



Weedscene

Volume 14 Issue 5

Newsletter of the Weed Society of Victoria Inc.

September 2003

ACN: A0011723W ABN: 15 496 325 152 Print Post Approved – Publication Number 310279/00029

First Biennial Conference a Great Success



The Weed Society of Victoria presented its First Biennial Conference on the theme 'Developments in Weed Management' on the 20–21 August 2003 at the All Seasons International Hotel, Bendigo.

The aim of this conference, and the planned series, was 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.

The two day conference was a great success for the Society and is an excellent start to a series of conferences that are destined to become an important part of the weed information flow in Victoria. It attracted 170 speakers and delegates for the two days. Most were from Victoria, but a significant number attended from South Australia, Tasmania, New South Wales and even Queensland. Its success was enhanced by sponsorship from Dow AgroSciences and Bayer CropScience.

The conference was divided into four sessions. The session on environmental weed management examined the basics of environmental weed management including the development of weed management plans, the importance of mapping and the necessity of record keeping. New weed incursions looked at weed identification, vital in discovering

new weed invasions, what weeds are there and how we can discover new weeds. Weed control technologies, central to weed management, looked at the advantages and drawbacks of the available weed control techniques. The last session, Integrated Weed Management examined the underlying principles of integrated weed management and how IWM can enable more efficient and sustainable weed control.

There were displays of environmental weeds provided by Kate Blood, trade and book displays and a variety of posters provided by delegates. The All Seasons International Hotel provided a great venue and very helpful, supportive staff.

Delegates responses: 'I thought the conference was excellent and it was a credit to those who organised it. I was most impressed. Thanks.' Brett Hudd, City of Moreland.

'Congrats on the organisation of the conference! It was very much appreciated!' Jim Backholer, DPI Frankston.

'It was a great conference. I really enjoyed it'. Philip Reddy, Riverland Animal and Plant Control Board, SA.

Copies of the proceedings are available from R.G. and F.J. Richardson, tel/fax 03 5286 1533 or email richardson@weedinfo.com.au for \$25 per copy incl. postage.

Christmas Cruise 12 December 2003



Departs Station Pier, Port Melbourne at 7.00 pm for a two hour cruise of Hobsons Bay and the Yarra River

It's not weeds for once!! Join with other members and friends of the Weed Society of Victoria for a Christmas Cruise.

Price \$35 per head including food. Bring your own drinks. Family and friends welcome. Places limited so BOOK EARLY!

For bookings or for further information please contact The Secretary, Weed Society of Victoria, PO Box 987, Frankston 3199. Telephone/fax 9576 2949.

In this issue...

First Biennial Conference a Great Success	1
Christmas Cruise	1
Nozzle Selection for Drift Control without Loss of Efficacy	2
What's New in Cropping Systems	3
14th Australian Weeds Conference	3
First Release of GM Canola Approved	3
Environmental weed control – practices + principles	3
When Backyard Beauties Become Bushland Bullies	4
Statistics Paint a Varied Picture	4
WSV Directory	4

Nozzle Selection for Drift Control without Loss of Efficacy

Herbicide performance is highly dependent on correct application methods and equipment. Since economic and environmental concerns have made the selection of pesticide application equipment more important than ever, the correct selection and operation of nozzles is one of the first steps in accurate spray application.

There is an increasing challenge to the traditional nozzle designs by new designs offering improved performance, spray drift control and efficiency. Most of the new nozzle designs have been developed to produce larger droplets (to reduce drift) and offer improved 'useability' such as wear reduction, blockage prevention, ease of changing and wider operating pressure ranges.

These advances in spray nozzle technology have paid off in a wide array of nozzles that deliver optimum efficacy while minimising the potential for spray drift. However very little data exists to substantiate the bioefficacy of these new designs under Australian conditions.

EUREKA! AgResearch (Vic) Pty Ltd was commissioned by TeeJet, Crop-lands and Nufarm to conduct a series of laboratory trials to investigate the effect of nozzle selection on bioefficacy of a contact and systemic herbicide on annual ryegrass and canola.

Methods

The aim of the trial was to compare the bioefficacy of Roundup MaxG5 (Glyphosate 510 g/L) and Nuquat 250® (Paraquat 250 g/L) when applied through three nozzle types at two different pressures. Three rates of each herbicide were applied to annual ryegrass and canola.

