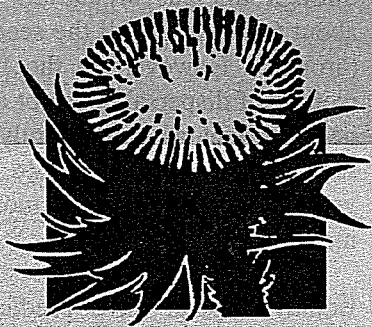


A Good Weed



the NEWSLETTER of
The Weed Society of New South Wales Inc
ISSN 1325-3689

8

DECEMBER 1996

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Giant Parramatta Grass - No 'Weak Links' Found

According to John Betts from NSW Agriculture at Grafton, studies on giant Parramatta grass (*Sporobolus indicus* var. *africanus*) at the Universities of New England and Queensland have not revealed any weak links in the life cycle of this particularly troublesome weed that could be readily utilised in its management.

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A Good Weed is published
four times per year by
the Weed Society of
New South Wales,
PO Box 438
Wahroonga 2076.

Printed by the University
of New England

Packaged by the Challenge
Foundation in recycled
plastic

...Giant Parramatta Grass ~ No 'Weak Links' Found

Studies on 'what makes giant Parramatta grass tick' and biological control of this weed have been completed in the past year.

The studies were funded by the Meat Research Corporation and conducted by Todd Andrews at the University of New England and Shane Heatherington at the University of Queensland as part of PhD degrees.

John Betts summarises some of the major findings of both studies as follows.

- No weak links were found in the life cycle of giant Parramatta grass.
- In dense infestations seed production potential can be phenomenal, up to 750,000 seeds per square metre.
- Large soil seed bank reserves were measured on heavy infestations, up to 20,000 seeds per square metre.
- Projections of seed longevity in the soil indicated that some viable seed may still be present in soil 10 years after seeding.
- Seed germinates best when there is a daily fluctuation of soil temperature between 30°C maximum and 15°C minimum. This generally coincides with October/November and March/April.
- Seed germinates best when it has been exposed to light. Implications of the above two points is that bare soil favours germination of giant Parramatta grass - this is certainly observed in the field. Good ground cover and strong growth of other pasture species reduces infestations.

- The seed has a sticky coating when wet and will readily stick to smooth surfaces. Therefore, seed is most likely to spread when the grass is wet with rainfall or heavy dew.

- Some viable seed will pass undigested through the gut of cattle. It takes about 6-7 days for all the seed to pass through. However, in the field this method of dispersal does not appear to be important as cattle rarely eat the seed heads. Seed sticking to hides, or vehicles, etc. is a much more likely means of dispersal.

- Botany experts have predicted that giant Parramatta grass will spread to its environmental limits despite all efforts to contain it. They reason that our modern lifestyle, rapid transport and the weed's dispersal mechanisms make this inevitable.

- Giant Parramatta grass is attacked by a fungus called *Bipolaris* which causes a fake smut disease of the seed head. Two species of this disease organism infect giant Parramatta grass.

The general conclusions of the biological control study using the above organisms were:

- the disease occurs too late in the season to restrict the greatest seed fall event;
- the plant appears to compensate with greater numbers of seed heads produced when disease infected and greater germination of seed following lower seed fall;
- the disease organism also attacks native *Sporobolus* species (rats tail grass).

The above factors appear to preclude giant Parramatta grass from biological control at this stage.

Other Work

Other current work on giant Parramatta grass includes:

- getting the best from giant Parramatta grass through chemical means using low rates of glyphosate applied with a pressurised wick wiper. This is the "living with it" approach;
- selective herbicide application with a pressurised wick wiper, especially to scattered infestations;
- evaluation of some Swazi grass types that may be useful competitors against giant Parramatta grass.

