in October and in an effort to keep travel costs down we are having a teleconference, with a face-to-face meeting in the New Year.

Rebecca Kemp
President, NZBI
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NZBI news

NETS2013: Putting the train into training

Protect Editor Chris Macann offers his summary of NETS2013.

More than 200 delegates put the train into training when they travelled, mostly by the TranzAlpine train, to NETS2013 at Shantytown near Greymouth. The train trip provided opportunities to see first-hand the biosecurity challenges that face Canterbury and the West Coast.

Outgoing Institute President Pedro Jensen and National Pest Control Agencies Chairman Bill Martyn set the scene in their welcomes.

Take a fresh look

Pedro encouraged all present to make the most of their time together, and to take a fresh look at biosecurity and continually challenge ourselves to find new and innovative solutions to those issues we collectively faced.

Bill celebrated the second combined conference for both organisations.

"The positive feedback we received from the first one has proven to us that this is an effective way to deliver our technology transfer events," he said.

West Coast iwi welcomed delegates and explained some of the taonga of the region. Elders were pleased conference-goers were dedicated to protecting the natural values of the Coast.

The world is watching

Primary Industries Minister Nathan Guy elaborated on two announcements he made earlier in the week emphasising that the world was watching the country's new biosecurity measures. In particular he noted the pre-screening at departure points whereby trans-Tasman passengers and their baggage could be assessed while in-flight, in preparation for their arrival off flights in either country.

Possible tensions

Garry Ottman, Executive Director of the Game and Forest Foundation explained the intentions of the soon-to-be formed New Zealand Game Animal Council and acknowledged there would inevitably be points where there could be tensions with the biosecurity community.

He said the NZAGC was projected to be a national game animal management organisation which should recognise wild game as a hunting resource, and would aim primarily at better management of hunting.

Darcy Oishi, Acting General Manager for the Plant Pest Control branch of Hawaii's Department of Agriculture explained the challenges of managing biosecurity on an isolated group of islands, while having to remain within a larger federal governance structure.



What if? Andrea Byrom stimulates the audience in the closing session with her discussion on a predator-free New Zealand.



Garry Ottmann explains the function of the proposed NZ Game Animal Council.

Why not a predator-free NZ?

Andrea Byrom from Landcare Research at Lincoln concluded the conference with a stimulating discussion on the aspirational goal of a predator-free New Zealand. She explained how this could become a reality if there was a will and a suitable budget. While acknowledging essentially it remained an aspirational goal, it served as a constructive focus for the country's biosecurity practitioners.

NZBI news

Peppering the plenary addresses was plenty on plants, vertebrates, marine menaces and insect invaders and diseases.

Well deserved

A career of dedication to the Institute and its predecessor organisations on the pest animal side earned Ray Clarey a Life Membership. Ray is one of six participants in the Institute's first round of oral history interviews aimed at preserving the history of the Institute.

Effort in engaging the community in pest control initiatives won Northland Regional Council this year's Peter Nelson Memorial Award for Achievement in Vertebrate Pest Management.

Trevor James's dedication to weed management, and sharing of his knowledge won him The Peter Ingram Memorial Award for enabling others to achieve in the field of pest plant control.

David Byers won the Stook, awarded for the best presentation. David's presentation was on the Carp-N Neutral Project involving creative control methods of koi carp, whose numbers have exploded in the Lower Waikato River Basin. The Stook is a cross between a story and a book. The winner is decided by a panel of members.

Young gun Adam Khan won the shooting trophy, apparently only dropping three shots which may be a



The world is watching: Minister of Primary Industries Nathan Guy addresses the conference.

record.

In the informal editor's choice award category Dave Galloway won the award for Best Dressed Man closely followed by several other worthy candidates who also wore ties.

Darion Embling won the Editor's Choice Award for Most Valuable Contributor to *Protect* magazine

The unofficial award for Best Presentation Title went to Garrick McCarthy for "Pigs in Paradise".

The prize for most effort to get to Shantytown might well go to the Primary Industries Minister Nathan Guy, who's flight was cancelled and who flew to Nelson then drove for four hours.

Road safety for penguins

Field trips visited sites of the West Coast Ragwort Control Trust, the Punakaiki Coast Restoration Project, the Petrel Special Protected Area, the Grey Valley Kiwi Creche and the Blaketown and Cobden lagoons. Visitors to the Blue Penguin Trust site saw how the lack of road sense had taken a high toll on the birds. Visitors to the Brunner Mine site were treated to an excellent interpretation of the Brunner Mine Memorial and historic site by local bus driver Matt Lysaght. "Sombre yet enlightening" summarised the feelings of some of the delegates.

Like No Other – same time next year

Steve Ellis invited all to Taranaki at the same time next year, promising it would be, as the theme suggests, like no other. This year's conference organiser Carolyn Lewis has accepted the challenge of organising next year's event in conjunction with the Lower North Island branch.



Thank you Pedro: Outgoing President Pedro Jensen receives a thank you gift from new President Rebecca Kemp.

NZBI news

New president

The Annual General Meeting farewelled out-going president Pedro Jensen after two years at the helm, and welcomed his replacement, Auckland-based biosecurity officer Rebecca Kemp. Waikato's Darion Embling was elected to the vacant office of Vice-president (one of two).

Among other business the AGM agreed to survey members on what they wish to get from their Institute membership. The meeting also agreed to develop a communication strategy to best promote the Institute and biosecurity in general.

The conference handbook is on the website with summaries of all the papers presented.

Also on the website are more photographs from the conference.



Straight shooter: Adam Khan receives the shooting trophy from Dean Roughton.



Some of the organising committee: Graham Burnip, David Brittain, Chris Macann, Ronny Groenteman, Richard Hill, Kevin Gallagher, Hugh Gourlay (chairman). Absent: Keith Briden, Anna Paltridge, Bruce Warburton, Hamish Maule, Pieter Borchers, Bill Martyn, Maurice Kennedy, Ray Maw, Tom Belton, Mark Martini, Ingrid Gruner and organiser Carolyn Lewis.

NZBI news

Biosecurity 'Grammy': Northland wins Peter Nelson Award

Significant efforts and outstanding success in engaging the wider community in a range of pest control initiatives throughout its region has won Northland Regional Council this year's Peter Nelson Award.

The work extended to providing advice and assistance to significant private ecological restoration projects, supporting community groups and volunteers, sponsoring training programmes for both young and old, and providing training assistance and opportunities for participants to gain formal qualifications under the NZQA unit standards framework.

Don McKenzie, the council's Senior Biosecurity Programme Manager said the award win had been publicised throughout Northland and staff who had been involved in pest control had all shared in the acknowledgement.

"We want to take the opportunity to again thank the Institute for the award. It is displayed with pride at our regional council office in Whāngārei and the positive feedback we have received from biosecurity colleagues, council staff and the public has been fantastic," Don said.

He described it as the "Grammy" of its field — keenly sought after and highly regarded among the national biosecurity community.

