

Weed Society of Victoria Weeds Biennial Conference Bendigo, 20–21 August 2003

The aim of this series of conferences is to provide weed managers in Victoria, who would not normally be able to attend the Australian Weeds Conference, with a venue where weed issues relevant to Victorian conditions can be discussed. This event will be held every two years and is destined to become a major WSV initiative.

The format of the conference will be based on invited presentations from key speakers who will provide a basic introduction to a topic. Conference delegates will then be able to discuss the topic under the leadership of the session Chairman. Delegates may bring posters of their own work for display and discussion.

A draft program can be found on page 5.

WSV Executive Committee 2003

President	Richard Denver, Viperware Environmental Software Solutions
Secretary	Ros Shepherd, Hollis Enterprises
Treasurer	Norm Stone, Bayer CropScience
Newsletter Editor	Bob Richardson, R.G. and F.J. Richardson – Publishers
Committee members	Kelly Raymond, Parks Victoria Greg Wells, Dow AgroSciences Michael Hansford, Department of Primary Industries Chris Knight, Land Management Systems
Co-opted members	Ian Lane, Barongarook Weed and Vermin Control Pty Ltd Ian Faithfull, Department of Primary Industries John Ashby, Bayer CropScience Peter Alexander, Teejet Spray Australia Pty Ltd
Country Representatives	Les Mitchell Agrisearch Pty Ltd Phillip Watkins, I.K. Caldwell and Co. Ron Davies, Bendigo Regional Institute of TAFE

New WSV President elected



Richard Denver was elected president of the Weed Society of Victoria at the AGM on 20 February. Richard is the proprietor of Viperware Environmental Software Solutions. An appreciation of the problems of managing weeds led him to develop software to simplify the management process. Weed Manager 2002, the latest release of the software, provides mapping, imaging, planning, record keeping and reporting modules.

Richard has also established the Weed Manager website (www.weedmanager.net) which features the Weed Manager forum, a discussion group where weed issues can be discussed and opinions sought, and a weed image library of over 1000 weed images.

Near East weed scientists form Society

Near east regional weed scientists have formed the Near East Weed Science Society (NEWSS) – based on the now defunct Near East working group for improved weed management – to support and activate national and regional programs for improved, more effective weed management, and to do so through a variety of channels.

The group selected B.E. Abu Irmaileh, a highly experienced weed research specialist with extensive knowledge of the area's weed problems, as its first chairman.

Other aims of NEWSS include initiating appropriate weed management projects, organizing periodic meetings and training courses, and providing contemporary information to society members. Plans call for applying for membership in the International Weed Science Society.

B.E. Abu Irmaileh,
University of Jordan
IPM Net

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Annual Weed Society of Victoria Prizes awarded

Marlene Carlos writes 'I would like to sincerely thank you for giving me the opportunity to participate in the annual Weed Society Prize, for the best Plant Collection. I was quite shocked when I received the letter saying that I had won the prize, as people are not often awarded for things they enjoy!

I live in Croydon, in the outer eastern suburbs of Melbourne, which is a good four-hour drive from Glenormiston. I spend all my money on petrol to get home to see my family and my horse on the weekends. I have loved nature and animals (especially horses) all my life and they were my only passion when I left school, which led me to study at Glenormiston.

At the moment, I am studying Horse Management and have one year left to go on my Diploma. I have always had a strong interest in the equine industry and hope to someday own and manage my own equine enterprise. I am a strong believer in following your dreams, and that is exactly what I am doing.

Horse Pasture Production was a major subject in semester two of my course, and a large part of this subject was based on our plant and weed identification project. I thoroughly enjoyed this part of my course and actually had quite a bit of fun putting my plant collection together!

I feel I learnt a considerable amount from this subject, including information about plants in relation to horse's nutrition, as well as which plants can be lethal to horses, or a pest in the pastures. I feel this will be extremely valuable to me in the future. The project had such an impact on myself and some of my fellow students, that we hear ourselves mentally identifying weeds and grasses wherever we go! It is quite amusing!