For further information on this aggressive grass weed contact: Grafton Research Station (Phone 066-420 420).
□

(Adapted from Beef News, April issue, 1996)

Serrated Tussock ~ Biocontrol to Add to Strategy

Over the years biological control of serrated tussock (*Nassella trichotoma*) has been discussed and abandoned and rediscussed. The biggest problem foreseen is its close relationship to the native *Stipa* species which form a very important part of native pastures. In 1976, Dr M Wells from South Africa visited South America but found no insects which appeared to be host specific. In 1988, the South Africans again commissioned a survey with results not looking too promising. Dr Wells also discovered that Australia already had a range of insects attacking serrated tussock, but these were having no effect on the overall problem.

In 1993, pressure was again rising to find a biological control solution to the serrated tussock problem. People were writing to Ministers trying to secure Government funding, but to no avail. Shire Councils started raising money themselves to fund a search program in South America, however, not enough was raised and the issue again quietened down. A search conference was held in Berridale in 1994 which looked at the issue of management rather than biological control.

A management strategy for serrated tussock has recently been developed in Victoria. There are also committees such as the Upper Murrumbidgee Catchment Coordinating Committee and the Cooma-Monaro Shire who have brought together a number of groups and organisations to develop a coordinated approach to serrated tussock control. This will include facilitating regional working groups, coordinating research and assisting with regional control programs.

*Over the years biological control of serrated tussock (*Nassella trichotoma*) has been discussed and abandoned and rediscussed.*

One of the major problems foreseen is the use of Frenock for control. It is used solely for control of serrated tussock, and therefore has a relatively small market, and is also a by-product of the CFC process and unlikely to be available in the not too distant future.

In 1995 Bruce Auld from NSW Agriculture secured funding from the International Wool Secretariat to send Dr Harry Evans (International Institute of Biological Control) to Argentina to look at pathogens for control of Bathurst burr. In liaison with CSIRO Division of Entomology, Bob Sproule (NSW Agriculture) and Gratton Wilson (Cooma-Monaro Shire) raised the funds required to extend that survey by one week to look at pathogens on serrated tussock.

One unidentified fungus with potential was found at 10 of the 17 sites surveyed. The fungus attacks the root-stem interface and causes the tussock to

die back. The fungus is currently being identified and Dr Evans is now culturing the strain preparing for host specificity testing. The initial tests will be carried out on closely related *Danthonia* and *Stipa* species. If the fungus does not infect these species, funding will be sought to broaden the testing to other grasses and cereal crops with the closest relative in the cereal crops being rice. □

(Reprinted from *Weed Watch*, the external newsletter of the Cooperative Research Centre for Weed Management Systems, Issue no. 1, June-October 1995)

From Abseiling Scouts to a Little White Moth ~ the Battle with Bitou Bush Continues

Bitou bush (*Chrysanthemoides monilifera rotundata*) is rated as the worst pest plant in the Australian coastal environment, restricting access to beaches and destroying native bushland. It was originally planted during the 1950s to stabilise sand dunes after mineral sand mining which it did so effectively that in the process it managed to displace native flora, turning vast stretches of coastline into a monoculture.

There are six sub species of *Chrysanthemoides monilifera* in South Africa, but fortunately only two of them occur in Australia, *C. monilifera monilifera* (boneseed) and *C. monilifera rotundata* (bitou bush). Bitou bush currently infests coastal areas of southern Queensland, NSW and Lord Howe Island while boneseed infests coastal areas of southern NSW, Victoria, south-eastern South Australia and Tasmania.

A 1994 terminating report to NSW Environmental Trusts produced by J Toth, P Milham and R Holtkamp (NSW Agriculture) has presented some of the results on bitou bush which have been attained using chemical control and how they can be implemented in an integrated control program. One of the most exciting results from the aerial spray trials conducted between 1989 and 1993 was at least a four fold reduction in herbicide rates used for bitou bush control. Trialing of reduced water volumes during aerial spraying has also been completed. A number of trials were conducted looking at the efficacy of chemicals and the effect of adjuvants on efficacy and selectivity.

