



New Zealand Plant Protection Society (Inc.)

Newsletter

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Greetings

It's an ill wind that blows nobody any good. Biosecurity has suddenly taken on a whole new meaning, with the arrival of real or imagined anthrax terrorism. Increased airport and postal security, begun earlier this year with the outbreak of foot and mouth disease in Britain, has now reached new heights with such threats to civilised society. This has got to be good for New Zealand because X-ray machines at airports, and greater postal surveillance are bound to reduce the risks of unwanted organisms getting into the country. A friend of mine tells the story of his recent arrival, for the first time, on these shores and of Max, the friendly airport beagle, finding a fern leaf and four rose petals that he didn't even know he had in his baggage.

This newsletter is mostly about biosecurity of one kind or another. I've asked Kevin Nalder, Project Coordinator of the Biosecurity Strategy Development Team, to tell us how the public consultation process has gone. I've included, too, a couple of book reviews. The first is of a book on Weed Risk Assessment, about predicting in advance which plants are likely to become problems if they arrive and which of the ones already here could turn into future problems. The second is on Bush Invaders of SE Australia, the weeds that threaten native bush there and, very often, here too.

By way of contrast, I've asked Dr Jack Richardson, Chief Executive of AGCARM, for a run-down on what his organisation does. Some people enjoyed the compilation I made last year of who's who in international pesticides, so I thought we might also have a look at what Agcarm is and what it does..

Finally, I hope you all have a Merry Christmas and a happy and prosperous 2002. I know I'm going to – I've just accepted a position with the Department of Conservation!

Ian Popay

From the Editor - December 2001

In case you weren't at the conference and didn't hear the editor's report (I wasn't!!) I will just go over a few of the points I raised. I was really happy with how well the journal production process went this year. One of the great successes was the change in reference formats. I am sure that by aligning with the SIR journals it was much easier for everyone to get the format right. Another excellent response from authors was the prompt return of proofs – thanks for that as pressure is always on at that stage.

So to volume 55 in 2002! **The deadlines remain the same: 15 February for abstracts, 15 April for submission of papers and 15 May for submission of papers by special request.** Please keep to the deadlines and remember that "I've been busy is not an excuse" – everyone is busy these days!. When you submit abstracts please think carefully about your title and co-authors. While changes to these are sometimes unavoidable due to suggestions from the referees, it is helpful to me if I don't have to make changes once an abstract has been submitted and logged onto the database. Please also prepare your abstracts in the final format used in the journal – including title, authors' names and addresses. Remember that I don't send out an email to say that your abstract has been received – don't expect to hear from me until about 15 March when I send out the details of who your referee is.

When you are preparing your paper, please pay special attention to the figures. 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.

Now that I have two children it is definitely easier to contact me by e-mail (Zydenbos@xtra.co.nz) than phone – unless you don't mind a disjointed conversation! With the great venue of Rotorua I'm sure there will be lots of interesting papers again this year – looking forward to hearing from you all.

Sue Zydenbos
Editor

The Plant Protection Society

Conference 2002

will be held in Rotorua at the Centra Rotorua (cnr Froude and Tyron Streets, PO Box 6220, Rotorua) from Tuesday 13th to Thursday 15th August.

Room rates are \$95 + GST. The hotel has held 50 rooms until 30 days before the conference so people should make sure they book in well beforehand.

Philippa Stevens

NZPPS Biosecurity Symposium

Centra Rotorua, Monday 12 August 2002

Convenors: Stephen Goldson, AgResearch and Max Suckling, HortResearch

This Symposium will showcase the value of research to biosecurity in New Zealand. It will connect scientific research to the biosecurity operational requirements of government departments (e.g. MAF). Invited government officials will have the opportunity to outline their perspectives on biosecurity research needs. The Symposium proceedings are likely to be published separately.

