



New Zealand Plant Protection Society (Inc.)

Newsletter

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President

Dr Stephen Goldson
AgResearch Lincoln
Ph 03 983 3911
stephen.goldsons@agresearch.co.nz

Vice President

Alison Stewart
Soil, Plant & Ecol Sciences Div
PO Box 84
Lincoln University
Ph 03 3252 811 ext 8197
stewart@lincoln.ac.nz

Past President

Dr Max Suckling
HortResearch, Lincoln
Ph 03 325 6609
Sucklingm@hortresearch.co.nz

Secretary

Lois McKay
AgResearch Lincoln
P O Box 60 Lincoln
Ph 03 983 3940
Fax 03 983 3904
lois.mckay@agresearch.co.nz

Treasurer

Dr Anis Rahman
AgResearch Ruakura
Ph 07 838 5280
anis.rahman@agresearch.co.nz

Editor

Dr Sue Zydenbos
Old West Coast Road
RD 1 Christchurch
Ph 03 318 1531
Zydenbos@xtra.co.nz

Newsletter Editor

Dr Ian Popay
Dept. of Conservation
PO Box 112
Hamilton 2001
Ph 07 856 6043
ipopay@doc.govt.nz

Website Editor

Dr Eckhard Bockerhoff
Forest Research, Christchurch
Ph 03 364 2949
Eckehardbockerhoff@forestresearch.co.nz

The mills of bureaucracy grind slow

One thing that became obvious from the Society's symposium on Biosecurity, held in Rotorua in August, was that everybody is very interested in biosecurity but nobody quite knows what to do about it. That long-awaited national strategy is badly needed, and is somewhat overdue. Originally scheduled to be completed by the end of December 2002, the final version is now due by the 1st July 2003.



In the meantime, the Government has funded a Protect New Zealand programme that aims to inform people about what

biosecurity is and how they can help protect New Zealand from unwanted pests and diseases. Protect NZ involves a wide range of government and other organisations that deal with biosecurity issues. Go to www.protectnz.org.nz for more information. And, yes, Max the Beagle is on duty there. The PM rather spoiled the impact of the first 'Protect NZ Week' by deciding to hold an election at the same time!



The first draft of the Biosecurity Strategy, completed in May 2002, was favourably reviewed by government agencies and an independent stakeholder advisory group. According to Mary Burnett of the MAF Biosecurity Authority, a revised draft is currently with the Minister. Printed copies and a website version should be available before Christmas. Submissions on this draft will be required by 28th February 2003, and the final version completed by 1st July 2003.

In many people's minds, biosecurity involves border protection, and stops there. However, if pests aren't stopped at the border, and become established here, their further spread can still be stopped or at least slowed. To do this we need a good system of surveillance for early detection of new pest outbreaks, and the ability to do something about them. A recent independent review on post-border biosecurity, available on <http://www.maf.govt.nz/biosecurity> highlighted serious failings in these systems. Besides recommending keeping a better watch for high-impact pests and around entry points, the review also suggests needs for better information systems, public awareness and public information campaigns, and improved liaison between agencies.

So watch out for any new bugs on your strawberries at Christmas time, and for new weeds when you're working off the Christmas pud in the garden.

The Plant Protection Society Conference August 12-14th 2003

You are cordially invited to attend the 56th New Zealand Plant Protection Conference. The venue has been chosen and the committee is sure you will all enjoy the location. The Chateau On The Park has graciously allowed us to use their facilities, with some financial reward of course. Just a 10-minute drive from the airport, this large complex provides a comfortable atmosphere with many satisfying features. Close to the centre of Christchurch (15 minute walk) and bordering the famous Hagley Park with its world-renowned sports complexes and gardens. Room rates were negotiated vigorously and have accordingly been adjusted to suit the occasion, just \$120 plus GST. The local committee, yet to be co-opted, will ensure that the high standards set at Palmerston and Rotorua will be maintained if not bettered. For those of you who wish to take advantage of Air New Zealand Express fares and book early, then you might also like to confirm your accommodation booking by telephoning the Chateau Reservation call free 0800 808 999 or for more information, www.chateau-park.co.nz

Rodger Welsh

From the Editor - December 2002

It was really great to meet so many of you at the conference in Rotorua. Thanks for coming up and introducing yourselves or being introduced! I find it is much more interesting to work with a paper when I have met the people who wrote it. I guess it doesn't make a difference to the work I do but it certainly makes it more fun.