One trial assessed the sensitivity of native plant species to herbicides. At the time of the grant proposal a herbicide tolerance ranking, had been developed for seven native species present in substantial numbers at Bherwerre Beach, Jervis Bay. The use of tube plants at

Jervis Bay and observation of plant communities at Hill 60 (Port Kembla) and Hawks Nest extended the tolerance ranking by a further 82 species. The observations (being conducted by the University of Wollongong) showed that none of the 89 species were substantially affected by Roundup applied from the air at 2 L/ha and current experiments are expected to further extend the database. Research also showed that bitou bush was more susceptible in winter to both Roundup and Brush-off whereas native plants were least susceptible during winter, making this a much more practical time to spray.

A pilot study was conducted into the fate of herbicides with the report recommending that before either glyphosate or metsulfuron methyl is used on a large scale in a control program the questions of persistence and mobility must be addressed.

The trials at Jervis Bay have been so successful that the Australian Nature Conservation Agency has now adopted aerial spraying as part of the management strategy for control of bitou bush in the Jervis Bay National Park. Aerial spraying has also been adopted in over 565 ha from Pottsville (near Tweed Heads) to Port Kembla. More than 300 ha of this is in National Parks.

The possibility of incorporating biological control with a chemical control program was also looked at. The trials conducted on the bitou tip moth (*Comostolopsis germana*) showed it can clearly be incorporated into an integrated control.

The biological control program for both bitou bush and boneseed was initiated in 1987. Since that time 6 insects have been approved for release. The first was the bitou tip moth which has now been released at over 55 sites. The most spectacular establishment is at Port Macquarie where the moth has spread up to 3 km north and in excess of 5 km south from the release point since 1989. Larval densities in excess of 400 larvae/m² were found during 1991. These densities resulted in reductions of

50% and 70% in flower and fruit production, respectively.

The black boneseed beetle (*Chrysolina* sp.), the blotched boneseed leaf beetle (*Chrysolina picturata*), and the painted boneseed leaf beetle, *C. oberprieleri*, have been released on boneseed in Victoria, Tasmania and South Australia. Small releases of the black boneseed leaf beetle have also been made on bitou bush in NSW. As yet these have not become established. The bitou seed fly (*Mesoclanis polana*) and the bitou tortoise beetle (*Cassida* sp.) were approved for release in 1995. Releases of both insects were planned for bitou bush sites in northern NSW in late 1995-96. The highly damaging leaf roller moth (*Tortrix* sp.) has been imported for host specificity testing along with continuation of testing on two other seed flies *Mesoclanis magnipalpii* (greater bitou seed fly) and *M. dubia*. Both flies appear to be specific to *C. monilifera*.

There are six sub species of Chrysanthemoides monilifera in South Africa, but fortunately only two of them occur in Australia...

Although effort has so far concentrated on classical biological control with exotic insects, a recent study by E Cocher, R Gilbert and A Nikandrow from NSW Agriculture, looked at the potential of using naturally occurring, indigenous fungal pathogens as mycoherbicides. Forty eight sites were sampled in spring 1992 and/or autumn 1993; 31 sites were sampled in spring 1993 and autumn 1994. At each site die-back lesions, leaf lesions and/or symptomless tissue were sampled from bushes at random within an area of several thousand square metres. A total of twelve different disease symptoms were identified from the 600 samples taken during the survey.

Phomopsis sp. was recovered in relatively high frequencies from almost all lesion types. The survey has

identified a number of potentially pathogenic fungi associated with a range of die-back and leaf lesions. The screening of representative isolates for their ability to produce disease (pathogenicity) in bitou bush is now in progress and considerable scope exists for studying synergism between insects and fungi.

Dune care and other volunteer groups have been physically removing the weed, which is particularly effective in small areas of high conservation significance. As part of an initiative in the Shoalhaven area, groups of scouts have abseiled on the cliff faces clearing bitou bush in their path to obtain merit towards a particular scout badge. Larger scale control using manual clearing is not practical as it is too labour intensive. With both physical and chemical removal of plants, the process must be repeated year after year until the soil seed reserve is exhausted or the surrounding native vegetation out-competes emerging *Chrysanthemoides* seedlings. Regeneration of cleared areas is a vital part of the whole control process.



