A Good Weed

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

#34 March 2005

Xanthium occidentale Noogoora Burr, *X. orientale* Californian Burr *and X. spinosum* Bathurst Burr. Flora of New South Wales Volume 3 – 1992.

In This Issue

A Good Weed is Published by the Weed Society of New South Wales Inc., PO Box 438, Wahroonga, NSW, 2076.
Website: www.nswweedsoc.org.au
Secretary: Jim Swain, Phone 02 99801460 Fax 02 9980 1461
Material for the Newsletter should be sent to the Editor at the above address or to mikehood@agrisearch.com.au
Phone 02 9967 0920 Fax 02 9958 6091

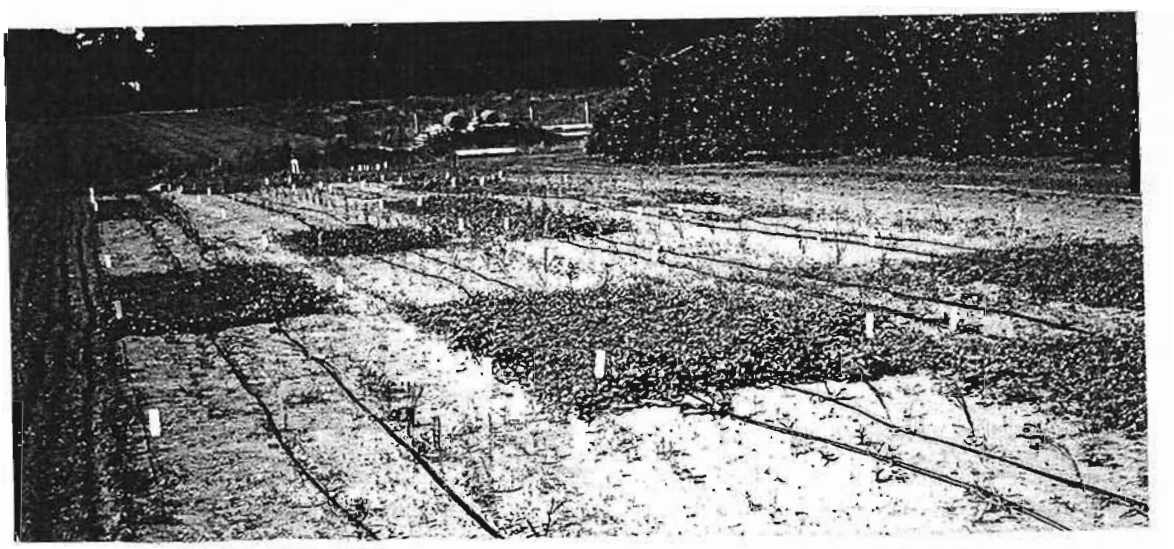
Office Bearers for 2004/05

President	Warwick Felton [Tamworth]
IPP	Bob Trounce [Orange]
Vice President	Stephen Johnson [Narrabri]
Secretary	Jim Swain [Sydney]
A/Secretary	Alan Murphy [Umina]
Treasurer	Alec Mclennan [Sydney]
Public Officer	Mike Barrett [Sydney]
Publicity Officer	John Cameron [Sydney]
Newsletter Editor	Mike Hood [Sydney]
Assistant NE	Lawrie Greenup [Sydney]
CAWS Delegates	John Cameron, Stephen Johnson
Committee	Peter Harper [Ingleburn], Mitch Michelmore [Goulburn], Peter Scott, Peter Dowling [Orange], Rex Stanton [Wagga], Bertie Hennecke [Richmond], Jim Dellow [Orange].

Committee meeting dates have been set as follows;

15 April – Pennant Hills
17 June – Katoomba
19 August – UWS Richmond
21 October – Pennant Hills
16 December – UWS Richmond
November [date to be set] – Wagga Wagga

All members are welcome at meetings; check with the Secretary for the final date, time and place as changes can be made to these arrangements.



Pre-emergent herbicide evaluation trial in ornamentals – Mangrove Mountain NSW 2003/4
[Agrisearch Services Pty. Ltd.]

New Members

We welcome the following new members;

Dr Paul Downey, Senior Project Officer (Weeds) and Bitou Bush/boneseed National co-ordinator, Pest Management Unit, Parks and Wildlife Division, NSW Department of Environment and Conservation, PO Box 1967 (43 Bridge Street), Hurstville, NSW 2220. Tel: +61 2 9585 6023; Fax: +61 2 9585 6544; Email: paul.downey@environment.nsw.gov.au Mobile: 0438 196 663.