The papers that were revised for the website after publication of the journal should now be available. As mentioned at the conference this was done *gratis* this year but in future the charge will be \$55/paper plus \$30/hour if changes take more than one hour

Back in July I sent out a "mini discussion paper" to members of the executive committee and some of the statisticians involved in publishing NZPPS papers. I was concerned that the journal needs to keep up with current trends in the way statistical information is presented. My approach has been based on the classical biometrical training I received during my studies and my experience in publishing my own scientific papers, possibly leaning towards a rather rigid application of statistical methods. I had some really excellent and informative replies, particularly from the statisticians. On the whole I think I have been on track but in future I may be a little more flexible. Below are comments on some of the points I raised.

- **Use of P-values.** It is now acceptable to present $P=0.045$, rather than having $P<0.05$, if this is the value calculated from the statistical package used. In some situations, it will be valid to discuss results where $P<0.10$; this will generally be when there are other analyses that back up this result. Remember that a P-value is an *estimate of probability* not an absolute value so should be treated as such. A standard error describes data more accurately than a P-value.
- **F statistic, chi-square statistic and degrees of freedom.** It is usually superfluous to present the F or chi square statistic; the degrees of freedom should be obvious from the experimental design described in the Materials and Methods section.
- **Less common statistical tests.** More detailed information, including the statistical test value, the degrees of freedom and the probability value, may be presented for these tests.
- **Standard errors.** In general it is preferable to present pooled SEs rather than the SE for individual treatment means. However, in some cases (e.g. if SEs are quite different between treatments) it is more appropriate to

present individual SEs. The SE used should be clearly defined, particularly in figures and tables.

- **Statistical programs and tests.**

Commonly used statistical programs such as GenStat (note new spelling) should be mentioned but not referenced. Likewise, analysis of variance (ANOVA) and linear regression need no explanation but less common statistical programs, tests, models or procedures should be fully referenced.

The deadlines for volume 56 in 2003 will remain the same as in previous years: 15th February for abstracts, 15th April for submission of papers and 15th May for submission of papers by special request.

When preparing abstracts please use the layout of an abstract in the journal. I would appreciate you following the points listed below.

- Think carefully about who the authors will be – it is a nuisance to have to change the names in the database.
- Format the authors properly. Put **all** initials (i.e. initials of first and second names) and do not use full names.
- Supply the addresses of all authors.
- Put the email address of the corresponding author.

Remember that I **don't** send out an email confirming that your abstract has been received as it is too time-consuming. Don't expect to hear from me until about 15th March when I will send out the details of who your referee is.

I would like to repeat the paragraph below which was printed in the December 2001 newsletter. Figures always cause lots of problems during the publication process so please pay special attention to the instructions.

Some of the figures that have been provided recently have not reproduced well. It is important to use thick lines and fills that are distinctly different from each other. Remember to put the symbols in a legend within the figure NOT in the caption. By doing this it avoids the difficulties of having to cope with strange symbols in the word processing packages – they are all dealt with in the graphics.

I am looking forward to receiving all your papers next year. Remember that it is easiest to contact me by email. I do a lot of work at night so you can generally expect a reply the following morning.

Sue Zydenbos
Editor

Gaining access to DOC's weed database

I'm sorry that this has proved difficult for some members of the Society. There should be no problem for those belonging to major institutions, providing the organisation has signed schedule 1 of the agreement with DOC: each individual will then need to sign schedule 4. (Copies of the agreement are available from Ian Popay or from Clayson Howell at DOC (chowell@doc.govt.nz, or 04 471 3113).

For individuals not attached to major institutes, Internet Service Providers have cooperated in the past to allow access to the database.

If anyone is having problems or needs more information, please contact Clayson Howell at 04 471 3113.