It is recognised that there is biosecurity-related research being conducted in New Zealand funded by a range of government agencies. This one-day Symposium offers the opportunity for all parties to discuss current and future science-based efforts to improve New Zealand's biosecurity.

Papers for the Symposium are being called for but it must be recognised that there may be a surplus. Consequently, some submitted papers will be accepted for a biosecurity session at the NZPPS conference that begins the day after, at the same venue in Rotorua.

The deadline for the submission of all abstracts (for both the Symposium and/or the conference) to the editor is 15 February 2002 with full papers to be submitted by 15 April 2002.

Suggested subject areas for the Symposium:

- § *Science knowledge, insight and currency; maintaining and accessing the country's scientific capability in biosecurity*
- § *Biosecurity science and technology; new tools for pest detection*
- § *Analysing risk components*
- § *Statistical and modelling approaches*
- § *Tools for containment and eradication*
- § *Case studies of recent responses to incursions*

President's Message

The winds of change...

This is my first 'outing' as President of the NZPPS and I think that it has coincided with an interesting time for our Society.

Recently, there has been a series of events relating to plant protection and the media are abounding with stories. For example, there is the prospect of targeted aerial spraying against painted apple moth in Auckland, black widow spiders keep showing up in bunches of Californian grapes and Max-the-Beagle has arrived on television to explain biosecurity in breathy sound-bites. More officially, the 'Issues Paper' on biosecurity has been promulgated for comment and the Government has pronounced its position on GE. Throughout, the GE debate has been of inherent interest to the Society because so many current and proposed GE applications seek to ameliorate the impacts of weeds, pests and diseases. In view of this, the Executive Committee has decided to hold a one day Symposium on biosecurity. This Symposium will be held on 12 August 2002 in Rotorua, the day before the 2002 Conference.

The whole process of the Royal Commission into Genetic Modification and the associated moratoria have undoubtedly put some peoples' teeth seriously on edge. However, it has not been a waste of time. The hiatus has given interested New Zealanders every opportunity to understand better genetic engineering and its issues. Just as important, at last, gene technologists and ecologists appear to be talking seriously to each other in the development of research programmes. Indeed, history may well show the onset of this dialogue to

be one of the big triumphs for the Royal Commission and New Zealand. The Government is starting to indicate that funds will be 'found' (diverted?) for more GE impacts research. There is increasing recognition by all parties that detailed ecological work will definitely be needed if gene technologies are ever to be integrated effectively into existing production systems e.g. high performing transgenic plants are very likely to be particularly attractive to pest species. It is well recognised that plants specifically engineered to produce pest resistance factors may well lose their value through the pests themselves developing resistance to the engineered plants. The selective pressure producing this effect is likely to be particularly strong in the case of perennial crops and pastures.

In the pastoral sector there has been a dramatic intensification of land-use; production from expensive and massive dairy conversions is already being cramped by extant weeds, pests and diseases. There are indications that hitherto unrecognised plant protection problems are starting to emerge as production approaches its technical limits. This trend raises new and hard-to-solve plant protection problems. Even though the improved economic returns from dairy operations may now permit the use of pesticides, markets are becoming ever more sensitive to chemical residues and production practices. More generally, established pest management options continue to lose their acceptability and new, tailored approaches need to be developed continuously.

It is in this rapidly changing environment that plant protection researchers must continue to scabble for adequate medium to long term funding. Arguments against access to such money have been centred on a declared need for funds to be diverted to New Zealand's 'economic transformation' in the form of 'new' industries. In the end, it is a question of balance. To ignore medium long-term pest management research would lead to the sort of fire-brigade pesticide-dependent practices of the 1950s. This situation is completely unacceptable to our markets, growers and tourists. Our ability to produce wealth through our booming primary industries would be hopelessly and permanently compromised.