① *Bitou bush having taken over the for-dune area along Emerald Beach on the NSW north coast.*

Funding for the range of research has come from a number of

sources:- Australian and New Zealand Environment and Conservation Council (ANZECC), NSW Environmental Trusts, and the Commonwealth Government. Overseas work is conducted by CSIRO Entomology with host specificity testing being conducted by the Keith Turnbull Research Institute (DCNR), Frankston. □

(Reprinted from Weed Watch, the external newsletter of the Cooperative Research Centre for Weed Management Systems, Issue no. 1, June-October 1995)

Bitou Bush at La Perouse

In this article, Dean Pryke, a field officer with the National Parks and Wildlife Service, describes a case study for control of bitou bush at La Perouse in Sydney.


The study site is 2 ha of land located between Congwong Beach, the Snakepit, Anzac Parade and the Golf Links Road, within Botany Bay National Park (La Perouse). Prior to bush regeneration works the site was completely smothered in bitou bush. It was approximately 2-3 metres high and dominated up to 90% of the vegetation. Bush regeneration commenced in 1992 by NPWS field staff and day-release prison labour (from Long Bay Jail).

Removal technique

The bitou bush was removed using the cut-stump method. The branches were placed in piles scattered across the site, with the intention to burn them.

Use of fire

In May 1994, NPWS set fire to the entire site. It was a very hot fire, turning weed piles into a moonscape. After the fire, we left the site to its own devices to



observe the patterns of regrowth. The dominant species were dense clusters of bitou bush and smaller individual *Acacia longifolia* plants. A number of new post-fire weeds also began to grow in the ashes, such as fireweed (*Senecio* sp.), ink weed (*Phytolacca* sp.), fleabane (*Conyza* sp.) and blackberry nightshade (*Solanum nigrum*).

Post-fire weeding

Follow-up weeding commenced between 10 to 12 months after the fire. The clusters of bitou bush had reached one metre high. Bitou bush was removed by hand (before it was able to flower) and left on sand to act as a mulch. During this exercise we uncovered numerous *Acacia longifolia* seedlings, which had been dwarfed by the bitou.

Blackberry nightshade was assisting native regeneration by providing shelter for natives and protecting tubestock from marauding rabbits. This weed prefers direct sunlight and will die off once a canopy is established. A decision was made not to remove the blackberry nightshade.

Outcome

On inspecting the site in late 1995, native species dominate the site. Only minimal follow-up is required to weed scattered bitou bush seedlings.

However, other invasive weeds have now started to occur, such as turkey rhubarb (*Acetosa sagittata*), Crofton weed (*Ageratina adenophora*) and wandering Jew (*Tradescantia albiflora*). And, more recently, the water weed *Ludwigia* sp. has also started to appear.

Summary

From our experiences, we have learnt several things.

1. Fire is an effective tool to stimulate germination of bitou bush. It is estimated that 75% of the bitou bush seed bank will germinate within the first year after a fire. It is vital you have enough resources to undertake follow-up weeding at this stage. If not, the bitou bush (which grows

faster than most native species) will out-compete all vegetation, creating a dense monoculture.

2. Fire is also an effective tool to stimulate native regeneration. Fires need to be planned for frequency and intensity. Pile burns should be distributed across the site, to maximise the potential for regeneration.
3. Certain colonising natives (i.e. bracken) and weeds (i.e. blackberry nightshade and wild tobacco bush) can be used as nursery crops for other natives. □

(Reprinted from *The Regenerator - Newsletter of the National Parks and Wildlife Service (Sydney District) Volunteer Program - February 1996*)

Travel Study Grants Available

Travel Study Grants, funded by the Weed Society, are now available to financially assist individuals to attend conferences or to travel on specific interstate or overseas study tours in the period from 1 July 1997 to 30 June 1998. The grant is open to persons over 18 years of age who are involved with weed research, extension, regulation or practice. Studies of limited interest to the Society will not be considered.