President's Message

It is interesting that this year's 55th NZPPS Conference had the third highest number of contributors ever. Over 200 people registered for the first day. This is encouraging and suggests that, in spite of recent travails, plant protection in New Zealand continues to be solidly supported by its enthusiasts. Analysis showed that half the delegates belonged to CRIs and a quarter were 'private' practitioners. The balance was split evenly between universities and government 'operational' agencies (such as MAF). The high attendance of 'private' individuals was particularly gratifying indicating that the NZPPS is adding real value to their work.

There were similarly good registrations for the Biosecurity Symposium which attracted 135 people and pleasingly, there was a high proportion (20%) of government 'operational' people including quite a number of senior government officials. While this Symposium was never intended to solve all the problems confronting New Zealand biosecurity, it was well able to highlight gaps in the current system and in particular, the distance that now lies between New Zealand's biosecurity research and biosecurity operations. The Symposium allowed for the presentation of examples of what science may do to advance biosecurity and from this ensued vigorous and completely inconclusive discussion about funding levels and how research priorities should be set.

More broadly, I have recently discovered that New Zealand is five times more dependent on primary industries than other OECD countries. Thus, New Zealand is taking a huge risk if it attempts to emulate industrialised countries' shift away from agricultural research. Nonetheless, there have been signs that New Zealand has been doing just this, an example being the funding calamity that has hit HortResearch. Conversely, the establishment of a Centre of Excellence in Bioprotection at Lincoln University has been a major triumph for plant protection and coupled with this, there is now serious concern amongst the science policy setters that capability in such areas as

biosecurity, taxonomy etc. must be maintained. The Centre of Excellence also presents a platform for comment to be made on behalf of all involved in plant protection and as such, will be a useful ally for the NZPPS when speaking out on issues that affect NZPPS membership.

All-in-all a variable year for our membership that ended on an optimistic note. I wish everyone a suitably merry Christmas and a stable new year.

Stephen Goldson
President NZPPS

Market intelligence about serious pests not in New Zealand

Several years ago I became aware that several pests of greenhouse crops were spreading around the world. I wrote several articles warning of the dangers and alerted MAF about specific dangers, i.e. when I became aware of the rapid spread of a pest. Unfortunately two subjects of these predictions, western flower thrips and poinsettia whitefly, have established in New Zealand and others, *Thrips palmi* and *Liriomyza* species (leaf mining flies) are getting closer.

At the time of my original concern, it was not obvious who in MAF was responsible for handling this kind of warning. I recently wrote to Barry O'Neil, Group Director Biosecurity Authority, to ask about this. He replied

"We would of course be very grateful for any information you could provide regarding perceived changes in the risk status of pests. The most appropriate person to contact would be Barney Stephenson (National Advisor Plant Pest Surveillance & Response) from the Plant Biosecurity groups of the MAF Biosecurity Authority. Contact details are:

PO Box 2526, Wellington
ph: 0-4-474 4102

Fax: 0-4-474 4257
email: stephenson@maf.govt.nz

Nicholas Martin
Crop and Food Research, Auckland

Editor's note – there is now an 0800 number for reporting any breaches of biosecurity. Max the beagle is always on duty there, and the number is 0800 809 966.

Plant Protection Scholarship winners

Two Research Scholarships Awarded:

Debra Gauntlett
The University of Waikato

Development of a micro-level analytical procedure for the detection of sulfonylurea herbicides

Sulfonylurea herbicides are now in widespread use throughout the world and are an important herbicide in the control of many grasses and broadleaf weeds. A key feature of these compounds is their extremely high herbicidal activity with rates as low as 10-40g/ha. They can also persist in the soil for up to 1 year and can cause damage to some crops. The aims of the project are to i) develop robust methods, based on LC-MS technology to allow routine analysis of the sulfonylurea compounds in a variety of environmental matrices, namely soil, water and plant material and ii) to carry out a comparison between LC-MS/MS (via ion trap technology) and LC-MS (via quadrupole technology) for the identification of sulfonylureas in the respective sample matrices, focusing on sensitivity and specificity issues.

The implementation of such methods will be of economical and environmental significance to New Zealand. Currently there are only a handful of labs world-wide that are able to carry out this analysis, giving the potential of overseas clients if the methods become

accredited and verified. These methods will also enable the environmental effects of sulfonylureas to be monitored as well as detect any spray drift that might occur. An ever-increasing interest in spray drift is arising due to the increased consumption of organic foods.