Stephen Goldson
President NZPPS

Plant Protection Scholarship winner

Stuart Card, Lincoln University

The biological control of *Botrytis cinerea* on vegetable and fruit crops

Botrytis cinerea is a serious necrotrophic pathogen of many vegetable, fruit and ornamental plants, causing significant economic losses to New Zealand's plant based sectors. Fungicides used to control the pathogen are rapidly losing their efficacy since resistant strains of *B. cinerea* are now widespread within New Zealand.

Government restrictions on pesticide residues in foodstuffs, and possible environmental impacts, further limited fungicide usage. Furthermore, the expanding demand for organic/low chemical input produce provides opportunities for growers to obtain premium prices, fuelling new interest in integrated pest management (IPM) systems. To accomplish widespread use of biological control for *B. cinerea* diseases, research must be aimed at understanding the complex interactions between the biological control agent, the host plant, the pathogen, and the natural microflora within the phylloplane microenvironment. The research will provide information, from which optimal strategies for disease suppression can be developed.

Suppression of the pathogen in the commercial environment will be achieved by practical, formulation and application techniques developed in further experimentation.

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

Remember the Society's organics symposium in Christchurch in 2000? *Plant Protection Challenges in Organic Production in NZ*, edited by Max Suckling and Mike Butcher contains the papers presented at the symposium and is now available to members for \$27 including GST and postage and handling. **Contact Society Secretary Lois Mackay at AgResearch Lincoln if you'd like one.**

Biosecurity strategy development

The Biosecurity Strategy Development Team has just completed a series of 20 regional workshops

and 15 public meetings as part of a nation-wide consultation on the *Biosecurity Strategy* 'Issues'.

The meetings were run as 'working sessions' with full participation from attendees.

Consultation with interested parties also included seven regional hui, meetings with existing national biosecurity forums and specially convened 'Issues Groups'. All interested parties were invited to make a written submission by 31 December 2001.

The desired outcomes of the consultation process were:

- informing the public about the broad scope of biosecurity, and some of the major challenges;
- identification of all biosecurity issues;
- identification of a wide range of strategic approaches to dealing with the issues;
- discussion and debate on ideas being considered;
- areas and approaches where there is general agreement or general disagreement.

The independently facilitated regional workshops were organised for 15-25 invited participants with a direct interest in biosecurity issues. The main sectors and interest groups included:

- Primary production
- Marine industries
- Port and airport companies
- Transport operators
- Importers
- Environmental and conservation interest groups
- Regional Councils
- Science and research organisations
- Public Health organisations
- Commercial biosecurity delivery providers
- Tourism interests

The public meetings were open to the general public, widely advertised in the newspapers and chaired by a 'local notable' person (e.g. a Regional Councillor) and facilitated by a Biosecurity Strategy Team member. Local biosecurity officials (e.g. Regional Council Biosecurity Officers or regional MAForestry staff) helped to organise and support the meetings.

The general format for the workshops and meetings consisted of:

- (i) Welcome and Introductions.

- (ii) A presentation covering the strategy development process.:
- (iii) A series of exercises to establish what biosecurity meant to people and the important biosecurity issues.
- (iv) A series of 'workshop' exercises, involving small groups, to:
 - explore ideas and options for dealing with the biosecurity issues in the future;
 - discuss the advantages and disadvantages of each idea or option;
 - record the findings of the group.

Biosecurity issues, and the options for dealing with them, were generally clustered under the following broad headings:

- General biosecurity issues
- Offshore biosecurity measures
- Biosecurity activities at the point of entry
- Surveillance for new pests
- Response to new pests
- Managing existing pests

General biosecurity issues

Participants identified a range of 'general' biosecurity issues that cut across all biosecurity programmes and activities. The most common themes, and the associated ideas and options, were:

Funding

Many people felt that there was insufficient funding for current biosecurity programmes and that more funding and resources are required to ensure adequate protection is maintained. Some ideas to increase funding for biosecurity activities included:

- Implement a 'Biosecurity Tax' and channel the funds into a consolidated fund for biosecurity.
- Make biosecurity a 'national good' with the government providing full funding for all biosecurity programmes.
- Establish government/industry/risk generator 'partnerships' to share the cost burden.
- Increase instant fines at the border and other penalties to increase the available pool of funds.