The concentrations of herbicides applied were approximately 100%, 50% and 25% of minimum recommended label rates for 65 L/ha applications and 70%, 35% and 18% for 91 L/ha applications.

Herbicide formulations were applied using an enclosed laboratory track-sprayer. The flat fan nozzles selected included the 'industry standard' Extended Range (XR), the pre-orifice Turbo TeeJet (TT) and the venturi-type Air Induction (AI) nozzle.

Spray pressures and application volumes were based on typical usages and provided a comparison between fine, medium, coarse, very coarse and extremely coarse droplet spectra emitted, as defined by the British Crop Protection Council and ASAE.

Results

Initial results did not support the accepted industry maxim of small drops, better coverage and therefore better control. The XR nozzle producing fine droplets resulted in lower bioefficacy for the contact herbicide on grass and broadleaf species. There was no significant difference in bioefficacy when applying the systemic herbicide with any of these three nozzles.

The application volume also resulted in apparent reversals of the accepted industry maxim of increased volume, increased coverage and therefore better control. However, it is important to note that the herbicide concentrations were below label recommendations and at the higher spray volume (4 bar, 91 L/ha) the extra dilution resulted in reduced herbicidal activity.

Additional trial

An additional trial was conducted to investigate this dilution effect.

The two herbicides were applied at minimum label rates with the addition of 0.1% Chemwet. Low pressure (2 bar, 65 L/ha) and high-pressure (4 bar, 91 L/ha) applications differed in the total volume of spray mixture and therefore the amount of herbicide applied per hectare.

The results of this trial did show increased bioefficacy with increased application rates, confirming that the results of the initial trial were effected by concentration of herbicides in the spray mixtures.

However, once again the XR producing fine droplets was the least effective when applying the contact herbicide. There was no significant difference in bioefficacy when applying the systemic herbicide through any of the three nozzles.

In both trials the results indicate that bioefficacy is not improved through the use of fine droplets. In fact, when applying the contact herbicide the XR nozzle

was the least effective of the three nozzle types tested. When applying the systemic herbicide, there was no significant difference in bioefficacy when applying with any of the three nozzle types.

The results from these laboratory-based trials suggest that improvements in spray drift control can be achieved without loss of bioefficacy under conditions regularly encountered in Australian agriculture.

North American research results

Researchers in Canada and the United States have reported similar findings. These include Brian Storozynsky, a researcher from the Alberta Ag Technology Centre who has recently completed an extensive five-year efficacy study looking at nozzle selection (including the XR, TT and a venturi-type AI equivalent). He found very little difference between the bioefficacy of all three nozzle systems.

Bob Wolf at Kansas State University found that in terms of efficacy of both contact and systemic herbicides, venturi type nozzles usually perform as well, if not better than nozzles producing smaller droplets.

Finally Tom Wolf, research scientist with Agriculture and Agrifood Canada states "If you use the tips (nozzles) correctly, efficacy definitely holds up, so I would not hesitate to recommend an air-induced or low-drift tip..."

Whilst the XR is an effective all-round performer, drift reduction nozzles such as the TT and AI when used correctly can provide spray drift control without apparent loss of bioefficacy.

For more information

Complete trial results are available from Crop-lands and TeeJet Australasia. Overseas research results can be found at www.agriculture.com/cgi/insider.

EUREKA! AgResearch Pty. Ltd.



For further
information about
EUREKA!
contact:

Anthony Flynn
03 9742 0286

Philip Pentland
03 9742 0302

Kieran Murphy
04 9742 0289

What's New in Cropping Systems – Seminar

A seminar to be run by the Weed Society of Victoria on 20 February 2004, at Department of Primary Industries, Horsham.

Topics to include:

- Trends in herbicide formulation development
- New application techniques/nozzles
- On-farm demonstrations for integrated weed management
- Problems of regulation of GM canola
- Problems with breeding GM products, and what is the market for such products
- Legal obligations and the latest legislation for the user
- The ecology of common heliotrope in a dryland Mediterranean cropping system
- Competition between weeds/crops.

Bring in your weed specimens for an informal identification workshop after the formal speakers.

If you are interested in receiving further information please contact the Secretary, WSV, PO Box 987, Frankston 3199. Telephone/fax 03 9576 2949.