Applications will only be considered from persons who reside in NSW or the ACT. Members of the Society may be given preference. Rarely will the grant meet the full expenses of travel so applicants must arrange additional funds from other sources. Applicants attending conferences are expected to contribute to the conference.

Grantees are expected to return to service within NSW. They will be required to submit a succinct written report for publication in this newsletter

soon after returning to duty and/or pass on results of the assignment to other workers in an appropriate manner, e.g. seminar or meeting.

Applications are to be forwarded by 1 May 1997 to: The Secretary, The Weed Society of New South Wales, PO Box 438, WAHROONGA 2076.

Application forms are available from the Secretary, Leon Smith, at the above address or by telephoning/faxing (047) 393 564.

1996 Annual Report

A Year in the Life of the Weed Society of NSW

The major event of the year was a two day seminar at the Lakes Golf Club, Mascot, on management of weeds in wetlands. Over 100 people, including several from interstate, attended the seminar over the two days. The first day dealt with the weed problems and management methods used in wetlands, while demonstrations and field site visits to specific weeds and situations in the Botany Wetlands occurred on the second day. The AGM of the Society was held following the first day of the seminar and twenty three people attended.

A Travel Study Grant of \$200 was awarded to Mark Gardener, a graduate student from the University of New England to assist with travel to South America to study Chilean needle grass, a problem weed on the Tablelands of NSW and Victoria. Weed Society prizes were awarded to students from the University of New England, Charles Sturt University and Sydney University. Eric Cuthbertson, a foundation member of the Society represented the Society at the prize giving ceremony at Charles Sturt University. For the first time one of the awardees accepted an offer of complimentary membership of the Society.

The Society sponsored the visit to NSW of Prof Jim Kells, a weed extension specialist from Michigan State University, who gave a seminar at ARVC, Orange, visited farmers and agricultural chemical representatives at Cowra and gave the after-dinner speech at the Annual Dinner. Prof Kells gave an overview of Michigan agriculture and the development of herbicide resistance there.

The high standard of the newsletter was maintained by Brian Sindel in 1996 and new membership application forms were printed using the colours and format of the newsletter. A list of members and their interests was prepared and will be distributed in 1997.

The Society had displays at the Australian Turfgrass Research Institute Symposium and the 11th Australian Weeds Conference in Melbourne. An article and advertisement about the Society was contributed to The Land Newspaper supplement for Weeds Awareness Week. Negotiations are underway with ATRI regarding an Aquatic Weeds ID workshop for next year.

The Society met its obligations under the Articles of Incorporation and has procured a Common Seal. President, John Cameron is investigating holding of regional activities for Society members who are unable to come to Sydney. These activities would be sponsored by the Society. Thirteen new members joined the Society in 1996 and CAWSS delegates for the next three years will be J Cameron and L Smith. The Society will be making a submission regarding the draft NSW Noxious Weed Strategy Document.

Members Matter

Subscriptions

1997 subscriptions have now been mailed out. The financial year of the Society is 1 October 1996 to 30 September 1997. A cut-out remittance

advice has been provided to members this year. To assist the Treasurer (honorary) in keeping our financial records, please use the cut-out remittance section when paying your subscriptions, which if you haven't already done, we hope you will do soon! Thanks.

Missing Members

The following people have moved without providing us with their forwarding addresses. Does anyone know their whereabouts? If so, please give their new addresses to our Secretary or have them phone Leon. His address and contact phone and fax number are listed on page 2 of this newsletter.

T Condon

Louise Gall

John Garner

D Howell

Geoff Modra

Robert Moorefield

Geoff Pelizzo

Chris Ryan

Many thanks.

Influx of New Members

We welcome the influx of new members to the Society who joined the other 250 or so members in the last few months of 1996. See the 1996 annual report in this newsletter for a summary of the year and events to look forward to in 1997.

If by any chance you move address in 1997 then please let the Secretary know at the address on page 2 as soon as possible to avoid sending out the Newsletter only to have it returned with 'Not Known at this Address' stamped all over it. This plea is to all our members - please remember your Weed Society when you're notifying people of an address change!