Deborah Hackell
The University of Waikato

Stimuli associated with *Trifolium repens* root nodule location by first instar *Sitona lepidus*

Sitona lepidus is a genuine pest to *Trifolium repens* threatening its persistence and in turn New Zealand's economy. Information on the biology and ecology of *Sitona lepidus* is essential in developing management strategies to reduce *S. lepidus* impact.

The three main aims are to i) determine the effects of humidity and temperature on first instar survival in order to develop a robust bioassay system ii) determine the effects of other basic abiotic stimuli: touch, gravity, light and odour on first instar *S. lepidus* behavioural responses and iii) determine the interaction between different clover species and rhizobia strains on the host response of larvae.

Understanding host locating efficiencies will shed light, on the as yet unexplained, very poor survival of first instars in the field (<1%), and may contribute to the development of tolerant or resistant clovers. Previous research on *Sitona lepidus* feeding behaviour and stimuli associated with host location in first instar *Sitona lepidus* larvae, even though first instars cause the major damage to the nodules and reduce the plants nitrogen fixing capabilities.

You've seen the show- now read the book!

Proceedings of the Society's **Biosecurity Symposium** held this year in Rotorua should be published and distributed to members by the end of February 2003

Plant Protection Challenges in Organic Production in NZ, edited by Max Suckling and Mike Butcher contains the papers presented at an earlier symposium and is available to members for \$27 including GST and postage and handling. Contact Society Secretary Lois McKay at AgResearch Lincoln if you'd like a copy.

Richard Falloon new President of the International Society for Plant Pathology (ISPP)

Dr Peter Scott, President of ISPP, recently announced that Dr Richard Falloon has been elected to the position of President of ISPP by the Society Council. He will take up the position at the 8th International Congress of Plant Pathology (ICPP2003) in Christchurch in February 2003. Richard will also become President of the Australasian Plant Pathology Society at the Congress. He is a Past President of the NZ Plant Protection Society (1995-1997) and served for many years on this Society's Executive Committee. He works at Crop & Food Research, Lincoln, in research on sustainable disease management for vegetable crops.

ICPP2003 is the premiere world plant pathology event, and will be one of the biggest science conferences held in New Zealand, with delegates from over 70 countries already registered. The Congress will address the theme of "Solving problems in the real world", and considers five Keynote Themes:

- Plant pathology in the Asia/Pacific region,
- Towards integrated control of soilborne disease,

- Host/pathogen interactions,
- Towards integrated control of airborne disease, and
- Knowledge transfer for plant pathology.

An open forum will also address "Global Food Security", which will progress an ISPP initiative lead by the Global Food Security Task Force.

A team of Lincoln plant pathologists and the Lincoln University Professional Development Group have been working for 5 years in the planning and preparations for the Congress, which will double as the 14th Australasian Plant Pathology Conference. ICPP2003 runs from 2-8 February at the Christchurch Town hall and Convention Centre, and numerous satellite specialist topic workshops will be held in association with the Congress.

Roy book reprint -new/improved photographs required

Only 400 copies of the Society's Illustrated Guide to Common Weeds of New Zealand are left out of a first print run of 3000 in 1998. About 400 are sold every year. We are currently getting prices for a reprint. A few amendments will be needed to the text, mostly due to changes from National Surveillance Plant Pest list to the National Pest Plant Accord.

We would like to take the opportunity to improve the quality of some of the photographs in the book. We need slides or electronic images. We asked Rob Richardson, who organises printing, about the quality of images needed for the book. He replied

'We need 300 pixels per inch in the final image. I have a 3.3 megapixel camera which gives about an A5 size image, sufficient for most

things. Also caution is need with JPEG compression routines, over-compression of an image can lose detail and introduce artefacts. My camera gives very good results at its minimum compression setting.'

We would be most grateful if you could take good quality pictures of the ones we need. They are listed below. All we can offer by way of recompense for your photographs is your name in the acknowledgements.