NOTE: The WSV AGM will be held during the seminar – new committee members are still needed. More details in the next issue of Weedscape.

First Release of GM Canola Approved

The Gene Technology Regulator, Dr Sue Meek, has approved a licence for the commercial release of Bayer CropScience's In-Vigor genetically modified (GM) canola.

InVigor canola has been genetically modified to contain two new characteristics – a hybrid breeding system and tolerance to the herbicide, glufosinate ammonium. It will be the second GM crop to be approved for commercial release in Australia, the first being GM cottonseed.

Dr Meek said that her powers under the Gene Technology Act were limited to health, safety and environment issues, and concerns about the economic impact of genetically modified crops were the domain of industry and State governments.

For full information go to the Office of the Gene Technology website at <http://www.ogtr.gov.au>.

Enviroinfo 8 August 2003



14th Australian Weeds Conference 6–9 September 2004

The Council of Australian Weed Science Societies is a national representative body for weed societies. CAWSS holds a major conference every two years, with the 14th Conference to be held in September 2004.

This conference is being hosted by the Weed Society of New South Wales on behalf of CAWSS and will be held in Wagga Wagga, in the heart of the Riverina. The theme for the conference is 'Weed Management: balancing people, planet, profit'. The conference continues on from presentations at the previous Australian Weeds Conference held in Perth in 2002, which over 400 delegates attended. The theme of the next conference will continue to explore weed management issues from production and environmental considerations through to the social and economic impacts.

These conferences are an ideal opportunity to meet industry representatives, leading scientists and fellow colleagues. There are many opportunities to build networks, learn about some of the latest research findings and to pass on your own research findings and experiences.

The venue

Charles Sturt University is situated at Wagga Wagga, the largest inland city in

New South Wales. The Murrumbidgee River runs through Wagga Wagga, a name derived from a local Wiradjuri Aboriginal word meaning 'place of many crows'. Halfway between Sydney and Melbourne and a few hours drive from Canberra, the city has a population of 58 200 and is surrounded by cropping, dairying, mixed farming and grazing enterprises and is close to irrigation, horticulture and forestry industries and national parks. The campus of Charles Sturt University consists of more than 640 hectares of Australian farming and bushland and is only five minutes from the city centre. The university adjoins NSW Agriculture's (the State Agricultural Department) Wagga Wagga Agricultural Institute which is positioned on 1000 hectares of farming land. There are also many local activities for partners and delegates. Many of these attractions can be viewed at the Wagga Wagga Tourism Information website. www.tourismwagga.com.au

I hope you will consider attending or even present a paper at this conference.

For more information, either visit the website at <http://www.csu.edu.au/special/weedsconference/> or contact the conference secretariat by telephone on 02 6933 4974 or email eventsww@csu.edu.au

Environmental weed control – practices + principles Saturday 11 October 2003, 9.30–16.30

Organised by Greening Australia Victoria this day will examine the fundamental principles and practices for successful weed control projects.

The presenter will be Adam Muyt, author of the book 'Bush Invaders of South-East Australia' which will be available for purchase on the day. Please bring any weeds along for Adam to identify. The venue is The Briars Historic Park, Nepean Hwy, Mt. Martha, Melways Reference Map 145 F12. Cost: \$170.00 including GST, \$44.00 concession, which includes morning and afternoon teas and lunch. Places are limited – please book early!

If you have much experience with weed removal but limited experience in weed management then you should consider attending this event. Take the opportunity to ask questions from one of

Australia's leading weed experts! The aim of the day is to outline the fundamental principles and practices for successful weed control projects.

To register please contact Benita de Vincentiis at Greening Australia on email bdevincentiis@gavic.org.au or phone 03 9450 5321.

Weed Society of Victoria Inc.



MEMBERSHIP RATES

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

When Backyard Beauties Become Bushland Bullies

The news that Queensland's Land Protection Act has, for the first time in history, prohibited the sale of 20 environmental weed species, has been welcomed by the Cooperative Research Centre for Australian Weed Management (Weeds CRC).

'What most people don't realise', said Weeds CRC CEO, Dr Rachel McFadyen, 'is that 65 per cent of all invasive plants in Australia have escaped from parks and home gardens'.