Peter Fleming, a second year student at the Dookie College is also a winner of



Marlene Carlos

the Weed Society of Victoria Prize. Peter produced an excellent pressed weed collection as an assignment for the Advanced Diploma of Agriculture subject *Integrated Pest and Weed Management*.

'I enjoyed doing the Weed Collection assignment,' says Peter. 'I thoroughly recommend it to all students as it increases awareness of the range of weed families and their significance to agriculture.'

'Students became aware that the weed status of a particular plant species depends on the part of the state it came from,' says Peter. 'For example, *paspalum* in some situations is regarded as a forage species, while in others it is regarded as a weed. I found that stock holding sites provided a diverse range of weed species, this indicates that stock are major offenders in the spread of weeds.'

'I would like to thank the Weed Society of Victoria for supporting student achievement in the field of weed science,' says Peter. 'I look forward to receiving the certificate and two weed reference books at Dookie's Graduation Ceremony in March.'

During the summer break Peter has been working for a fertilizer company monitoring crop trial sites in the Horsham district and has his sights set on a career in agribusiness or cereal crop agronomy, and may consider further study in the Bachelor of Agriculture course starting 2004.

The other weed prize has been awarded to Raymond Dempsey, a graduate from Burnley College, Advanced Diploma in Horticulture.

Drought hits biocontrol in Australia

Successfully establishing biological control organisms is difficult under most circumstances, but a recent instance from Australia illustrates how adverse or extreme environmental conditions can amplify the challenge. The current drought afflicting much of this island nation has caused the moths, weevils, and beetles enlisted in a battle against invasive weeds to loose ground, according to a report from CSIRO.

One of the worst pest plants in Australia is *Chrysanthemoides monilifera* ssp. *rotundata* (bitou bush), a native of southern Africa that thrives in a coastal environment and restricts access to beaches and destroys native shrubbery. In Australia, bitou bush has invaded and become established on hundreds of kilometres along the NSW coast. Australia now conducts a massive biocontrol program against bitou.

According to CSIRO entomologist A. Swirepik, 'Bitou along the coast is being affected by the dry conditions and this affects the biocontrol agents that attack it', such as the leaf-rolling moth *Tortrix*, which has not established as well as predicted in the two years since it was initially released.

'The leaves of bitou bush become tough and lose nutritional value', notes Swirepik, and this makes it very difficult for the young *Tortrix* larvae to find a niche amongst the growth tips. Extremely dry weather has also caused ants and spiders to look for alternatives to the now scarcer insects they usually consume. As a result the leaf-rolling larvae introduced to attack bitou instead became a feast for hungry ants and spiders.

However, arrival of rain could lead to another generation of the leaf-roller which, Swirepik says, 'will really boost their numbers'. But, 'if the rain comes later when it is too cool for the larvae to develop quickly, bitou will get a head start for the following summer'. He believes that once the leaf-rolling moth establishes it will dramatically reduce bitou bush growth and complement other biocontrol agents attacking seed production and plant biomass. 'It's two steps forward, one step back with this weed, but we're confident we'll eventually get the upper hand'.

CSIRO Entomology

MEMBERSHIP RATES

Weed Society of Victoria Inc.



Students	\$20.00
Ordinary	\$40.00
Corporate	\$100.00

 **Dow AgroSciences**

President's Report 2002/2003

I would like to thank the committee for their work over the past twelve months especially Norm and Ros who have again carried out their important roles as secretary and Treasurer. This year David McKenzie, El Bruzzese and Jack Craw are resigning from the committee. El after four years as a committee member and David after four years as Vice president, Jack has spent his three years in Australia on the committee and is going back to New Zealand. I thank you all for your contributions. Thankyou David for stepping into the chair for me on several occasions.

Activities The Committee met seven times during the year including the AGM and one phone hook up.

Events during the year were the Stipoid Day held before the last AGM which 140 people attended and a Weed Alert Day held in October which was attended by 90 people.

Plans for a pasture weeds day in Shepparton have had to be shelved for a year. The drought and no irrigation water for most of the dairy farmers in the district made the day not feasible this year. I would like to thank Les Mitchell and his helpers for their planning for this event.