"We see this very much as a trophy, not just for us as a council, but also the many Northlanders from all



Northern Winners: Some of the Northland Regional Council Biosecurity team with the Peter Nelson Trophy; Curtis Harris, Sara Brill, Don McKenzie and Irene Middleton.



Alastair Fairweather, left, presents Don McKenzie with the Peter Nelson Memorial Trophy on behalf of Northland Regional Council.

Peter Nelson Memorial Trophy

The Peter Nelson Memorial Trophy is awarded annually to individuals or organisations, for achievement in vertebrate pest management in New Zealand.

The trophy is a carved kokako standing on a limb above the skulls of small predatory mammals. The kokako is carved from a kauri beam salvaged from an Auckland warehouse. The rings indicate the tree may have been 1800 years old when milled. The base is swamp kauri from North Auckland aged about 38,000 years.



Inside the base is an account of Peter Nelson's contribution to establishing professionalism within the pest management field in New Zealand. His long career in pest control had its origins in the 1960s and continued until his death in 1998.

walks of life who have worked closely with us over the past decade in a huge range of pest control initiatives both on land and in the water," Don said.

"An award like this helps us keep the profile of biosecurity work in front of councillors, all of our pest control staff and the public."

The win comes just a year after former council staff member Peter Joynt was posthumously awarded the other major trophy the Institute awards annually, the Peter Ingram Award.

NZBI News

Dedication to weed management recognised

Trevor James is this year's recipient of the Peter Ingram Memorial Award. Here is a summary of Paul Champion's presentation speech to Trevor. The nomination is a combination of information supplied by Ian Popay, Anis Rahman, Wendy Mead, Carolyn Lewis and Paul Champion.

Trevor James joined the DSIR weeds team at Ruakura in early 1974. The team, nationally, was big back then with most staff in the Soil and Field Research Section.

Trevor joined a large vibrant weed research community, which was never to be as strong again. The organisation that brought together many of these disparate elements was the Weed and Pest Control Society. At that time the chemical companies also carried out and were happy to report on their research into new herbicides, new crops and new problem weeds.

Over the next 40 years Trevor's career as a weed researcher developed, changing position from Technical Officer, to Research Associate and then Scientist, completing an MSc in Chemistry at Waikato University in 1995 and being awarded his PhD in Soil Science at Massey in 2009.

Trevor presented his first paper at the Society's conference at the Burma Motor Lodge in Johnsonville in 1977, a joint paper with Jennifer Hartley on control of musky storksbill in pasture.

Trevor soon became an indispensable part of the Weed and Pest Society, which became the NZ Plant Protection Society and ran or co-ordinated the annual conferences almost single handedly as he still does. Additionally he has been a prolific researcher: a search



Paul Champion presents Trevor James with the Peter Ingram Award.

on the NZPPS website yields a total of 235 results when you search for James, T.K. He became an influential member of the Society's committee, beginning in 1997 and culminating in his presidency from 2008 to 2010. He is still a committee member today.

In about 2008 the Society joined the Council of Australasian Weed Societies (CAWS, formerly the Council of Australian Weed Societies) and in 2010, with Trevor in the lead, we ran the very first Australasian Weeds conference in Christchurch, three weeks after the first earthquake. Trevor subsequently became the President of CAWS for two years.

He is a much more recent addition to the New Zealand Biosecurity Institute but has been a major contributor to the Institute, generous of both his time and opinion.

His research has mostly dealt with weed control in primary production and more recently on conservation weeds, application and safe use of pesticides, pesticide fate and seed bank ecology.

His most recent research includes management of the up-and-coming pasture weed, yellow bristle grass, identification of weed seeds and identification of plants introduced in contaminated coco peat and imported containers as a potential source of new weeds, and he became a multimedia star such was the interest in

The Peter Ingram Memorial Award

Peter Ingram was the pest plant co-ordinator at Environment Bay of Plenty. He had a passion for learning, shared his knowledge and discussed ideas and theories. He was especially encouraging of his team at Environment Bay of Plenty to take advantage of learning opportunities. Peter was a past president of the Institute of Noxious Plants Officers. The Peter Ingram Memorial Award is given to a member of the NZ Biosecurity Institute who has successfully undertaken or enabled others to achieve in a field relevant to pest plant education, control or management.



NZBI News

his discovery of the first glyphosate-resistant weeds in New Zealand.

Trevor is a huge support locally to the Waikato weed control community. If anyone wants a plant identified or has questions about control Trevor is available and is happy if we drop by his office. Trevor is a generous host to visitors wanting to look through his greenhouse where there is a collection of nasty plants and where some of his trial work is carried out.

Trevor has what I'm sure is the largest collection of weed photos in the country. There has been many an occasion when we have asked for a photo for various publications and Trevor has always generously provided one.

There have been many research projects Trevor has been involved in since I have known him. An example is the yellow bristle grass project where he has been a vital part of a community group's efforts to learn more

about this weed as well as promote awareness of it. Trevor produced the yellow bristle grass "ute guide" which has been much in demand by Waikato farmers.

Most people will know Trevor as one of the authors of three books: *Common Weeds*; *Grasses, Sedges and Rushes*; and *Seeds of New Zealand*, being the principal author of the latter. His skill as a photographer really sells the books, with nearly all the photos in them taken by Trevor. He also did the lion's share of organising the layout and their printing. These books are well used by the weed control community, gardeners and a multitude of others across the country, with the *Common Weeds* book being by far the best seller at Manaaki Whenua Press.

Trevor's dedication to weed management, his selfless and tireless ability to pass on his knowledge to field staff make him an ideal recipient of the Peter Ingram Award.

NZBI News

Images from NETS2013



**Weedbusters mascot
Woody Weed disembarks
at Greymouth.**

*It was this big – Paul
Champion talks weeds
beside the tracks on the
Greymouth Lagoon and
Brunner Mine field trip.*
Photo: Ken Wright



**Stephen Brown, Kevin Charlwood, Matt
Smith and Lance Smith.**

*Kiwi crèche: Paparoa Wildlife
Trust member Jo Halley with
one of her charges.*
Photo: Craig Davey



**Kerry Bodmin, Rohan Wells and Paul
Champion.**



Graeme Burnip



**Ronny
Groenteman**



Ivor Yockney



**Richard Bowman, John Sanson and
Lindsay Vaughan**



**Local bus driver Matt Lysaght interprets the Brunner Mine
memorial and historic site.**

Photo: Ken Wright

NZBI News

Images from NETS2013



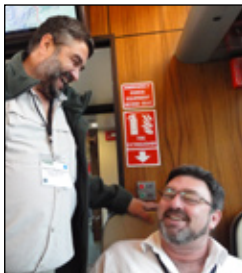
Bill and Val Martyn



Pieter Brocherds and Ronny Groenteman check all's well aboard.