Our new members are:

John Abbey, Bradbury;

Roger Baker, Kerang;

Mark Beharrell, Collaroy Plateau;

Robert Blackall, Garigal National Park, Forestville;

Paul Bourne, Hawkesbury Heights;

Ken Bunn, Pelaw Main;

Jeff Burton, Hornsby Shire Council, Hornsby;

Richard Carter, NSW Agriculture, Orange;

Toni Commens, Charles Sturt University, Wagga Wagga;

Phil Da-Pra, Riverwood;

Peter Ellmer, Londonderry;

Rod Ensby, NSW Agriculture, Grafton;

A Featherstone, East Maitland;

Anthony Grimm, Cooma;

Philip Hansen, Queanbeyan;

Kerry Holmes, Broken Hill;

Laurie Jackel, Rochester, Vic;

Peter Jensen, Leichhardt;

Diana Kureen, Concord;

GR Matthews, Bellingen;

Terry Meader, Marrickville West;

Narelle Montgomery, ANCA, Canberra;

Paul Mulholland, Raymond Terrace;

Ann Parks, Carlingford;

Pat Pike, Mt Colah;

Anna Ranke, East Maitland;

Brian Rubzen, Wagga Wagga;

Rick Rundell-Gordon, Swan Hill, Vic;

Ursula Taylor, University of New England, Armidale;

James Wilding, Maiden Gully, Vic;

Annette Williams, Unanderra; and

Kerry Yeend, Maitland;

Have Your Say

A Good Weed is open to contributions from all members of the Society so if you have an article or item of interest then please pass this along to the Editor (address on page 2) for inclusion in a future addition. Letters to the Editor are also welcome so go ahead and have your say on weed issues affecting NSW and beyond. Don't let this stop you having your say, but if you can send your contributions in electronic format (ie. on disk or by email) then that just makes the job of reproduction that much easier. Suggestions for possible improvement of the Newsletter to better meet your needs can also be passed on to the Editor.

Corrections to Internet Addresses

Some members found it difficult to access the Internet addresses published in the last issue of *A Good Weed*. So did I! The address for 'on-line pesticide newsletters' had two letters transposed. The correct part of the address should read **ncsu** not **nscu**. My apologies!

Publishers Move

From 1 December 1996, the address of the RG and FJ Richardson, publishers of *Plant Protection Quarterly* and *The Biology of Australian Weeds*, will be PO Box 42, Meredith, Victoria 3333. Tel/Fax: 03 52861 533 Email: robfigona@iaccess.com.au

Weed Awareness Goes National

Bob Trounce was a major organiser of Weed Awareness Week in NSW in 1996. Symbols such as Woody the Weed were borrowed from the Queensland Department of Natural Resources where the successful 'Weedbuster' day was established. Keith Noble and Debra Beck from Queensland and the Cooperative Research Centre for Weed Management Systems have expressed their enthusiasm for Weed Awareness Week and have offered the use of their logos and other information and cooperation for a national approach to 'Weedbusting'. The aim is to increase community awareness and knowledge about weeds, their management and costs.

The date that has been set for Weed Awareness Week (or some other similar name) for 1997 is **October 12-20**. So start planning your weed awareness activities now.



Other Good 'Reads'

Global Herbicide Directory

Previously advertised in *A Good Weed*, the Global Herbicide Directory is now available at the special price of US \$40 (\$85 discount). The GHD is an up-to-date, easy-to-use reference that brings together all experimental and commercial herbicide compounds and the companies who discovered them with an overview of the world herbicide market segmented by major crops, countries, chemical class and discovery companies.

Available from Ag Chem Information Services, 6705 E. 71st Street, Indianapolis, IN 46220, USA. Phone (317) 845 0681, Fax (317) 841 1210.