Dr. Carol Gibson, 1380 Putty Valley Road, Putty. 2330. President – Three Valleys, Landcare Group. 02 98107 661 (Work) 02 98105881 (Fax) Email: knutz@bigpond.net.au

CAWS Annual Young Weed Scientist Travel Award

The Award will be made available annually, or less frequently depending on the standard of the application. Applications are invited from young weed scientists to attend national or international conferences or for specific overseas study tours of a short duration. The applications are to be submitted annually to CAWS by affiliated societies. The Young Weed Scientist Travel Award will be made by 1st July each year for the following 12 months. Applications must be to the Secretary/Treasurer of CAWS by 1st May each year. [Nomination form]

The Award will be made to undergraduates studying in the fields of agriculture, biology, ecology, horticulture and forestry or related subjects, who have a wish to continue their studies in weed science. It will also be made to young weed scientists who have recently (within five years of finishing their degree) commenced employment in any branch of weed science. The Award will be open to anyone residing in Australia, but members of Societies affiliated with CAWS may be given preference.

The Young Weed Scientist Travel Awards will be worth up to $2000 per annum. They are not expected to cover the total cost of the Conference or study tour being undertaken and it will therefore be necessary for an applicant to ensure that other funding is available. Applicants attending conferences will be expected to give a presentation at the conference and to submit an abstract of their paper with their application. On return the successful applicant will be expected to give a report to the nominating Society, either as a written report for the Newsletter or as part of a seminar, meeting or workshop conducted by that Society. It will be part of the successful applicant's duty to pass on as much information as possible to the nominating Society and it is the right of the Society to specify the format of the report. Applications are to be forwarded by 1st May each year to the appropriate Secretary/Treasurer of CAWS. CAWS Young Weed Scientist Travel Award application forms are available online or can be obtained from the Secretary of each Society .

WSNSW Travel Support Grant – Applications Invited

Your Society awards travel grants on a regular basis, usually for attendance at local or international conferences, but also for other weeds related purposes.

At the last committee meeting it was agreed that the name of the current Travel Study Grant would be changed to Travel Support Grant and that the value be increased to $2000.00 in total per annum.

Applications are now invited from Members of the WSNSW. Non-members are ineligible. One or more grants may be awarded each year to a total value of $2000.
Applications should be made in writing addressed to the Secretary and must be received by 1 June 2005. Normally funds are not awarded retrospectively but are for travel in the year commencing 1 July in the year of the award. Applicants will be advised of the success or otherwise of their applications after the first committee meeting following 1 June.

Applications should set out clearly the name, telephone and work address of the applicant, the intended use of the Award, the amount and source of other funds required for the travel, the

need for the funds from the Award and the amount of funds requested. Applicants should describe their current work and explain the relevance of the award to that work. Preference will be given to applicants who may not be able to make the travel without receipt of the Award funds.

In return for the Award the recipient will be expected to submit a written report to the Society for publication in A Good Weed and/or to give a presentation to the Society at an appropriate forum shortly after their return.

International Weed Science Society [IWSS] Newsletter

Those interested in keeping up with the events of the IWSS can access their newsletter on the web at www.olemiss.edu/orgs/iws/DEFAULT.HTM. The current president is Dr. Bernal Valverde from the Royal Veterinary & Agricultural University, Copenhagen, Denmark.

Personal Notes

Last year it was announced that **Nufarm** had been appointed to distribute and develop **BASF** products in Australia. This agreement covers plant protection products, excluding seed treatments, as well as pest control products. As a result, BASF Agricultural Products (AP) staff either transferred to Nufarm or Crop Care or sought opportunities elsewhere. **Neil Wilson,** Technical Manager, was the last of the redundancies to leave, and did so at the end of February 2005. BASF Australia Ltd still retains a small AP division to handle seed treatments, pest control products and to provide support to Nufarm. Hence any matters relating to BASF herbicides are now being handled by Nufarm and they are responsible for label extensions for current products and development of new products. Neil is a long term member and supporter of this Society. **Neil** has recently joined research consultants **Agrisearch Services** Pty. Ltd. to work in regulatory affairs consulting on a part time basis. He will be based in Sydney.