Darion Embling, Peter Russell and David Brittain



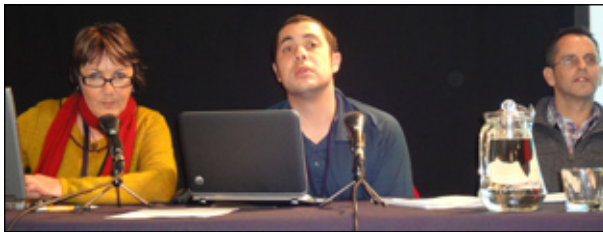
Davor Bejakovich and Bill Martyn



Roger Pech, Dan Tompkins, Andrea Byrom and Carlos Rouco



Grant Morriss and Mark Neill



Taking care of business: NZBI Secretary Wendy Mead, President Pedro Jensen and Treasurer Randall Milne during the Annual General Meeting.



Dave Morgan and Grant Norbury



Tom Belton outlines biosecurity issues on the coast.



Morgan Newberry, David Mole, Phil Miller and David Newton



Darcy Oishi addresses NETS2013



Enthusiastic: Lindsay Vaughan and Peter McCarthy



Kevin Gallagher points out some highlights to Alice McNatty. Woody Weed lends a hand.

NZBI News

Images from NETS2013



David Moverley explains life and work in the Pacific.



National Pest Control Agencies Chairman Bill Martyn and NZBI President Pedro Jensen address the conference.



West Coast Blue Penguin Trust Member Matt Charteris talks to delegates about the work of the trust and the challenges it faces.



Trevor James speaks after receiving the Peter Ingram Award.

Josh Kemp spoke about his findings on the effects of 1080 on kea.



Best Dressed: Dave and Heather Galloway won the Editor's unofficial choice best dressed award.



Ray Clarey speaks on being awarded a Life Membership of the Institute.



Caryl Coates from the West Coast Ragwort Control Trust talked about the group's success.



Thumbs up: Ilona Keenan with former NZBI president **Craig Davey**.



Ewen Kennedy with **Tom Belton**.



Just elected NZBI President Rebecca Kemp presents **David Byers** with the Stook awarded for best presentation.



Dan Blanchon, Jamie McKay and Simon Andrew



Darren Kriticos, Keith Budd, Alice McNatty and Michael Cripps.



Taranaki – Like no other: Steve Ellis invites delegates to NETS2014 in Taranaki the same time next year.

NZBI Profile

Biosecurity personnel profile: New Institute President Rebecca Kemp

Role: Biosecurity Pest Plant Specialist
Auckland Council

Time in the job: eight plus years
What motivates you to be involved in biosecurity?

There are three main factors for my choice to be involved in biosecurity. The first is the passionate people that I work with in the community really make the job. There are so many community groups in New Zealand working to make a real difference to the environment and there are some fantastic successes that keep me motivated to ensure that I assist them to achieve even more.

The second is the professionals that I get to work with, colleagues with passion and drive who live to ensure our natural environment is protected and enhanced.

The third is the motivation and high that the small successes and achievements that we make each day and week towards protection of our environment. This is what makes me stay involved and care so much about my job.

What has been your career path to your current position?

I have a degree in applied science agriculture. My initial career path was not toward biosecurity but rather water quality and pollution prevention. I spent some time in the private sector with waste management companies and moved to a rural pollution role, I processed resource consents for dairy discharges, piggeries and poultry farms as well as carrying out an enforcement role for discharges for six years. Biosecurity became an option eight years ago following funding work in our region which combined both roles.



Rebecca Kemp

My biosecurity position also provided me with a chance to do less policing work and become more involved in engaging the community.

What makes up a normal day for you?

Every day is different. Some are spent with paper work, while others can involve urgent call-outs. Some weeks even involve roughing it on an island somewhere in the Hauraki Gulf. Great Barrier is my favourite place to rough it. Other days may see me bush bashing through the Puhoi area looking for old man's beard. Once I even had to assist in the removal of a stoat from an office in the middle of Orewa. There is one guarantee with the job though, that no day will ever be the same.

What do you enjoy the most about

your job?

The varied nature of the job, there isn't an excuse to be bored.

Advice for newcomers

Here are two helpful snippets from Institute President Rebecca Kemp:

Watch closely how the older members of your team deal with a situation, their method has likely been refined over a number of years and will save you the heartache of too many mistakes.

Secondly, don't be afraid to suggest or try something new, although there are many clever biosecurity practitioners in the industry a fresh eye can often solve a problem that we have been looking at for some time.



New Wilding Conifer and Woody Weed Control Solution a big success

Basal bark treatment is a very cost-effective method of controlling Wilding Conifers and Woody Weeds. X-Tree Basal is a ready-to-use, stable, low toxicity, convenient basal bark pre-mixture that has been used for 12 months in NZ and is resulting in excellent wilding conifer and woody weed control. X-tree is used to chemically ring bark unwanted woody weeds.

Applying herbicides in any natural environment needs careful management to reduce any off-target damage to native vegetation or contamination of waterways. X-Tree Basal's formulation contains the active ingredient Triclopyr which is short-lived and has low environmental impact. The carrier oil is bio-diesel and it contains a unique penetrant system to ensure penetration of the bark of the target weeds.

The basal bark method ensures off-target environmental damage potential is minimised because the tree trunks get treated with a fine braided trickle flow that can be accurately aimed to encircle the trunk. A little X-Tree goes a long way, making for a very cost-effective solution.

The product is very versatile and, whilst being a highly efficient wilding conifer solution, it is an ideal product for every farmer to have in his shed for spot treatment and control of isolated gorse and other woody weeds. It can also be used by Regional Councils, contractors and forestry companies which might want to thin or remove unwanted tree and woody weed species from plantations or other areas.

Most wilding pine species are controlled with X-Tree Basal. Basal bark tree treatments are also effective on other unwanted tree and shrub species including Alders, Briars, Buddleia, Blackberry, Gorse, Hawthorn, Holly, Poplars, Rowan, Wattles, Willows and Woolly Nightshade. There are a few other species like Cotoneaster that may require a second treatment of X-Tree Basal for the control of surviving plants from the initial treatment.

Ground-based basal bark treatments are applied by knapsack, with a lance which has a single hollow cone nozzle. The base of a wilding tree is treated at a low pressure with the bark being completely circled around the tree (ring barked). As a general rule, the height that needs to be treated is at least twice to three times that of the diameter of the trunk. X-Tree Basal works consistently on smaller trees with trunk diameters up to 30cm diameter. However, for larger trees with thicker bark, the trunk needs to be treated from the base up to two metres from the ground and may need retreatment depending on the species.



Photograph showing the low pressure application of X-Tree Basal to the stems of an unwanted woody weed. The low pressure application means there is no spatter and therefore no collateral damage.



Photograph showing how the basal bark method should be used i.e. encircle trunk to a height 2 – 4 times trunk diameter.

Advertisement

Rhys Barrier from Fish and Game Nelson was involved in treating crack willow trees in the Marlborough Para wetlands with X-Tree Basal in February this year. By mid April these trees were dying with all the foliage black and shrivelled. Rhys' comments on X-Tree Basal treating trees was that it was at least twice as fast as the cut and paste or drilling and filling methods they have previously used. He said he was very impressed at how rapid X-Tree Basal killed these problem trees and another advantage was that it could be applied to trees all year round where other treatments had to be applied in spring.