Amsinckia calycina - leaves, flowers
Barbarea intermedia - flowering plant
Borago officinalis - picture of borage
Cardamine hirsute - better picture
Carduus nutans - rosette, flowers
Carduus tenuiflorus - habit, flower, leaves
Chamaecytus palmensis - flowers, fruit, leaves, habit
Chenopodium album - habit
Cichorium intybus - habit, good flower colour
Cirsium arvense - clearer picture
Conyza albida - juvenile, flowering plant
Crepis capillaries - habit, flowers
Echium vulgare - flower close-up
Erechtites valerianifolia - habit, flowers
Gamochaete (ex *Gnaphalium*) *coarctatum* - leaves, habit
Gamochaete (ex *Gnaphalium*) *involucratum* - in natural habitat
Hieracium aurantiacum - habit, flowers
Hieracium praealtum - habit, flowers
Hydrocotyle tripartite - clear picture of leaf
Lactuca virosa - habit, flowers
Leontodon taraxacoides - habit, flowers
Leptospermum scoparium - leaves, flowers
Leucanthemum vulgare - habit
Linaria purpurea - leaves, flowers, habit
Madia sativa - picture of correct plant
Matricaria dioscoidea - better picture
Mycelis muralis - habit, flowers
Myosotis sylvatica - better picture
Prunella vulgaris - more typical plant
Rorippa sylvestris - flowers, leaves
Silybum marianum - better rosette, flower
Sison amomum - seedling
Solanum nigrum - leaves, flowers, ripe fruit

Sonchus asper, *S. oleraceus* - clearer pictures
Spergula arvensis - better picture
Thymus vulgaris - flowers, habit

- Ian Popay, Paul Champion,
~~Trevor James and Anis Rahman~~

Obituary - John Farrell...the scientist

Although I doubt that he would have agreed, Dr John Farrell was a very good entomologist. He was particularly adept at ferreting out and highlighting scientific piffle; because of this, he was an excellent referee of scientific papers. Indeed, in spite of his rather looming presence, he was an unexpectedly good and supportive mentor to younger people that he considered were OK. To them at least, he frequently expressed a sort of pride in the former DSIR Entomology Division, a grouping that he always referred to simply as 'the Division' (military roots?).

The first I remember of John Farrell as an entomologist was when I found his racing bike flung down at the side of the road near Tai Tapu. An anxious examination of the scene found him lying face-down in a wet lucerne paddock where I think, he was counting something or maybe just looking at blue-green lucerne aphids. Our eyes met, he said nothing at all and I departed wondering who he was. At that time he maintained (and never really lost), the gaping trouser-leg, baggy-shorts look (khaki). To this outfit and around his neck were often attached small pieces of paraphernalia like soft-nosed tweezers and counters...he did a lot of counting.

One of the strongest memories I have of John Farrell, the scientist, was at a Weed and Pest Control Conference in Nelson. Here he lurked in the gloom at the back of the auditorium. For three days, he tried via various exaggerated hand-signals, to persuade

the other wavers to go to the pub. It was at about the time when John peaked in his renewed interest in yacht racing. This he approached with his usual alacrity and concentrated on providing moving ballast; the ensuing series of minor injuries left him varyingly incapacitated when it came to microscope work.

Much later, I came to work with John on various biological control programmes; he was very thorough and was unpredictably funny (in a wry sort of way). At the same time he was particularly enthusiastic and insightful about anything relating to the suppression of aphids in cereals and he read ceaselessly on the subject. Not that John Farrell was prone to fads (especially organisational directives); he fanatically ran various unapproved activities, such as the now famous suction traps at Lincoln. With these he was always generous with the material caught. The now historical data he collected are still proving to be most useful. Indeed, throughout John had a great sense of the need for long-term data collection and their conservation.

John Farrell had a unique ability to achieve scientific excellence without being tedious or pious. It was a pleasure working with him.

Stephen Goldson

International Congress of Entomology: Strength in Diversity

Brisbane, 15-21 August 2004

The XXII International Congress of Entomology 2004 (ICE2004) will be held in Brisbane, Australia from 15-21 August 2004. The theme of the Congress, Strength in Diversity, represents the diverse nature of Entomology and will be reflected in the many symposia, presentations and sessions to be held.