Your vice-president **Stephen Johnson** has accepted a position as a Strategy Planning Officer with NSW Department of Primary Industries based at head office in Orange. He will be moving from his research agronomist position in Narrabri in mid-March.

Some news from member **Clive Heywood Barker** (4782 3345). Clive collects and documents specimens of new weeds, either those new for a particular botanic sub-division or for the state of NSW. This is currently done his own time at his own expense, though he has had some funding in the past. This work is done for the CRC for Australian Weed Management in conjunction with John Hosking, but also for the greater good and so that interested people will have a better ability to find out what they are looking at in the future. Clive sometimes does weed mapping and he was working as a bush regenerator previously. He is an interpretive guide for the National Parks Service in the Blue Mountains and Mount Tomah Botanic Gardens and does fauna and flora survey work when it's available. Weed wise he is most interested in so called "environmental weeds", detection of new incursions, and education about these issues.

Daniel Joubert has been elected president of the Weed Society of Victoria Inc. Daniel works for the Department of Primary Industries, Catchment and Agricultural Services Division. The Secretary is **Ros Shepherd** and the Treasurer **Norm Stone** of Bayer CropScience.

Weed Society of NSW Prize – University of New England

The Weeds Society of NSW Prize for 2004 has been awarded to Mr. Murray Smith of PO Box 1539, Moree NSW 2400. The Award carries a prize of $100 and a years' membership of this Society. The prize is awarded by the University to the student who is judged by the Board of Studies in Rural Science and Agriculture to have distinguished himself or herself most in either AGRO 420, AGRO 422 or RUSC 490. Murray Smith is enrolled in a Bachelor of Agriculture and distinguished himself in AGRO 422 – Integrated Weed Management where he received a High Distinction. He also achieved another HD and 5 D passes for his studies in 2004. Congratulations Murray.

Minutes of the 201st Management Committee meeting

Edited minutes of the 201st Management Committee meeting held on Friday, 18th February 2005 at UWS, Richmond – School of Agriculture, commencing at 12.30 pm.

1. Present in person: Warwick Felton - President, J Swain - Secretary, A. Murphy, A.McLennan - Treasurer, Bob Trounce, L. Greenup, M.Hood, J. Dellow, P. Dowling, B. Hennecke and M. Barrett. **Present by telephone:** S. Johnson and M.Michelmore. **2. Apologies:** John Cameron, R. Stanton and P. Harper

3. Minutes of the last meeting – 17th December 2004: Accepted (M. Barrett/L. Greenup).

4. Matters arising

4.1 Newsletter The editors advised that a newsletter was distributed before Christmas. They requested that they receive editorial at least 2 weeks before the newsletter is published. A request was made to the editors to ensure that the sponsors received a complimentary copy.

4.2 Report from Society Review Committee M. Michelmore confirmed that he will provide a report to the April meeting.

4.3 Maintenance of membership records. There have been 3 changes since the last meeting and 1 new member.

4.4 Proposal re hosting the 2009 Asia Pacific Weeds Conference. A letter was sent to CAWS proposing that Queensland combine the next Australian Weeds Conference with the 2009 Asian Pacific Weeds Conference or that the 2009 Asian Pacific Weeds to be held in Darwin sponsored by the new NT Weeds Society.

6. Future Program. The updated calendar was discussed and amendments made. These will be included in the calendar for inclusion in the newsletter and on the website

6.2) The seminar - "Weeds – Woe to Go II – Legislative and Management considerations" is to be held in Goulburn on 21st April 2005.

M. Michelmore advised that planning is yet to get underway and as a result it was agreed to defer the date until Thursday 19th May 2005. The final program including speakers, venue and a preliminary budget will be available for ratification at the April meeting. The meeting approved expenditure of up to $500.00 to cover deposits for the venue, catering and mailing. Jim Dellow agreed to assist with the seminar.

6.3 Proposed Seminar in conjunction with the AIAST – NSW Division.

Neil Inall will represent the AIAST and Alan Murphy the Weeds Society in preparing the program for the joint seminar. The president advised that he is willing to assist with the program.

6.4 Spring 2005 Function. W. Felton/B. Hennecke advised that a function will be held in the Hawkesbury region in October 2005 as this is where aquatic weeds are a problem..The program will cover:

What is the problem? What has been done? What has been done elsewhere? Management practices. Biological/chemical control. It will include keynote speakers with special interests.