Risk analysis

Risk analysis was seen by many as a critical aspect underpinning all biosecurity decisions and many felt that this area required strengthening. Some suggestions included:

- Risk analysis energies should focus on high risk/high consequence pests and pathways.

- Significantly enhance risk analysis processes to reduce new incursions.
- Improved database management and information sharing.

Legislation

Some people thought that current biosecurity legislation was ineffective, ad hoc and poorly coordinated. Suggestions to improve legislative aspects of biosecurity included:

- Include a purpose statement and principles in the Biosecurity Act to guide decision makers.
- Reviewing the Biosecurity Act and the Hazardous Substances and New Organisms Act to enhance them and ensure compatibility in key areas.

Education and awareness

Most meeting participants felt that the strategy should include future programmes for biosecurity education and awareness. Education and awareness is required at all levels, and some ideas suggested for achieving this included:

- Educating politicians about the importance of biosecurity to ensure it is appropriately 'ranked' as a national good.
- Better inter-agency awareness of the broad scope of biosecurity activities.
- 'Targeted' campaigns, particularly at importers and risk generators.
- Multi-media campaigns continually to re-enforce key messages.
- Including biosecurity in school curricula.

Accountabilities

Improving current communication and accountability pathways for biosecurity was seen by many as a mechanism for strengthening biosecurity in the future. Suggestions included:

- Establishing a 'one stop shop' biosecurity agency.
- Improving co-ordination between central and regional biosecurity agencies.

Offshore biosecurity measures

A common theme emerging from many of the public meetings was the need for enhanced pre-border activities to move biosecurity risks offshore rather than deal with these risks on arrival. Some ideas included:

- More pre-shipment inspections and offshore cargo clearances.
- Targeting high risk import pathways for special pre-export attention.
- Prohibition of known high risk imports.

- Requiring visiting vessels to undergo cleaning (e.g. hulls or fouled fishing nets) at the point of departure.

Biosecurity activities at the point of entry

Participants from all locations generated a number of ideas for improving future biosecurity activities at the 'point of entry' (i.e. at the border). Some common themes included:

- Mandatory treatment of all high risk items (e.g. sea containers, passenger baggage).
- Developing new and innovative methods for the detection of unwanted organisms.
- Increase inspection regimes at the border.
- Implement systems for the mandatory identification of plant material that could be genetically modified.
- Maintain a record of all biosecurity 'law breakers' and better target compliance activities against repeat offenders.
- Define and establish 'internal borders' within New Zealand and implement internal quarantine and movement control programmes.

Surveillance for new pests

Surveillance was an area that many thought needed improvement. Suggestions included both national and regional surveillance programmes as follows:

- Make the general public more aware of potential new pests to assist with early detection.
- Target surveillance activities around high risk sites.
- Improve regional surveillance activities.

Response to new incursions

Recent incursions (eg. painted apple moth, salt marsh mosquito) have highlighted the need for effective response systems. Many people felt that current systems were ineffective. Some suggested improvements included:

- Obtain better scientific knowledge of pests that could establish in New Zealand (e.g. from scientists in the country of origin).
- Create an 'Environmental Agency' to audit regional pest management strategies.
- Improve internal border control systems to manage the movement of unwanted pests into pest free areas within New Zealand.
- Establish an "incursion fund" to ensure adequate funding is immediately available to respond to new (national and regional) incursions.

Feedback to the strategy team from participants was generally positive. People were supportive of the 'workshop' approach and opportunity to contribute their ideas. The broad regional coverage also ensured that local biosecurity concerns were considered as well as national issues. All attendees participated actively in the meetings and provided useful contributions to the strategy development process. The nature of the process used also ensured that maximum benefit was gained from an education and awareness perspective through presentations, active discussion and debate.