Cut-stump method

X-Tree Basal can also be used as a 'Cut Stump Treatment' when wilding trees are removed by chainsaw or a cutting bar. It is applied around the stump face edges and down the remaining bark area to ground level, to ensure there is no re-growth.

Aerial basal bark method

Aerial basal bark applications (ABBA) by helicopter with a hand held lance out the door has also been successful and is ideal where access is dangerous and difficult. Specialist operators should be used for this task.

Phil Packham, (helicopter pilot from Amuri Helicopters in Hanmer Springs) has been using X-Tree Basal for ABBA Wilding Pine control operations this year. His first application was in January on Douglas Fir, *Pinus contorta* and *Pinus sylvestris* (Scots Pine) wilding trees that were 3 to 4 metres high. As of May this year, Phil is pleased to report that they are all dead.

Phil also applied another ABBA earlier this year at Mt Thomas in Canterbury and the wildings are quickly dying off. Phil stated that X-Tree Basal odour is more tolerable than diesel-based basal bark mixtures, which have an odour which is quite nauseous. Another positive aspect of X-Tree Basal he likes is its stability, which doesn't require constant shaking to stop it separating. This was a problem he had with previous diesel-based basal bark treatments.

In conclusion, X-Tree Basal has been nicknamed 'The X-Treeminator' as it is rapidly earning a growing reputation as the 'go to' product for Woody Tree control.

X-Tree Basal is available nationally from PGGWrightson Ltd and selected rural re-sellers.

For more information on X-Tree Basal go to www.etec.co.nz and download the X-Tree Basal TechNote, or contact Etec Crop Solutions Ltd on 09-574 5401



Photograph showing dead willows basal bark treated 10 weeks previously with X-Tree Basal.



Photograph showing the use of X-Tree Basal in an Aerial Basal Bark Application.



News from MPI

Scorpion sting

Four people will appear in the Queenstown and Christchurch district courts after being caught by Ministry for Primary Industries investigators allegedly smuggling live scorpions into Queenstown.

Four men have been charged with various breaches to the Biosecurity Act 1993 after six black rock scorpions (*Urodacus manicatus*) were allegedly smuggled from Australia through Christchurch International Airport and then into Queenstown.

In April this year, MPI received information that a Queenstown man was in possession of a scorpion. As a result of this information a search was carried out in April and a live scorpion was discovered.

Further investigations revealed four men were involved in the smuggling ring and that all of the scorpions had been destroyed. MPI is satisfied that all of the smuggled scorpions have been accounted for. The maximum penalty for each of the charges faced by the men is five years in prison or a fine of \$100,000.

South Island Compliance Manager John Slaughter says this type of alleged offending is up there with the worst of its kind, and could have had serious biosecurity implications had the scorpions escaped.

"We have expert advice that these scorpions could survive in the New Zealand climate, so it's safe to say that we view this as an exceptionally stupid thing to do."

Black rock scorpions

The black rock scorpion is a dark-coloured species that can grow up to 55mm in length and is often found living under rocks and logs in Australia. Its sting can cause inflammation and pain for several hours in humans. It is a relatively long-lived species and can survive for eight years or more in the wild.

plastic bags. He was picked up after water was seen dripping down his trouser legs.

The judge said he found it difficult to believe Mr Nguyen was ignorant of New Zealand's biosecurity law, and called Mr Nguyen's actions a "clumsy attempt" to smuggle the fish into the country.

"This is someone who deliberately broke our biosecurity laws. The individual concerned clearly gave little consideration about the risk this type of behaviour poses to New Zealand's primary industries and native flora and fauna," said Dave Blake, MPI Investigation Manager North.

"The fish could have been carrying any manner of disease or pest. That's why this country has strict biosecurity import regulations," he said.

He was picked up after water was seen dripping down his trouser legs.

No cut to biosecurity funding – minister

In June this year Primary Industries Minister Nathan Guy reacted to criticism of cuts in biosecurity funding.

"To make it crystal clear, funding has not been cut for biosecurity in Budget 2013" Minister Guy said.

According to the minister appropriations for "border biosecurity monitoring and clearance" were temporarily higher in last year's Budget because \$5 million was brought forward from last year to pay for the Joint Border Management System as well as \$1 million for the merger to create the Ministry for Primary Industries.

"Biosecurity is my number one priority as minister, and overall funding has doubled since 2000. We now have a major programme of work under way to improve what is already a world-class system."

Mr Guy said his ministry was working closely with Australia on foot and mouth preparedness and that a recent Auditor-General report noted that MPI had been successful in responding to incursions, and plans were being updated to deal with pests, improve surveillance and targeting, and hold ongoing regular exercises and simulations.

He said the Sustainable Farming Fund was investing \$8.8 million into 42 projects including biological controls for pests.

'Biosecurity is my number one priority.'

Nathan Guy
Minister of
Primary Industries

Welcome fine for trouser fish smuggler

The Ministry for Primary Industries has applauded the fine handed down to a Vietnamese man who tried to smuggle tropical fish into New Zealand in his trouser pockets.

The man pleaded guilty early in September to a charge under the Biosecurity Act 1993. He was fined \$2000 after being convicted for the attempted possession of unauthorised goods, knowing they were unauthorised.

Border officials intercepted the man in August at Auckland airport with seven live fish in his pockets in

News from MPI

X-ray transfer boosts biosecurity

In July, Primary Industries Minister Nathan Guy welcomed the beginning of trials for the use of X-ray images to screen airline baggage before it arrives in New Zealand.

He said the trials were a world-first and involved the transfer of aviation security X-ray images from Melbourne Airport to Auckland for passengers on Air New Zealand flights, while the passenger is on the flight.

"This technology will allow biosecurity staff to assess the X-ray images before the plane touches down. Any bag containing biosecurity risk items will then be matched with the passenger, who will face further scrutiny by officials upon landing," Minister Guy said.

If the trials are successful, MPI would look to extend the system to other major Australian airports.

In the longer term, X-ray image transfer could be applied to routes with higher biosecurity risk to New Zealand, such as those from South East Asia, parts of Europe and the Pacific.

"MPI currently will continue to use surveys, declaration forms, detector dogs, X-ray screening, and random physical searches to monitor biosecurity risk among air passengers.

"The system could provide another powerful tool for MPI to protect New Zealand from dangerous pests and disease," Mr Guy said.

In the longer term, x-ray image transfer could be applied to routes with higher biosecurity risk to New Zealand.

New border system up and running

Primary Industries Minister Nathan Guy and Customs Minister Maurice Williamson launched the Government's \$89 million Joint Border Management System (JBMS) on August 1.

Importers, exporters, and their agents and brokers, can now submit shipment details electronically to a single point of contact, rather than dealing separately with several government agencies.

"This reduces the duplication of data to border agencies and will speed up processing times," Mr Guy said.

Customs Minister Maurice Williamson said several pilot partners, responsible for about 60 per cent of all export and import transactions, had played a role in testing of the JBMS.