B. Henecke will develop the concept for discussion at the next meeting.

6.5) AGM and annual dinner 2005. The committee noted the positive response from R. Stanton et al to the proposal to hold the AGM and dinner in Wagga and recommended that it be held in Wagga on Thursday 17th November 2005.

The committee discussed the proposal that the Riverina branch be reinstated and on the motion of Jim Swain/M Barrett asked the secretary to contact R. Stanton and ask him and his local group to discuss the following which could be discussed at the AGM in Wagga: Why is a branch required, as a local group could work under the umbrella of the Weeds Society of NSW? What would be the objectives of the local branch.? Who would be the office bearers and what would the budget be? Is there assurance of continuity of the branch?

7. Financial Report.

7.1) Financial Statement: Moved/seconded: L. Greenup/A. R. Murphy that the following financial report be received. Carried.

Profit & Loss Statement 1/10/2004 to 15/02/2005	
Income	
AGM - Dinner Income	$1,575.00
Sale - Proceedings 14th AWC.	$836.50
Total Income	$2.411.50
Cost of Sales	
Gross Profit	$2,411.50
Expenses	
Accounting Fees	$396.00
AGM - dinner payments	$1,304.60
AGM Miscellaneous Expenses	$80.00
CAWSS – Subscriptions	$144.00
Secretaries expenses	$85.60
PO Box Expense - 50% of cost	$27.50
Member Awards - medals etc	$32.45
Teleconference costs	$490.45
Printing,postage - Newsletter	$584.00
Postage – Newsletter	$172.20
Web Site – Maintenance	$161.70
Total Expenses	$3,478.50
Operating Profit	($1,067.00)
Other Income	
Interest Income	$726.07
Total Other Income	$726.07
Other Expenses	
Net Profit / (Loss)	($340.93)

8. CAWS Matters.

8.1 CAWS Conference 2004 – final report. The final report is yet to be received. The committee asked the secretary to write to John Kent (copy R. Stanton) asking when the final report will be available.

8.3 Other CAWS Matters. W. Felton will act as the alternate delegate at the CAWS teleconference on 24th February 2005.

9. Membership.

9.1 New Members.

The following new member was accepted: Dr Paul Downey

10. Other Business.

10. 2 Conflicts of interest by committee members. It was agreed that future agendas would request that members advise of any conflicts of interest.

10.3 CAWS – Annual Young Weed Scientist Travel Award. Details will be published in the newsletter.

10.4 Use of IntaServe Pty Ltd as a Domain provider. This was approved.

10.5 Travel Awards. It was agreed that name of the current Travel Study Grant be changed to Travel Support Grant and the value be increased to $2000.00 in total per annum. Details are to be included in the next newsletter advising that the closing date is 1st June 2005. Reference to the Travel Support Grant is to be made in each newsletter. Moved: M. Hood/M. Barrett.

Next Meeting - Friday 15th April 2005 at NSW Forestry , Pennant Hills.

The meeting closed at 3.25 pm.

Coming Function

Your Society is organising a Seminar to be held in the Spring of 2005, probably in the Richmond-Windsor area, on the subject of water weeds and their control. The seminar will deal with weeds that are a problem in the water and/or along waterways.

Further details will be included in the next edition of this Newsletter.

The Goulburn function referred to in the minutes above is yet to be finalised – details will be advised when available.

A Report from the Noxious Weeds Advisory Committee of the Department of Environment and Conservation

Andrew Leys
Pest Management Coordinator
Parks and Wildlife Division

TITLE – Reports from Members – Department of Environment and Conservation

1. A priority list of environmental weeds for NSW

Following a workshop in March 2004, a small working group has commenced a project to prioritise weeds in NSW with respect to their impact on biodiversity. The working group comprises Dr Paul Downey (DEC), Dr John Hosking (DPI) and Tim Scanlon (North Coast Weeds Advisory Committee). The priorities will be used to guide the NSW Scientific Committee in listing environmental weeds as key threatening processes and for the DEC in preparing threat abatement plans.

2. Data to quantify the threat of weeds to biodiversity

Information on which threatened species are most at risk from weed invasion is limited. The DEC has commenced a desk-top review of literature to obtain this information. The project is supported by a grant from the Weeds CRC and is being managed by Paul Downey. Information will be entered into a database and a report of the work will be published as part of the Weeds CRC technical series.

3. Bitou and Boneseed WONS Program

Hillary Cherry has been appointed as the National Coordinator for the Bitou Bush and Boneseed WONS Program. Hillary is located with the DEC at Hurstville (hillary.cherry@environment.nsw.gov.au; 9585 6587).