Ricegrass the Video

Did you know that Port Sorell in Tasmania has Australia's second largest infestation of ricegrass (*Spartina anglica*)? You can see the extent of the problem on video rather than wade through waist deep mud, thanks to the Rubicon Coast and Landcare group. The video shows how ricegrass can be controlled through the slashing-smothering techniques developed by the group in conjunction with the Department of Primary Industry and Fisheries.

The 14 min video (\$29.95 including postage) is available from Rubicon Coast and Landcare Inc., PO Box 48, Port Sorell, Tasmania 7307 (Phone Julia Butler on 03 6428 6072).

Landcare Notes: Pest Plants and Pest Animals on CD-Rom

This CD-ROM contains all currently available Landcare Notes on Pest Plants and Animals from the Keith Turnbull Research Institute (KTRI), Victoria. It

includes 38 pest animal notes and 36 pest plant notes. The notes on Victoria's State Prohibited Weeds (14 in all) are produced as an awareness tool with emphasis on weed identification and provide no information on control. All the files contain a black and white graphic of the weed. Regionally Prohibited and Controlled Weeds (22 in all) have similar notes but also have detailed information on weed control.

The CD-ROM can be ordered from KTRI, PO Box 48, Frankston Vic 3199 for \$50 (includes postage). Enquiries to Ross Williamson - phone 03 9785 0111 or fax 03 9785 2007.



10th European Weed Research Society Symposium

Poznan, Poland, 22-26 June 1997. Enquiries from Prof K. Adamczewski, Institute of Plant Protection, ul Miczurina 20, PL-60-318 Poznan, Poland.

50th New Zealand Plant Protection Conference

'Plant Protection in a Green Oasis: The Next 50 Years' - Lincoln University, Canterbury, New Zealand, 18-21 August 1997, hosted by the NZ Plant Protection Society.

This Conference will highlight critical issues and options for NZ's primary industries, natural estate and environment, as they look to provide research that ensures a viable and successful future within the global community. It is the continuation of what was known as the NZ Weed and Pest Control Society Conference and has a prestigious history for the presentation of quality research information. Some of the relevant themes of the conference include measuring sustainability in

agricultural systems, emerging technologies in plant protection, non-target effects of biological control introductions and pesticides, genetics in pest management, and current plant protection research.

Registration cost is \$195 and accommodation \$60 per night. A copy of the conference details is available from the Editor of *A Good Weed* or from Jan Latham, NZPPSoc Secretariat, Centre for Continuing Education, PO Box 84, Lincoln University, Canterbury, NZ. Phone +64 3 325 2811 extn 8604, Fax +64 3 325 3840, Email: lathamj@lincoln.ac.nz

Sixteenth Asian Pacific Weed Science Society Conference

September 1997, Kuala Lumpur. The conference is expected to deliberate on pertinent issues in weed science such as: optimal inputs for sustainable agriculture, maximisation of yield and quality of food and fibres; increased labour efficiency in weed management; judicious use of herbicides and environmental conservation.

All enquiries and correspondence to: Dr Baki Hj. Bakar, Organising Secretary, The 16th APWSS Conference, 1977, C/- Botany Department, University of Malaya, 59100 Kuala Lumpur. Phone 603 7594351, Fax 603 7594178, Email: baki@botany.um.edu.my

12th Australian Weeds Conference

At the 11th Conference in Melbourne recently, the Council of Australian Weed Science Societies (CAWSS) delegates voted unanimously to accept the bid from the Tasmanian Weed Society Inc. to host the next Australian Weeds Conference. So mark in your diary that you will be at Wrest Point Convention Centre in Hobart on 12-16 September 1999 (a little way off yet!). The theme of the conference is 'Weed Management into the 21st Century: Looking Back and Looking Forward'.

A Good Weed

the NEWSLETTER of
The Weed Society of New South Wales
PO Box 438
WAHROONGA NSW 2076

Print Post Approved
PP247134/00010

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The Weed Society acknowledges the generous support of DowElanco Aust Ltd, Frenchs Forest, and Eagle Environmental Services, Lidcombe, for their sponsorship of *A Good Weed*.