Plans have progressed slowly towards our two day seminar in August. It is hoped that the event will provide people with information they are seeking and

provide an opportunity for weeds people who may not get the opportunity to attend the National weeds conference to network with other weeds people facing similar problems to themselves.

The 13th Australian Weeds Conference was held in Perth in September and the Council of Australian Weed Science Societies (CAWSS) met during the duration of the conference. David McKenzie Greg Wells and myself attended this meeting. A Strategic plan which has been developed over the past three years was adopted, and it was voted that the current triennial conference become a biennial conference. The next National conference will be held in Wagga Wagga in September 2004.

Awards Certificates and book prizes have been awarded to Marlene Carlos, Advanced Diploma in Horse Management, Glenormiston; Peter Fleming, Advanced Diploma in Agriculture, Dookie; Raymond Dempsey, Plant Protection Advanced Diploma in Horticulture, Burnley.

The WSV weed scientist travel award was granted to Kathryn Hollaway to attend the National Conference in Perth, her report appeared in the sixth issue of Weedscape.

Weedscape I would like to thank Rob and Fiona Richardson for their efforts in putting together Weedscape which is the

main networking vehicle for many of our members. Thank you to those who chased up sponsorship and our sponsors, this should help towards improving our newsletter. I would like to take this opportunity to encourage members to submit articles as it is nice to get reports on things happening locally as well as further afield, remember this is your newsletter.

Herbarium In 2000 the weed society together with a grant from NRE contributed to a project to database the introduced species in the Victorian herbarium. This work was started by Ros Shepherd and Kelly Raymond and was completed by Ros in December last year with a total of 12516 database entries and 18046 edits to entries. This represents 1160 species in 115 families. I would like to thank Kelly and Ros for their work and DNRE for their contribution to the project.

Lastly I would like to thank all those who have helped me in my role as president over the past two years. I would like to encourage members to become more involved in the society whether it be a newsletter article, ideas for events or helping with the organization of events. Every contribution helps the committee provide the services that you the members want from your society.

Wendy Bedggood

Highest honour in Dookie's 126 year history

It was a proud moment at the Dookie campus graduation ceremony when a Doctorate of Philosophy (Ph.D.) was conferred for the first time in the 126 year history of the Campus.

Dr. Bob Richardson, Dean of the University of Melbourne's Institute of Land and Food Resources, awarded the Doctorate of Philosophy to Dr. Ken Young for his research work on the germination and emergence of wild radish.

Dr. Young's achievement testifies to the high level of research associated with the Dookie campus and the standard of teaching provided to students. He is the Lecturer in Crop Production, teaching in the Bachelor of Agriculture and Advanced Diploma of Agriculture programs.

The nature of Dr. Young's research is vital for the Australian grains industry as wild radish is one of the five major weeds of the Australian wheat belt, causing both yield loss and grain contamination. Grain loads with more than six per cent

contamination are rejected at silos and rendered uncommercial.

This contamination problem can also cause the death of cereal and lupin grains when stored with green wild radish seed and there have been cases reported of stock losses where there are heavy infestations of wild radish. Wild radish also acts as a host to diseases and pests of canola.

Over the past three years Dr. Young, in conjunction with the Weeds Cooperative Research Centre, has developed predictive weed emergent models for the southern wheat belt. These models have closely predicted the emergence of wild radish in different climatic and environmental conditions including sites in Western Australia, South Australia, Victoria and New South Wales.

Dr. Young's research on weed biology, weed management, seed ecology and seed bank emergence is an important facet in ensuring weed problems are managed with a long term view – that is managing

the seed population. He has been able to predict germination and emergence of wild radish by understanding the seeds' response to temperature, soil moisture, and light. Understanding weed seeds response to environmental cues allows for the integration of different management techniques apart from herbicides. Where there has been an early autumn break Dr. Young has shown that wild radish can be stimulated to germinate through cultivation.

'In plots cultivated in mid May, radish emergence was over by mid June allowing time for follow up control methods without reducing yield by late sowing, while for uncultivated plots emergence continued through until September', said Dr. Young. 'At the end of the season only 20% of the seed burden remained in the cultivated plots where 50% of the seed burden remained in the uncultivated plots.'