Mr Williamson said Customs and MPI electronic border systems would be kept running for 18 months, which would allow the cargo industry to choose when to transfer to the new system.

Ongoing help from the public crucial to control of pest bird

The recent "Angry Bird" campaign, to increase awareness of a pest bird in Auckland, has sparked an increase in confirmed public sightings of the red-vented bulbul, an aggressive Asian species that threatens our crops.

Red-vented bulbuls are known to cause significant damage to fruit and vegetable crops. They are likely to feed on native fruits, berries, insects, flower nectar, seeds and buds, displacing native species such as kereru (native woodpigeon) with their aggressive competitive nature. They may also spread seeds of invasive plants.

The Ministry for Primary Industries (MPI) has confirmed that red-vented bulbuls are located in three clusters: south Auckland (Manurewa/Alfriston), west Auckland (Henderson/Te Atatu/Massey), and on Auckland's North Shore (Devonport/Belmont/Takapuna).

There have also been possible sightings on the Whangaparaoa Peninsula about 12 kilometres north of the confirmed North Shore sightings.

The red-vented bulbul is one of the most invasive bird species in the world and in New Zealand is listed as an unwanted organism under the Biosecurity Act 1993. MPI is working in partnership with the Department of Conservation (DOC) and Auckland Council to track down the red-vented bulbuls in Auckland and eradicate them.

"We think there are at least five red-vented bulbuls in Auckland," says MPI Response Manager Jaap



News from MPI

Knegtmans. "It's difficult to know exactly how many there are because they are quite mobile, moving large distances around the city."

Red-vented bulbuls are a medium-sized bird about the size of a starling (20 cm in length, body and tail). They have a black head with a slight crest, a dark back, grey-white belly and a distinctive crimson-red patch beneath their tail.

"This red patch is a key identification feature," said Mr Knegtmans.

"If people have seen a bird with bright red feathers beneath the tail, we urge them to contact MPI on our free Exotic Pest and Disease Hotline – 0800 80 99 66. Taking a photo, if possible, would also be a huge help."

Red-vented bulbuls also have a very distinctive call, unlike other birds you normally hear around Auckland. Their call can be heard on the MPI website at: www.biosecurity.govt.nz/pests/red-vented-bulbul.

Red-vented bulbuls are found in Asia from Pakistan to southwest China. They have invaded parts of the Pacific, including Hawaii, Fiji and Samoa.

Red-vented bulbuls have been found in Auckland before, in the 1950s and in 2006, and were successfully eradicated on both occasions. It's believed the red-vented bulbuls now in Auckland arrived on a ship or yacht.

"These birds are aggressive and prolific breeders and we need to remove them before they become established. Continued help from the public is crucial to tracking the birds down and eradicating them," Mr Knegtmans said.

We think there are at least five red-vented bulbuls in Auckland.

"It's vital we get sightings from the public as soon as possible. They'll become harder to spot as spring advances and leaves start returning to trees," he said.

International arrivals survey results out

MPI has released the results of a survey carried out earlier this year to check its effectiveness at preventing international air passengers from bringing in goods with a high chance of damaging New Zealand's biosecurity.

It reports that its overall result across all risk goods has improved.

The survey, conducted at Auckland, Christchurch and Wellington airports between May 6 and June 21, involved checking some 6800 passengers to see if they were carrying goods that pose a biosecurity risk after passing through airport checks.

The survey showed 98.8 percent of passengers who had been through checks were not carrying medium or high-risk goods, including materials that may host fruit fly or serious animal diseases.

The overall compliance result for all risk goods was 96.9 percent. MPI's target is 98.5 percent.

MPI's Border Clearance Services Director, Steve Gilbert, said the shortfall was mostly due to low-risk items like used equipment, such as footwear contaminated with blades of grass getting past border checks. Last year's result was 95.3 percent.

The survey report is available at www.mpi.govt.nz/Default.aspx?TabId=126&id=1996

News from MPI

Have we gone soft on the border?

Speech to NZ Institute of Agricultural and Horticultural Science Biosecurity Forum
by Primary Industries Minister Nathan Guy on 12 July.

Before I start I'd like to comment on the title of this conference: 'Have we gone soft at the border?' I was advised that it would be a "courageous" move to speak at a conference with such a title. But given the importance to me of biosecurity, I saw this event as more of an opportunity than a challenge.

I do want to challenge the title for two reasons. Firstly, I believe it takes too simplistic an approach to addressing how effective our biosecurity system is.

A world-class biosecurity system is not about how many people are standing guard at our borders. It takes effect across a number of stages from pre-border to at-border to post-border.

All of these facets of the system need to be strong and need to be regularly reviewed for improvements.

The second reason is that I look out into this room and see some of the best experts in this field, like Dr Stephen Goldson who has been a big contributor on my Biosecurity Ministerial Advisory Committee. It is not too often you get a chance like this. I see great potential for this room to constructively advise me on how we can improve our biosecurity system.

New Zealand is a trading nation. We live off our exports, but equally we are dependent on a range of imports.

We are also a nation that relies heavily on primary sector exports. These make up 72% of New Zealand's overall merchandise exports.

Part of the success of our exports is down to New Zealand's international reputation. And a key part of that reputation is our strong biosecurity system and our relatively pest-free status.

The challenge for me, and for you here today, is how we continue to facilitate and grow trade, yet continue to protect New Zealand from unwanted pests.

It can't be a choice between these two goals. We have to do both.

The main point I want to make today is that there will always be risk of an unwanted pest being introduced to New Zealand.

It is simply impossible to eliminate all risk.

Even if we completely stopped all trade to and from New Zealand, even if we halted all movement of people in and out of New Zealand – something I'm sure no one in this room wants – we would still not completely eliminate all risk.

So the question is how we best manage this risk.

To illustrate our challenge let me provide some context – around 175,000 items come across our border each day, and we receive around 10 million travellers a year.

It is simply not possible, for example, to do an exhaustive search of every item in every container in every consignment that arrives in New Zealand.

So what we need to do, and what MPI do, is to work smartly to manage risk at every level of the biosecurity system and to provide the best level of protection.

I have made it clear to MPI that biosecurity is my number one priority. I expect a high level of attention to be paid at every aspect of the system, and MPI is dedicated to making sure that New Zealand continues to have a world-class biosecurity system.

'Given the importance to me of biosecurity, I saw this event as more of an opportunity than a challenge.'

Nathan Guy
Minister of Primary Industries

Summary of remainder of speech

Minister Guy used the rest of this speech to provide an overview of what his Ministry was doing to improve New Zealand biosecurity:

He mentioned funding has not been cut for biosecurity.

He noted the decrease of staff over the last five years has averaged in the order of 1.9% per annum. He said the largest factor in this reduction was the global financial crisis, which reduced trade, meaning fewer products and people came across the border so less people were needed to check them. He said MPI was in the process of bolstering its staff as trade increases. He said MPI's biosecurity detector dog programme had expanded. He said every international passenger who came through New Zealand airports underwent a form of biosecurity screening allowing MPI staff to focus resources on high-risk rather than the low-risk passengers. He said managing outbreaks of significant animal disease, in particular foot and mouth, remained a high priority.