A priority for Hillary is the establishment of a National Bitou Bush/Boneseed Management Group. The Management group will coordinate implementation of the National Strategy for Bitou Bush and Boneseed and the National Coordinator will facilitate the Group's objectives.

The Coordinator will also promote the use of best practice management, coordinate public awareness programs, participate in the development and implementation of programs to reduce the impacts of bitou/boneseed, initiate development of national strategic plans to protect biodiversity (similar to the Bitou TAP), and coordinate state/regional/local strategies, community groups and agencies to encourage consistent management practices.

4. Progress with the Bitou Threat Abatement Plan

In September 2004, the Minister for the Environment, the Hon Bob Debus MP, launched the draft Bitou Threat Abatement Plan (Bitou TAP) for public comment. As part of the public exhibition, the DEC sponsored a series of public workshops along coastal NSW. The draft TAP is currently being revised to incorporate suggestions from the public including changes to the model, the priority list of threatened species and the list of priority sites.

The Bitou TAP prioritises the control of bitou bush to those areas where the outcomes will have the greatest benefits to biodiversity, in terms of threatened species, irrespective of land tenure. The draft Bitou TAP identified 11 threatened species, 2 populations and 4 Endangered Ecological Communities as being at greatest risk from bitou bush. For these threatened entities, 60 priority sites were identified for control.

5. Best practice guidelines for aerial spraying bitou bush

Dr Liz Broese has been appointed to a project to develop best practice guidelines for aerial spraying bitou bush. The project is funded by NHT under the WONS Program. A series of workshops are planned for March 2005 to develop draft guidelines which will be circulated to interested stakeholders subsequently for comment.

6. Workshop on biological control of bitou bush, lantana and bridal creeper

A training workshop for 16 local government weeds officers and DEC pest management officers from the Central and South Coasts and Sydney areas was held at Hurstville on 16-17 February 2005. The workshop followed on from one held on the North Coast in March last year and was funded as part of the National WONS Programs for Bitou Bush, Lantana and Bridal Creeper.

This two-day training program was designed to help deliver more effective on-ground biological control programs in NSW for bitou bush, lantana and bridal creeper. In particular, it aimed to provide a better understanding of the requirements for releasing the bitou leaf-roller moth (*Tortrix* sp.), the lantana rust (*Prospodium tuberculatum*) and the leaf hopper and rust for bridal creeper.

Participants had the opportunity to interact with key scientists Royce Holtkamp (NSW Agriculture), Anthony Swirepik (CSIRO), Michael Day (Qld Department of Natural Resources, Mines and Energy) and Dr Louise Morin (CSIRO) to discuss factors that affect the successful establishment of these agents. The second day of the workshop was a "hands-on" field demonstration of suitable release sites and in the case of the lantana rust, release onto a prime lantana site.

News from the Australian Pesticides & Veterinary Medicines Authority [APVMA]

The APVMA and spray drift management
The APVMA has published a discussion paper containing proposals for refining its approach to spray drift risk management http://www.apvma.gov.au/chemrev/APVMA_spray_drift_proposal.pdf

Since then the APVMA has meet with a number of key agricultural organisations to discuss these proposals. It has also been gathering comment and new information to further refine the proposals.

Some 30 written submissions commenting on the proposals have been made by a range of industry and community groups. In October 2004, the APVMA took part in an international spray drift conference where useful new information and approaches to spray drift risk management were discussed.

On 16 and 17 February the APVMA hosted two major meetings on spray drift management. The first, a day of discussion of fundamental issues with State regulators followed the next day with a day-long spray drift forum with both industry, farmer and State representatives. The industry forum provided an opportunity for the APVMA to listen to and respond to industry concerns on its spray drift proposals. Over the next two months, the APVMA will refine its proposal paper drawing on the new industry comments as well as additional input from community and technical groups. The APVMA will make the new draft available for a final round of public consultation and comment before any final decisions are made.

Labelling review
The APVMA has been working on a review of product labelling principles. The aim is to develop product labels that are both clearer to users and more useful to States and Territories from a control of use perspective. Some basic principles have been established and the APVMA now has several example

labels available in the proposed new format for consideration and comment from users, chemical suppliers and other interested groups.