**Land and Food
Summer 02/03**

DRAFT PROGRAM

20 August **SESSION 1. *Environmental Weed Management***

09.00–09.45 Management plans: The importance of weed management plans to the outcomes of weed management procedures, what are the benefits and costs of preparing management plans, what should be included in management plans, how do management plans operate over time.

09.45–10.30 Mapping: How weed mapping and maps can increase the precision of weed control, how are maps incorporated in weed management plans. What are the basic procedures for mapping weeds both at low tech and high tech levels?

10.30–11.00 MORNING TEA

11.00–11.45 Records: The role of record keeping in the assessment of weed control procedures, what is their importance in attracting funding, how do trends identified feed back into management plans. Herbicide resistance implications and legal liability implications. Can the future be predicted? Speakers: Jim Backholer.

11.45–12.30 Funding issues: How to go about obtaining funding for environmental weed management, what is the importance of record keeping in attracting funding, what are funding bodies looking for?

12.30–13.30 LUNCH

SESSION 2. *New weed incursions*

13.30–14.15 Weed identification: Basic principles of weed identification, what tools are available e.g. floras, pictorial references, types of keys and how they operate. Weed identification software e.g. Lucid based software, other resources such as herbaria, field naturalists, DSE staff.

14.15–15.00 What weeds are there?: Weed alert system, performance. Preliminary results. What the system can achieve. Basic principle of weed invasions, how do they get into the country/region. Basic methods of spread, classes of weeds e.g. sleeper weeds, naturalized, adventive.

15.00–15.30 AFTERNOON TEA

15.30–16.15 Prediction: What plants are likely to become weeds in the future, how can we predict this on a local, regional or national scale. What are the attributes that make a plant weedy?

16.15–17.00 Panel discussion.

21 August **SESSION 3. *Weed control technologies***

09.00–09.45 Mechanical: including cultivation, heat (flame, microwave, steam, solarization), slashing, mulches.

09.45–10.30 Cultural: competition and how this can be managed, grazing management.

10.30–11.00 MORNING TEA

11.00–11.45 Herbicide: new treatment options, formulation technology, herbicide resistance, new application methods, how to get the best out of herbicides (conditions, adjuvants), legislation related to use of herbicides.

11.45–12.30 Standards: what can and can't be done, responsible use of herbicides. Herbicide formulations: importance of herbicide formulations, use of adjuvants, contract formulation work. Application in problem areas: environmental/riparian weeds, amenity areas, pasture weeds.

12.30–13.30 LUNCH

SESSION 4. *Integrated Weed Management*

13.30–14.15 Underlying principles: ecological basis and reasons consequences of actions.

14.15–15.00 Case studies: blackberry, horehound, serrated tussock.

15.00–15.30 AFTERNOON TEA

15.30–16.15 Role of the CRC of Australian Weed Management: its functions and projects.

16.15–17.00 Economics: advantages and economic benefits of IWM, best management practices, e.g. serrated tussock using IWM principles.

Device conserves herbicide

To eliminate unnecessary application of herbicide between crop rows, in vineyards, in orchards, and other settings where weeds occur intermittently, a patented device mounted on a sprayer senses when a weed plant is present and signals a valve cartridge/spray nozzle to deliver a precise amount of herbicide and then immediately shut off.

The compact enclosed sensor units, main controller and valve cartridges are marketed together as WeedSeeker.

The sensors employ advanced optics and utilize computer circuitry in the controller 'to see' weeds within a 30.5 cm field of view. WeedSeeker sensors can be placed under sprayhoods for use in close proximity to crop plants, or ganged along a single boom to cover multiple rows in a single pass. Other configurations are available. Electric power, supplied by a battery, is used to operate the system.

For more information contact:

Patchen Inc., 740 S. State Street, Ukiah, CA 95482, USA, phone: +1 707 467 3747, fax: +1 707 467 3750, web: <http://www.weedseeker.com>.

EUREKA! AgResearch Pty. Ltd.