The biosecurity strategy development team will use the results from the consultation activities, to prepare the (draft) *Biosecurity Strategy* in early 2002. A second round of consultation will then follow the release of the draft strategy around May, June and July 2002.

Kevin Nalder
Project Coordinator,
Biosecurity Strategy Development



**New Zealand Association for
Animal Health and Crop Protection**

About Agcarm

Agcarm is the non-profit trade association of companies that manufacture, distribute and sell products that keep animals healthy and crops thriving. A number of these companies are also world leaders in agricultural biotechnology.

Agcarm's mission is to achieve public awareness and appreciation of our industry's contribution to society by:

- Promoting the responsible use of animal health and crop protection products as an integral part of high-yield sustainable agriculture

- Promoting recognition of the role of high-yield sustainable agriculture in preserving the quality of life including the land and the natural environment
- Fostering a regulatory environment responsive to scientific progress and community welfare
- Educating the community about our industry's contribution to the quality of life.

What Agcarm is involved in

To begin with, it is one of the very few country associations that covers both animal health and crop protection (along with Australia, South Africa and Ireland, in particular). A number of the crop protection associations are moving to cover biotechnology matters, given that the same companies are involved.

A perusal of topics in Agcarm's Business Plan provides an insight into current activities. These topics include:

- The maintenance of a safe place of work for Agcarm's employees
- An annual survey of product sales
- Providing assistance in the collection, identification, and disposal of waste agrichemicals and containers
- Managing spray drift issues
- Assist with the development of a national pesticide risk reduction strategy
- Address off-label/minor crop/minor animal species issues
- Ensure appropriate management of the GROWSAFE training scheme, including reviews of the manual and courses
- Ensure a credible premises accreditation scheme is available for the industry
- Ensure a smooth transition to the ERMA and ACVM regulatory regimes
- Ensure intellectual property rights are maintained, and upgraded where appropriate
- Ensure an appropriate gene technology regulatory system is provided
- Ensure antibiotic resistance is properly managed
- Maintain and enhance liaison with government agencies, other organisations, interest groups, schools, the general public, etc.

Agcarm's management structure consists of an Executive Committee, Animal Health, Crop Protection, Distributors' and Biotechnology Sub-Committees, and staff comprising an Executive Director and a secretary. The Association is headquartered in Wellington.

Some Recent Issues

Implementation of New Legislation

The implementation of the Hazardous Substances and New Organisms (HSNO) and Agricultural Compounds and Veterinary Medicines (ACVM) Acts amounts to the most significant "legislative event" in the industry for many years. As is normal with the introduction of new legislation, there are a number of matters that need attention. Examples are:

- The transfer of existing products into the new regime
- Approvals for research substances that will not be registered in New Zealand
- Off-label use
- The timely processing of applications under the new acts
- The cost of new approvals
- Intellectual property protection.

Agcarm is very much involved with the regulatory authorities, both in assisting with ensuring the legislation works as smoothly as possible, and in providing a convenient point of contact for government departments so that the need to make contact with all the various companies involved in the industry is minimised.

Chemical Trespass

Agcarm is represented on the Agrichemical Trespass Ministerial Advisory Committee, which in essence is looking at how we can better manage spray drift and like activities.

Pesticide Risk Reduction

Similarly, Agcarm is represented on the Pesticide Risk Reduction Reference Group, which is looking at the development of a national strategy for reducing risk in the use of pesticides.

Sales Audits

For some years Agcarm has overseen an audit of (wholesale) product sales. This audit comprises a quarterly listing of product sales in dollar terms and an annual listing of products in quantity terms.

The latter information is expected to be of use in a national pesticide risk reduction strategy.

Training

Agcarm is a foundation member of the New Zealand Agrichemical Education Trust. The visible face of this organisation is the GROWSAFE training scheme, comprising the Code of Practice and a number of training courses that cover the distribution and use of pesticides. Particularly relevant is the growing use by the regulatory authorities of both the Code and the courses in setting their requirements for using pesticides.