'What those critics who hark back to the days of 100% screening don't realise is that in 2007, with 100% screening, surveys picked up non-compliance in the order of 2%. With Direct Exit in place those same surveys are showing compliance that is as good as when we had 100% screening.'

Nathan Guy
Minister of Primary Industries

Sector News

Velvetleaf presents a threat to crops

Greg Hoskins,

Senior Biosecurity Officer,
Auckland Council

Velvetleaf (*Abutilon theophrasti*), also known as butter-print, is an invasive species that has been confirmed in the Helensville and Waikato areas.

It is an erect, annual shrub-like herb from the same family as hollyhock, to which it bears some resemblance. The plant can reach a height of 1 – 3m. The velvety, heart-shaped leaves are alternate, about 3 – 15 cm long. The seeds are brown/black and hairy, and about 3mm diameter. It has a long taproot.

Velvetleaf originates from China and Tibet, where it was grown as a fibre crop and medicinal plant. Since being introduced as a crop in Europe and North America, velvetleaf has come to be seen as an invasive species. It is one of the most detrimental weeds to corn, causing decreases of up to 34% of crop yield if not controlled.

The first record of velvetleaf in this country was in the late 1940s, when it was imported by the Ministry of Agriculture and Fisheries for testing as a fibre plant. Its presence was later noted in the 1950s as a contaminant of soya bean seed for trials. These were in Wellington and Lincoln respectively, and were isolated records of the plant.

Velvetleaf was recorded in NZ in 1978 at Ararimu, near Papakura, in pasture and cultivated land. It was believed to have come into the country as a seed contaminant.

Velvetleaf has recently been identified in the Waikato area in maize and in feedout lines from silage, and also on two properties in the Helensville area. The owner of one Helensville property believes the velvetleaf may have come onto this property as a seed contaminant in poultry manure that he spread over his farm.

This plant is one of the worst agricultural weeds in corn, sugar beet and soya bean crops in North America. It competes strongly with those crops for light and water, and releases allelochemicals that reduce the growth and emergence of neighbouring plants. Viability of seed in the soil is for 50-60 years, with 500 to 10,000 seeds/plant produced. The seed also survives in silage and passing through animals.

The plant blooms in summer (January-February) with flowers approximately 1-2cm wide. The flowers have five petals. The yellow to yellow-orange blooms are quite attractive and are on short flower stalks (pedicels)



Velvetleaf (*Abutilon theophrasti*)

This plant is one of the worst agricultural weeds in corn, sugar beet and soya bean crops in North America.

in the upper portions of the plant, in the axil of the stem and leaf, or where the leaves branch off the stem. The plant has distinctive 2cm-diameter circular seedpods. These have a ring of “prickles” around the upper edge and have a series of crimps along the sides that resemble those of a piecrust edge. Hence, another common name for this plant is “pie-maker”.

Small populations and single plants can be easily pulled or dug up before they go to seed, so early detection and rapid response is a key to controlling the plant. However, because seeds can remain viable in the soil for 50 years or more, velvetleaf can be very difficult to eradicate if infestations are allowed to persist and produce seed. It is important to watch carefully for this plant and remove it as soon as it is found. All plant material should be bagged and disposed of safely, to avoid spreading the seeds.

If any equipment is used where this plant occurs, clean it carefully before working in a new area. Return to the same area each year and look for new plants germinating from the seed bank.

Established populations will take much longer to eradicate because of the long-lived seeds. Plants can be manually dug up or pulled, or they can be mowed close to the ground while they are still small. Crop rotation can help prevent favourable growing conditions for velvetleaf.

Chemical controls are generally effective only when velvetleaf is less than 10cm tall. Velvetleaf leaves tend to droop or wilt in the late afternoon, so spraying is more effective in the morning or midday.

Sector News

What to do about gazanias

Susanne Govella

Greater Wellington Regional Council

The pest plant biosecurity team in Wellington are quite excited about a control trial of *Gazania* spp. we will be carrying out on Wellington's west coast during this coming season.

Gazania linearis and *G. rigens* are two species of garden plants commonly sold in New Zealand and Australia. The bright colours of their flower heads along with their ability to tolerate dry conditions and poor soils have made them popular among gardeners.

Gazanias are native to South Africa where they can be found from low altitude sandy soils to alpine meadows. Species of gazania hybridise freely when possible, making identification of any gazania challenging.

Outside their natural range, gazanias are known to invade agricultural areas and roadsides and can rapidly out-compete native plants, leading to a decline in biodiversity. Their tolerance of dry conditions and poor soils means that they pose a significant risk to coastal plant communities in New Zealand. It is for this reason that gazanias have been classified as a "red alert" species in several coastal management plans both in New Zealand and Australia.

The recommended control option for control of gazanias has typically involved using the herbicide glyphosate, however the efficacy of this control option has now been questioned following a failed control operation in 2011 on Wellington's south coast.

Greater Wellington Regional Council (GWRC) Biosecurity Department has been approached by Wellington City Council and Take Care community groups for advice regarding control of gazanias in coastal ecosystems, following failed control operations and an increase of gazania plants found in areas previously occupied by other pest plant species that had been successfully controlled.

Although herbicide trials for control of gazania are currently being carried out by the Riverland Winegrape Growers Association in Loxton, Australia, the herbicides of choice, Amitrole and Diquat, are not recommended for use in fragile ecosystems such as coastal dunes in New Zealand. Therefore the Biosecurity Department

The Biosecurity Department plans to undertake control trials aimed at providing a reliable control method for use in fragile coastal ecosystems.



Targeted species: Control of *Gazania* is the target of a herbicide trial to be carried out on the Wellington coast line.

plans to undertake control trials aimed at providing a reliable control method for use in fragile coastal ecosystems in the Wellington region.

The aim of this project is to carry out a spray trial comparing the performance of four agrichemicals – Glyphosate, Grazon, Tordon XT and Versatill – as a means of controlling *Gazania* spp. in coastal dune ecosystems. By the end of this trial we hope to be able to recommend either a proven control method for gazanias in coastal dune ecosystems, or further research into developing reliable control methods for gazanias.

The trial is an interdepartmental collaboration to assure it meets the scientific standards required by our new work procedures. It has been prepared by Nikki McArthur, Environmental science department, Darryl Kee and Susanne Govella Biosecurity pest plants at Greater Wellington Regional Council.

We look forward to reporting our results after the completion of the trial in September 2014.

Sector News

Farmers' help vital following spillage of weed seeds

More than 2000 seeds of a feared invasive weed have spilt from the back of a truck making the 40-kilometre journey from Ashburton to Methven.

The seeds of black grass, or meadow foxtail, an invader of winter crops in Britain and Europe, have been found in a 16.3-tonne consignment of red fescue grass seed imported from Denmark and taken to a containment centre. According to the Ministry for Primary Industries, the importer did not follow instructions to keep the load safe.