The Australian Entomological Society is pleased to offer a Super Early Bird Registration Rate to financial members of the

New Zealand Plant Protection Society Inc.. This offer expires on 31 March 2003. The registration form can be downloaded from the Society's website www.hortnet.co.nz/nzpps

The Society has written to the Ministry of Research, Science and Technology and the Royal Society of NZ encouraging them to consider favourably applications from students or recently appointed young plant protection scientists for funding to contribute to costs associated with attending ICE 2004.

The Royal Society does have a contestable fund and closing dates for applications that apply to 2004 are 1 March and 1 September respectively.

Patchspray system of crop spraying

Members may be interested in the following communication, received from a Dr Terry Mabbett:

'Read your website with interest. Thought you might be interested in information on the PatchSpray system of crop spraying. The system compensates for uneven distributions of pests, diseases and weeds (and soil fertility) using an electronic controller during spray application. It is written in cooperation with Micron Sprayers Limited in the United Kingdom and approached from a new angle with a different emphasis - on the biology of the pests, diseases, weeds and crops rather than the electronic technology of the system. There is a selection of photographs available on request

Ian Popay has more information if anyone is interested.

Pesticide Resistance information being developed for the Plant Protection Society's website

Nick Martin and Robert Beresford, both of HortResearch in Auckland, are working on updating information on insecticide and fungicide resistance so that it can be added to the information on herbicide resistance already on the Society's website.

Don't forget to bookmark the website (<http://www.hortnet.co.nz/nzpps/>) and check it out from time to time. It contains past proceedings of the conference, contact details of committee members and other useful information

A new invader, Woody Weed, hits NZ

Last July, delegates attending the New Zealand Biosecurity Institute's annual meeting in Invercargill were introduced to a particularly insidious pest newly arrived from Australia. Woody Weed, smuggled into the country in the luggage of



Sandy Lloyd from Western Australia, is a new biocontrol agent that many in New Zealand hope will help stem the flood of weeds naturalising in this country.

With the appearance of Woody Weed, DOC introduced its weed awareness campaign. DOC has now appointed Amber Bill as national weed awareness coordinator, responsible for coordinating DOC's weed awareness activities and, we hope, a multi-

agency weed campaign like Australia's Weedbuster Week. DOC will be spending up to \$300,000 over two years on this initiative.

Woody Weed, a prickly-looking character costume that fits most sizes, is the 'mascot' of weed awareness campaigns in Australia. Sandy Lloyd coordinates Western Australia's weed awareness campaign and she and Woody were in New Zealand at the invitation of the Biosecurity Institute.

Natural areas managed by DOC are particularly susceptible to invasion by weeds, many of which are garden plants which have 'escaped' into the wild and then spread to cause problems. Such weeds may form a dense ground cover that prevents the establishment of new native plants (like wandering Jew), or are vines like old man's beard that climb up and smother native species), or are trees such as sycamore that shade native species.

Many of these plants first get the opportunity to invade areas of native bush when they have become a rampant problem in someone's garden and are pulled out, loaded onto the trailer and dumped at the side of the road. Another way in which new weeds become established is when fish tanks are emptied into streams or ditches and the exotic water plants they contained grow and spread.

One aim of the weed awareness campaign is to make people aware that their apparently innocent actions can lead to serious degradation of bush areas, and can cost DOC and other agencies huge amounts in trying to restore such areas to their original condition. All the agencies probably spend over \$10 million a year on weed control, an amount that is increasing rapidly. Other aims of the campaign are to encourage the public to report newly established weeds in time for something to be done about them, and to discourage people from growing potentially nasty plants in their gardens, especially if those gardens are close to native bush.

More than just DOC!

Many other agencies besides DOC control weeds. Regional Councils are particularly important and DOC hopes all the different agencies can work together in making the public more aware of the problems that weeds can cause.

Although Regional Council Biosecurity Officers used to be involved mostly with agricultural weeds, today they spend as much time dealing with environmental weeds. They do much the same job as DOC staff in controlling weeds like wild ginger, old man's beard, pampas grass and similar invasive species in order to protect natural areas. Many DOC and Regional Council staff work together on surveillance for new weed species, and monitor progress in the control of newly naturalised species. Relationships between these organisations are being developed further.

Only by different agencies working together in conjunction with the public to keep track of newly naturalised species can we hope to get to grips with the large and ever growing number of invasive weeds that threaten New Zealand's native vegetation.

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