Container Disposal

The disposal of used agrichemical containers is a somewhat vexed issue, largely due to the essential impossibility of reusing the containers. Agcarm has developed brochures covering the triple rinsing and the small-scale incineration of used containers (where allowed by the authorities). The incorporation of plastic chips in concrete is very much a small-scale enterprise but one with a fair degree of promise, whereas the incorporation of containers into garden seats, posts and the like is languishing in light of the need for air discharge permits to process the plastic.

Gene Technology

A number of Agcarm member companies are world leaders in agricultural biotechnology, particularly in the development and application of GM techniques. Agcarm has participated in the recent Royal Commission on Genetic Modification and subsequent events associated with the implementation of the recommendations of the Commission.

Conclusion

Agcarm came into existence in 1948; the people and companies involved in plant protection and animal health come and go, but the need for organisations like Agcarm carries on. The more things change ...

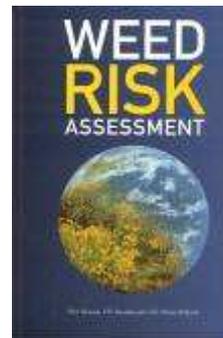
Jack Richardson
Chief Executive

Book review

Weed Risk Assessment

edited by Richard Groves, Dane Panetta and John Virtue

This book and the subject it explores come to New Zealand at an opportune time. Our country appears to be under constant attack from alien invaders. Outbreaks of snakes, black widow spiders, mosquitoes and new kinds of insects are reported in our newspapers almost daily. One of the attractions of New Zealand has always been its isolated island status and its relative freedom from the nasties that live in Australia and elsewhere. St Patrick is credited with banishing the snakes from Ireland. Do we have a tohunga who did the same job for us here?



Weeds, though most of us recognise them as problems in our gardens, don't usually attract the same media coverage as creepy crawlies, and yet they ruin crops, poison livestock and devalue our natural environments. A new weed doesn't offer the immediate threat of a salt-marsh mosquito or a glassy-winged sharpshooter. New Zealand already has as many species of introduced plants as it does of natives. Only a few of the introductions have become weedy, but more will certainly do so in the future, and so too will other species that haven't yet reached our shores.

The same problem of recognising potential problem weeds early enough occurs in other countries, too. A recent Reader's Digest, in a story taken from The Times, reported on the menace of Japanese knotweed in Britain. This species also occurs in New Zealand, where it is known as Asiatic knotweed, *Reynoutria japonica*. It is common enough in this country, but has not yet become the problem it is in Britain. Its time may yet come.

As this book shows, predicting which aliens are going to become problem weeds is difficult. Predicting agricultural weeds is easier than weeds of natural or amenity areas. *Tradescantia*, wandering Jew, is a good example of an unpredictable weed, because it does not set seed and has few of the characteristics traditionally associated with weediness.

I find two aspects especially scary for New Zealand. The first is that many of our most serious weeds (gorse, broom and many others) have been deliberately introduced to the country as ornamentals or otherwise useful plants. The other, as Peter Williams shows in this book, is that the New Zealand environment seems to be particularly susceptible to weed invasions. A high proportion

of introduced plants become 'weedy' here, and, even more alarming, many of our weeds exhibited their nasty qualities for the first time in this country. For these and other reasons we need to be more careful than other countries with our biosecurity.

Most of the chapters in the book are based on contributions to a workshop on Weed Risk Assessment held in Adelaide in 1999, so Australia tends to be its focus, although contributors also hail from the USA, Galapagos and the UK. Three of the chapters were written by New Zealanders and one of the editors has spent time working in New Zealand. It is reassuring that so much work on the topic is in progress here, and that our experts seem to be as up with the play as anyone.