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Rice and weeds: the coming crisis

Burgeoning demand for rice is on a collision course with intensifying competition for water, adding up to an approaching crisis for traditional flooded paddy rice culture and a challenge to revamp pest management strategies, according to information from the International Rice Research Institute (IRRI).

About 55 percent of Asia's rice areas are flooded and account for 75 percent of total production. Approximately 5,000 litres of water are needed to produce one kilogram of flooded paddy rice. The main reason over the centuries that rice has been grown in flooded conditions is not irrigation alone, but effective weed control—gained without use of additional inputs.

Traditional rice plants have unique internal air spaces in their leaves and stems that channel oxygen to their roots, allowing them to thrive in saturated (flooded) soils that are very low in oxygen which is vital for cell growth. Weed plants lack this capacity, struggle to germinate, and usually fail to survive. Switching to non-flood adapted, or 'aerobic' rice varieties could force farmers into using alternative weed management practices, very likely involving herbicides.

Upland, non-flooded rice can be grown with minimal irrigation, but yields tend to be lower than paddy rice. IRRI scientists and others are racing to develop new aerobic rice varieties that combine a suite of characteristics that confer them with high production capability under non-flood irrigation, resistance to fungal diseases, and greater resistance to weed competition or compatibility with revised weed management techniques.

B.A. Bouman, IRRI
IPM net

Weeds CEO calls for levy on olives

Olive growers should pay a levy that reflects the cost to the community of dealing with feral olives, according to the Director of the Cooperative Centre for Australian Weed Management, Dr. Rick Roush.

Speaking two weeks before his departure to the USA to take up the role of Director of the University of California's Integrated Pest Management Program, Dr. Roush said it was time that industries which continued to spread invasive plant species acknowledged the high public and environmental cost. Many thousands of dollars are spent each year in South Australia on olive control alone by public authorities and landowners who never planted an olive tree in their lives.

'Despite the fact that the olive problem in the Adelaide Hills is mostly 19th century stock gone feral', Dr. Roush said, 'the varieties of olive now being planted by the hectare across southern Australia would have a hard time passing the feral risk test. It is a high risk species that loves jumping the fence.' At present growers are obliged to manage their plantations to minimize the chance of olives spreading off property. Local government is supposed to enforce this control. 'That is already quite an ask, seeing that olives are mostly spread by birds', said Dr. Roush.

Dr. Roush said that the market for olive products also compounds this risk. A downturn in price or demand, which has already been predicted by some observers, will leave many growers unwilling or unable to manage their groves in ways that minimize seed spread. 'There is a principle involved here. Weeds cost the Australian economy approximately \$4 billion every year, and the figure is growing. And that doesn't include the effort and money that governments and community put into 'environmental weeds', those that invade bushland.'

This is a greater cost to Australia per year than the combined figure for salinity, soil sodicity and soil acidity, he said. 'Those individuals and industries that plant invasive species like olives should be made to meet the cost of preventing its spread. It's the polluter pays principle. It's simply no longer acceptable to generate huge problems for future generations in pursuit of profit now.'

Addressing the February meeting of the Weed Management Society of South Australia Inc., Dr. Roush also criticized the SA State Government for lagging behind the rest of Australia in providing support for weed research. Given that the cost to SA agriculture alone is at least \$650 million, the equivalent of a single position allocated to weed research is 'completely inadequate', he said.

Success in weed control research can bring benefit:cost returns as high as 100:1, Dr. Roush said, with long-term solutions bringing great economic benefits for our children and future South Australians. Biocontrol techniques offer particularly cost-effective solutions.

'I am confident that we have identified a solution to bridal creeper, for example, and that other successes are achievable. But we must lift investment in this research if our children and their children are to experience the same natural Australian landscape that current South Australians were lucky enough to grow up in.'

'Make no mistake. We are in a race for control of the landscape with invasive plants. They have time on their side, but we have research. We must equip ourselves and invest in our future if we hope to turn the feral tide.'

**Weed Management Society of South
Australia Inc.**

WSSV HOME PAGE: <http://www.vicnet.net.au/~weedsoc/>

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