Foundation for Arable Research (FAR) scientists, MPI, Federated Farmers and Environment Canterbury staff are working to identify where the seed may have spilt.

Black grass is resistant to many herbicides and is difficult to control in several crops. It out-competes crops for nutrients, light, water and space, reducing yields.

MPI believed only a few seeds would germinate. MPI response manager David Yard said the seeds were "fairly immature".

"There might be three or four germinate in the first year and one or two in the second year."

He estimated 28 kilograms of red fescue had spilt during the trip. Included in that would have been about 2100 black grass seeds – enough to fill an eggcup.

He would not name the importer, who was under investigation, and possible prosecution.

MPI would contact the Danish authorities about the contaminated red fescue which has been rejected and will be shipped back to Denmark.

The spill occurred in July, a month after the consignment arrived at Lyttelton. MPI was alerting the public as a possible germination date approached.

FAR chief executive Nick Pyke said that given the potential economic impact of the weed establishing itself, it was crucial all reasonable steps were taken to prevent such an outcome.

"Early reporting is vital. Farmers can assist by keeping an eye out for any sign of the pest and if found report it immediately," he said.

The likely period to see the black grass would be November to April. The seed heads are usually reddish-purple in colour, giving the appearance from a distance of black grass.

Information on the plant and a photograph are available at: www.biosecurity.govt.nz/files/pests/black-grass/black-grass-pest-plant.pdf

Adapted from an article in The Press by John Morgan on September 5, 2013.

Fishy sheep leg

Questions were asked in Parliament in early September about the testing of a possible animal part which arrived in New Zealand with a shipment of palm kernel feed.

The limb was discovered in May on a Bay of Plenty dairy farm. It was originally identified as most likely being that of a small deer or goat species not present in New Zealand.

In late June, MPI announced, following DNA testing by Landcare Research, that it was confident the leg was from a New Zealand sheep despite one of the four DNA samples indicating it was from a snapper.

Landcare Research science team leader Lynley Hayes, said Landcare Research did not extract the DNA but only tested the material that was sent to it.

"As you can see from the 99 per cent score, we are confident that that was most likely snapper."

"How that vial came to be, and was sent to us, is something that we don't know. We just tested what we were given," Ms Hayes said.

Labour spokesman for primary industries, biosecurity and food safety Damien O'Connor, believed human error may have been at play, prompting him to bring the matter to the attention of Parliament.

Lynley Hayes clarified to Protect that no conclusion could be drawn regarding the origin of the sheep leg.

Adapted from an article published by Fairfax Media on September 3, 2013

Auckland biosecurity forum a success

The New Zealand Institute of Agricultural and Horticultural Science held a successful Biosecurity Forum at the University of Auckland in early July attended by 113 people from a range of organisations.

The mix of speakers and different viewpoints on biosecurity presented expanded our understanding of the topic. Interesting that we did not disagree on the importance of biosecurity but there was a variety of approaches to it. The forum achieved the aim of bringing different groups together and promoting discussion. We received feedback that as an independent organisation, NZIAHS was playing a useful role.

NZIAHS has more than 600 members from across the primary industries including crown research institutes, universities, primary industry companies involved with the meat, wool, dairy, fertiliser and horticultural sectors. Information is available at the NIAHS website: www.agscience.org.nz

Contributed by Jenny Taylor, NZIAHS

Research

Mite might be mighty help with wasps

Ronny Groenteman
Landcare Research
Lincoln

Wasps are now widespread throughout New Zealand and in some habitats they are among the most common insects encountered. As a result, wasps have detrimental impacts on native ecosystems, economic impacts on our primary industries, give rise to human health issues, and cause disruption to recreational activities.

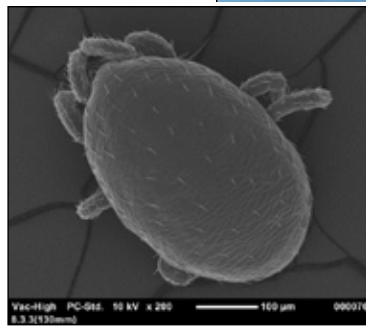
Current control options do not provide satisfactory relief, and biological control is thought to be a useful option to explore. When successful, biological control provides long-term, cost-effective solution, covering large scales and difficult terrains. This is especially important when the pest is as widespread as wasps are in natural habitats that are vast and impractical to cover by more intensive control methods.

Biological control against wasps in New Zealand was attempted in the late 1980s, but the first agents to be introduced either failed to establish, or produced insufficient levels of control. Although there were other potential agents to explore, the programme was abruptly discontinued.

At Landcare Research we have recently been thinking that the time was right for revisiting the programme for biological control of wasps. Not surprisingly then, we were excited to hear about the serendipitous discovery of a seemingly devastating mite in wasp nests in New Zealand.

The mite was discovered by Dr Bob Brown, at the time a PhD student. Bob was working on chemical ecology of wasps, as part of a collaboration between Auckland University and Plant & Food Research at Lincoln. He was seriously upset when some wasp colonies he collected for his study started collapsing in the lab. When he examined the wasps under a microscope, he discovered they were heavily infested with mites. The mites were not easy to identify, and are likely to be a new, yet undescribed species. An association between such mites and *Vespula* wasps has never been recorded anywhere.

What are these mites? Where have they come from? How long have they been in New Zealand? Are they widespread? Do they actually harm wasps, or are they simply hitching a ride? Can they cause wasp colonies to collapse out in the wild as they seem to have done in the lab? Do they only use wasps as their host, or can they transfer to other insects – honeybees,



Above: Bob Brown collecting wasp colonies.
Top left: An enlargement of the newly discovered mite.
We hope this mite can cause impressive collapse of wasp colonies.

bumble bees, native bees? These are only some of the important questions we need to explore in order to determine if these mites can be suitable biocontrol agents against wasps. Now that Bob has completed his PhD on wasp chemical ecology, he no longer views the mites as a nuisance, and is excited about the opportunity to explore their beneficial potential.

To be able to assess the mite as a biocontrol agent, the recently formed community group, V-BAG (*Vespula* Biocontrol Action Group), will apply to MPI's Sustainable Farming Fund in November 2013. V-BAG is based at the Top of the South, and currently includes mainly conservation and restoration volunteer groups, along with Nelson and Central Otago winegrowers. Soon, we hope to see more industries (forestry, apiarists) and more regions represented.

The Sustainable Farming Fund provides grants for projects of up to three years, and we hope to get this project funded to commence in the coming financial year (July 2014).

We are currently seeking to increase the support base for the project – if you would like to find out more please get in touch on: (03) 321 9904 or email groentemanr@landcareresearch.co.nz.

Research

Calling all stoats – your flight to Hamilton is about to depart

Peter Russell

Ferrets, stoats and weasels belong to the mustelid family. All have characteristic long, slim bodies, short legs and sharp, pointed faces. The colours of all three animals vary, with generally blackish-brown upper bodies and creamy, white underparts. So, how do you tell mustelids apart? One's "weasily distinguished", the other, "stoatally different"... but you'll need to ferret out the difference for yourself!