The first part of the book deals with overviews of the subject, like the ways in which the impacts or future distribution of invasive species can be recognised before they arrive in a country, or early enough after arrival to allow eradication. The second part deals with National (mostly Australian) Perspectives, although one chapter concerns New Zealand and another the United States. The third part is concerned with smaller scale, Regional Perspectives – the Galapagos Islands, Hawaii, Florida, south-eastern Australia, California - and two aspects of weed risk assessment in New Zealand, aquatic weeds and weeds of protected natural areas.

This book should be read by the growing band of people interested and involved in plant biosecurity at national or local level, and by ecologists, botanists and community groups who often have to deal with weeds once they have become problems. Such individuals and groups are often the first to recognise the initial naturalisation and spread that signals the onset of a new 'triffid' - the attack of an alien weed.

Weed Risk Assessment, by RH Groves, FD Panetta and JG Virtue was published in March 2001 by CSIRO Plant Industry. It is a sturdy paperback of 256 pages, with illustrations, retails for A\$80 and is available from CSIRO PUBLISHING, PO Box 1139, Collingwood, Vic 3066, Australia, or at www.publish.csiro.au. Its ISBN is 064306561X.

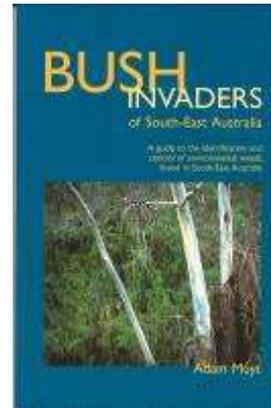
Ian Popay

Book review

Bush invaders of South-East Australia: A guide to the identification and control of environmental weeds found in South-East Australia

by Adam Muyt

This book should be on the shelves of anybody in New Zealand who has to deal with or is interested in dealing with the weeds that invade and despoil areas of native bush. Although directed at the parts of Australia closest to us, most of the weeds described are serious problems of similar areas in New Zealand, and the techniques described for controlling them can also be used here. Some of the weeds described are not yet problems in New Zealand, but may yet become so. That lovely, innocuous garden plant *Freesia* is a bush invader in Australia and may also, one day, be a problem here.



A warning, too, that our own native plants can become dangerous when they get overseas. Two of the plants described in this book are New Zealanders causing problems in SE Australia. These are the toetoe *Cortaderia richardii* and *Coprosma repens*, sometimes called looking-glass bush. *Cortaderia richardii* gets lumped in with wicked pampas and purple pampas, and is seen as a serious threat to World Heritage areas in south-west Tasmania. *Coprosma* has escaped from gardens and become a problem in coastal bushland and sometimes inland.

Australian plants, too, can be dangerous if they escape from their original habitats. Several species have been widely planted outside their natural ranges, and are spreading into forests and woodland. Among those that cause problems both in parts of Australia and also here are *Racosperma baileyana* (*Acacia baileyana*), *Racosperma longifolium* (*Acacia longifolia*), and *Paraserianthes lophantha* (originally from Western Australia, widely planted and now a problem weed in coastal areas of SE Australia).

Books on controlling weeds in New Zealand are scarce and mostly out-of-date, and this book provides some helpful information on controlling many weeds found in bush areas in both Australia and New Zealand. For the professionals in NZ, the Department of Conservation has produced a large loose-leaf folder called *Weed Manager*, which provides descriptions and control methods for weeds of conservation areas, but this is not widely available.

The taxonomists have been at work again, and some of the species in *Bush Invaders* now carry new Latin names. Cape ivy, which we know as *Senecio angulatus*, has become *Delairea odorata*, and climbing dock, *Rumex sagittatus*, has become *Acetosa sagittata*. Cape tulip, *Homeria collina*, is now known as *Moraea flaccida*.

The first part of the book deals with environmental weeds, the problems they cause and why, and deals with the management of environmental weeds with a very wide range of weed control methods, including herbicides, grazing and burning. The section on the use of herbicides goes into considerable detail on how to minimise risks to non-target vegetation. HortResearch's Vigilant gel herbicide has obviously not yet reached Australia, since this very useful and practical approach to herbicide use is not mentioned in this section of the book.