From the 1st of November the sale of 20 'environmental weeds' which include lantana, Madeira vine, asparagus fern and cat's claw creeper, will be illegal, attracting fines of up to \$60 000.

Some 22 000 plant species have been brought to Australia over the last 200 years, and about 3000 of them have become weed problems.

You might love your Dutchman's pipe for its pretty flowers and ability to block out the neighbour's unsightly shed, but when it jumps the fence into nearby bushlands, it becomes an environmental nightmare, according to Dr McFadyen.

Its rapid growth, lack of natural predators and ability to grow up into the canopy and smother native plants, can have a dramatic and devastating affect on local flora and fauna, such as the Richmond birdwing butterfly. Once common, even in the streets of Brisbane, Richmond birdwings normally lay eggs only on native *Pararistolochia* vines. Most of these vines have disappeared with the clearing of coastal rainforests and remaining butterflies now mistake the ornamental Dutchman's pipe vine for a native *Pararistolochia* vine. Unfortunately, when the young caterpillars hatch from their eggs and begin eating the introduced vine they are killed by toxins in the plant. A recovery plan is currently underway to save the birdwing, which obviously involves removing this poisonous vine from the butterflies' habitat.

'Unfortunately, invasive plants do not respect fencelines and can spread great distances from your home garden', said Dr McFadyen. 'A prime example is lantana – a ubiquitous plant that every

coastal Queenslander is aware of'.

Lantana now covers 4 million hectares of Queensland; that's almost 33 times the area of metropolitan Brisbane. It's spread mostly by birds, which eat the lantana berries and then spread the seeds to new locations.

Weed can also spread from home garden via windblown seeds, in water runoff, by sticking to skin, fur or feathers, on shoes and vehicle tyres and by the dumping of garden waste in bushland.

The Weeds CRC urges all gardeners to do their bit to reduce the spread of weeds and support the Qld government in the introduction of some of the strongest and most consistent environmental weed legislation to be found in Australia.

For further information contact:

Dr Rachel McFadyen, CEO, CRC for Australian Weed Management, Tel 0409 263 817.

Peter Martin, Community Empowerment Program, CRC for Australian Weed Management Tel 08 8303 6693 or 0429 830 366.

Statistics Paint a Varied Picture

The most recent snapshot of environmental indicators by the Australian Bureau of Statistics shows an increased awareness of environmental pressures, although in many instances this awareness has not translated into improved practice in households.

Latest statistics show an increase in awareness of Landcare – up by 50 per cent from 20 per cent in 1991 to 70 per cent in 1997; an increase in Landcare participation between 1998 and 2001 of approximately 60 000 people and a corresponding increase in implementation of Landcare strategies.

Despite this increased awareness,

concern about land degradation has fallen by one-third, from 15.3 per cent to 10.2 per cent between 1992 and 1999.

Australia is still among the most wasteful nations in the world, ranking in the top 10 OECD nations to generate solid waste, with 21 million tonnes of waste being sent to landfill in 1996-97.

Households still dispose of hazardous waste inappropriately, with almost all batteries being put into household garbage bins, as were 71 per cent of garden chemicals. However, more than three-quarters of households undertook regular paper and glass recycling in 2000.

Plantations are becoming an

increasingly important source of wood, providing more than half of the total wood supply, despite only accounting for 1 per cent of forest area.

Only 12 per cent of Australia's forests are in conservation reserves, although the statistics show that the Regional Forest Agreements have added one million hectares of old growth forests to the conservation reserves.

Many of the statistics used for the report are based on past years, with more recent figures being scheduled for release later this year.

For further information go to <http://www.abs.gov.au>.

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

DIRECTORY – Weed Society of Victoria Inc.

Correspondence and Enquiries

Weed Society of Victoria Inc.
PO Box 987
FRANKSTON VIC 3199
Telephone (03) 9576 2949

Secretary

Ros Shepherd
PO Box 987
FRANKSTON VIC 3199
Telephone/Fax (03) 9576 2949
email: secwssv@surf.net.au

Weedscene

Bob Richardson
R.G. and F.J. Richardson
PO Box 42
MEREDITH VIC 3333
Telephone/Fax (03) 5286 1533
email: richardson@weedinfo.com.au

Sponsors: EUREKA! AgResearch Pty. Ltd. and Dow AgroSciences