To enable a new research project to start in late 2012, Dr Carolyn (Kim) King from the University of Waikato needed some stoats. She had hoped to buy freshly captured animals from local trappers and contractors, but that proved too difficult. She learnt of a study at Landcare Research at Lincoln that used captive stoats for behavioural observations which was finishing by January 2013, and the stoats were no longer needed and were to be euthanased.

Kim was keen to buy the Lincoln stoats that would otherwise have no future. Landcare Research for their part was willing to hand them over. But then the question arose, how to transport them from Lincoln to Hamilton? Driving down to collect them, two days each way, was out of the question, and not only because of the expense. Imagine turning up at a motel in Picton, asking for overnight accommodation for two adults and 10 stoats.

Fortunately, Landcare knew all about this problem and how to deal with it. When they needed stoats they brought them from trappers around the South Island, using a system of secure transport. Each stoat was put in a separate metal box with one mesh side, a sliding door, lots of bedding and a chunk of rabbit meat. Three of these boxes fitted into one cardboard box, labelled "LIVE ANIMALS".

Landcare had an arrangement with Air New Zealand for transport of these boxes in the same manner as shipping dogs or cats in carry cages. Landcare was willing to box up the stoats and deliver them to Christchurch airport. The only remaining hurdle was that Waikato University was to pay the air fares. However, the university was rigidly required to buy air tickets through a travel agent in Hamilton... they had never been asked for air tickets for stoats before! They simply didn't have a box to tick that their computer



would recognise or understand.

In the end, Landcare Research paid the fares and claimed back the costs. Reimbursements, the university could handle; 10 e-tickets for unnamed, four-footed, furry passengers with aggressive tendencies, no. With thanks to the Lincoln team, the stoats arrived safely, the research work was done and the results duly submitted for publication. Gladly, they did not live happily ever after – their tickets were strictly one-way.

Left: Stoats arriving at Hamilton Airport.

Photos: Dr Carolyn (Kim) King



Female stoat swimming non-stop for almost two hours

Having flown, stoats swim

Epilogue: The stoats were studied to further understand their swimming capabilities, particularly finding out how far they might be able to swim. They were quickly put to work and "invited" to swim in long water tanks with currents of water set at various speeds. Their swimming actions, body and paw positioning and stamina were observed, measured and filmed to simulate an imaginary passage to a fictitious, offshore island teeming with native birds. One female swam non-stop for almost two hours in a valiant effort. Swimming is natural to stoats, even their paws are partially webbed to get maximum go-forward in water. Interestingly, Waikato University was keen to use real stoats and fit them with radio tracking collars and trial them under real marine conditions. Alas, DOC red tape meant that idea stayed dead in the water, just like the stoats would have been had they looked like getting away.

Research

Spotlight turned on 'Gorse of the Sea'

Kate James

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U*ndaria pinnatifida* is an edible kelp species native to the Sea of Japan. In its native range it is commercially grown to produce popular sea vegetable products known as wakame. *Undaria* has become established in 10 countries outside its native range and has been nominated as one of the one hundred "World's Worst Invaders" by the International Union for the Conservation of Nature [IUCN]. *Undaria* has also been named one of the most hazardous seaweeds in Europe and dubbed "the gorse of the sea" here in New Zealand.

Since its detection in Wellington in the late 1980s *Undaria* has become an invasive pest around much of our southern coastlines. *Undaria* is classified as an Unwanted Organism in New Zealand and is currently the subject of local (experimental) eradication programmes in Fiordland and on the Chatham Islands.

Undaria is a highly adaptable and plastic species which can tolerate a wide set of environmental conditions. It behaves as an opportunistic weed and can rapidly colonise new or disturbed substrata and artificial floating structures such as marinas and marine farms. *Undaria* is highly fecund, has a fast growth rate and (in New Zealand) multiple reproductive cohorts per year. *Undaria* can displace and dominate native marine flora during the peak of its growth season. Changes in native community dynamics and trophic food webs occur when native seaweeds are replaced by *Undaria* and when dense patches of *Undaria* establish in areas previously devoid of large seaweeds. *Undaria* can disrupt aquaculture activities and can affect the cultural and recreational (including tourism) values of marine sites. Despite its invasive traits and a desire to keep *Undaria* out of "high value" marine sites in New Zealand the Ministry of Primary Industries, in 2012, announced three "heavily infested" sites around the South Island where farming of *Undaria* is to be allowed.

The warmer waters around the upper North Island were thought to be outside the optimal range for *Undaria* colonisation, but in 2002 it was discovered on mussel farms in the Firth of Thames, and in 2004 it was found at Westhaven Marina in the Waitemata Harbour and it has since become well established on both natural and

***Undaria* has ...
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Kate James at Westhaven Marina.

artificial substrata around the Hauraki Gulf. This could mean *Undaria* farming will be permitted in the Hauraki Gulf in the future.

My work aims to provide a description of the temporal and spatial distribution of *Undaria* in the Hauraki Gulf as well as gain an understanding of the ecological impacts of its establishment in this warmer region. My survey work has begun to classify the habitats in which *Undaria* occurs, determine the extent to which it is spreading into natural reef systems (often from mussel farms) and identify the potentially important environmental factors influencing its distribution and spread in the Hauraki Gulf. *Undaria* population monitoring has been under way since mid-2011 at Westhaven Marina and in the Coromandel Harbour. These studies provide information on the life and reproductive cycles of *Undaria* on both artificial and natural habitats in this region. *Undaria* population structure and growth data will be related to local sea surface temperature and seawater nutrient content information and will help identify sites likely to be at risk of *Undaria* infestation and the potential extent of impacts on ecological and environmental values.

Data on the distribution and biology of *Undaria* in the

Research



In the swim of things: Kate James in Coromandel Harbour.

Hauraki Gulf is vital if we are to keep marine reserves and conservation sites free of *Undaria*. This information can also be used to inform policy around the possible commercial farming of *Undaria* in this region.

I have prepared a report for the Waikato Regional Council which includes some preliminary findings from my work in the Hauraki Gulf. This can be found at: www.waikatoregion.govt.nz/PageFiles/26055/TR201315.pdf

General information on *Undaria* can be found on the New Zealand biosecurity website: www.biosecurity.govt.nz/pests/Undaria or on the Global Invasive Species Database at: www.issg.org/database/species/ecology.asp?si=68&fr=1&sts=sss&lang=EN

Please feel free to contact me for more information on my work or if you have any information on locations where *Undaria* is growing in the Hauraki Gulf or further north in New Zealand.

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Thanks to the Waikato Regional Council and the Auckland Council for supporting this research.

The Tail...

Urban possum

A polar blast earlier this year could be the reason a possum made a rare day-time appearance in the central city. A visitor went to see the quake-damaged Christchurch Town Hall when he saw what he thought was a cat in a nearby tree. "I soon realised to my amazement it was a possum," he said. Landcare Research pest control scientist Janine Duckworth said that though possums were not new to the central city, it was rare to see one during the day.

Adapted from a snippet in
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