In the second part of the book, 93 individual entries give information on over 150 species. The species discussed are divided into sections of grasses, other narrow-leaf herbs, broadleaf herbs, climbers and creepers, shrubs, trees and aquatics, which is a very useful approach.

The information presented for each species is impressive. Its common names, family, country of origin, method of introduction (most commonly for ornamental purposes!), plant form and Australian distribution appear first. Next comes an 'invasive summary', explaining where and why the plant is a problem, followed by 'diagnostic features' to help in its recognition, and 'reproduction and dispersal'. 'Control and removal' comes next, giving vital information on how to control the pest without or with herbicides. [I think I would have preferred some guidance on which herbicide to use. Glyphosate kills most, but not all, plants, and some suggestions of when it isn't so good and then what alternatives to use would have helped.] Notes on 'similar invasive species' follow, and then 'confusing indigenous species'. 'References' at the end of each species notes refer the reader to the list of nearly 400 reference works near the end of the

book. The notes on each species or group of species are very comprehensive.

Each species is clearly illustrated with one or more good colour photographs, most of which show diagnostic features well. Some photographs are less clear (balloon vine, on p129, for example, could be almost any climber).

The book is hardly comprehensive – I am sure there are many more species than this that cause problems in natural environments in SE Australia. Some of the species described here are of limited distribution, and the impacts of the herbaceous species, like many grasses, are small by comparison with scrubweeds and creepers.

I'm not sure either that the aquatic weeds shown in this book really fit into the definition of 'bush invaders', especially in the case of the seaweed *Undaria*. All are invaders of natural environments, but hardly bush areas.

It's another attractive and well-presented book from the Rob and Fiona Richardson stable, and yet another Australian weed book. The Australians have always been much better off than we have for books about identifying and controlling weeds, partly because they take their weeds much more seriously than we do, as their spending on research shows.

Bush invaders of South-East Australia: A guide to the identification and control of environmental weeds found in South-East Australia by Adam Muyt was published in August 2001 by RG and FJ Richardson. It is a paperback of 304 pages, with coloured and black and white plates and line drawings, retails for A\$59.95 and is available from RG and FJ Richardson, PO Box 42, Meredith, Vic 3333, Australia, or at www.weedinfo.com.au. Its ISBN is 0 9587439 7 5.

Ian Popay

And another Australian weed book!

Those interested in these two books may also be interested in a new book, **Environmental Weeds: A field guide for SE Australia** by Kate Blood of the CRC for Weed Management Systems.

This field guide details over 175 environmental weeds in south-eastern Australia including emerging and potential weed species. Detailed

descriptions and photographs helps in the identification of these weeds. Entries include weed shape and size, history and uses, taxonomic relationships, origin, weedy distribution, description, reproductive and growth characteristics and confusing look-alikes.

The book was published in by 2001 by C.H. Jerram & Associates and CRC for Weed Management Systems, 232 pages, colour illustrations, wire bound, ISBN 0957908601, Price A\$35.00.

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International Congress of Plant Pathology

2-8 February 2003

This congress, to be held in Christchurch, is being organised by the Australasian Plant Pathology Society for the International Society of Plant Pathology. Website address is www.lincoln.ac.nz/icpp2003/ where you can

register an interest in attending the congress. For further details e-mail Ron Close (closer@plantwise.co.nz).

Plant Protection Society Website

Don't forget to bookmark the Society's website (<http://www.hortnet.co.nz/nzpps/>) and check it out from time to time. It contains, for example, past proceedings of the conference, contact details of committee members and information on the upcoming conference. On it you will find a reminder that we still have copies of An Illustrated Guide To Common Weeds of New Zealand and other publications for sale through Manaaki Whenua Press.

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