Comments on the label concepts are sought by 15 April. The concepts can be found on the APVMA website at www.apvma.gov.au/registration/labels_review.shtml

Data protection - application summaries

As part of the new data protection provisions the APVMA is required to publish a summary of an application shortly after the applicant has been notified that the application is to be assessed. The first batch of application summaries has now been published on the APVMA website at http://www.apvma.gov.au/data_protection/appl_summaries.shtml

Updates have also been made to documentation about data protection requirements and can be found at http://www.apvma.gov.au/registration/data_protection.shtml

Minor use happenings

Minor use communications strategy
Growcom, a peak agricultural industry body, has developed a minor use communications strategy designed to improve future communication, to ensure coordinated and consistent information about minor use matters and, in turn, to engender widespread understanding and application throughout industry. The Department of Agriculture, Fisheries and Forestry and the Minor Use Taskforce requested Growcom to prepare the strategy based on a review of existing communication methods and the consideration of options on how these could be improved. Input to the strategy was received from the Communications Working Group and stakeholders.

(At the minor use workshop held in November 2003, a Minor Use Taskforce was established to provide input into the minor use reform agenda. The Communication Working Group is a sub-committee of the taskforce formed to identify areas requiring improvement and suggest effective and practical solutions to enhance communication between stakeholders on minor use issues.)

A copy of the Minor Use Communications Strategy can be found at: http://www.apvma.gov.au/minor_use/comms_strategy.pdf

Use of pesticides for minor uses in grains project

APVMA staff met with the project team on 15 December 2004, to discuss objectives of a Grains Research and Development Corporation funded initiative to build on identifying and managing access to a broad range of pest management solutions for the Australian grains industry.

The project team will be canvassing the views of manufacturers, advisors, peak bodies, regulators, growers and other co-operators to identify critical pest problems, minor use chemical needs and determine regulator requirements prior to establishing priorities for future projects.

As part of this process the project team currently wants feedback from grain industry value chain participants and have established an interactive web site http://www.grdc.com.au/projects/minoruses to gather input data and provide feedback on all aspects of the project.

Further details on the project and other minor use developments are also available in the December 2004 edition of Minor Use News, that can be found at: http://www.apvma.gov.au/minor_use/minor_use_news.shtml

Who's Who on the Committee

Continuing our regular series this month we have our Vice-President Stephen Johnson and Newsletter Editor Michael Hood

Stephen Johnson

Stephen is a newcomer to the society joining in 2002. He is currently the Vice President and one of two of the NSW delegates for the Council of Australian Weed Societies (CAWS) where he was the Treasurer for the previous executive.

Stephen undertook a Bachelor of Science degree with Honours at the University of New England majoring in botany and plant ecology, followed by a Master of Applied Science degree at Central Queensland University in Rockhampton. Stephen has undertaken various weed research projects in the Australian cotton industry since finishing at CQU in 1996. His first position was as a PhD student at the University of New England investigating the biology and ecology of a native perennial Convolvulaceae weed (*Polymeria longifolia*), and then as a Post Doctoral Research Fellow investigating the biology and management of Malvaceae weeds in cotton farming systems e.g. *Hibiscus trionum*, *Anoda cristata* and *Abutilon theophrasti*. During 2001/2002 Stephen was the coordinating editor and a major contributor to WEEDpak, an integrated weed management guide for the Australian cotton industry. This information package was a world first IWM package for a single industry; it was released as a hard copy, and has since been released on CD and on the internet through the Australian Cotton CRC website.

During 2004 Stephen was awarded six months study leave to undertake modelling research at Wageningen University and Research Centre in the Netherlands. During this time he developed a model to enable predictions to be made about the development of resistance in Minimum Herbicide Lethal Dose situations (increasingly common in the European Union) and the likely impact of various management decisions on the plant demographics of problematic weeds in the Australian cotton industry. Stephen has been employed by the New South Wales Department of Primary Industries since July 2003, initially as Weed Ecologist based in Narrabri in northern NSW, and since late March 2005 as a Strategy Planning Officer (Weeds) at Head Office in Orange.

Stephen is married to Annie who also worked for NSW DPI as an industry extension and development officer based at Narrabri until recently. He has been an active member of the Narrabri community participating in the Toastmasters and the Narrabri Chorale, among many other things.

Michael Hood

Mike has been a member of the Society for many years, almost since its inception, with a few years of non-membership in the late 60's. He has been on the Committee for around 20 years and has served terms as President and Secretary and is now the Newsletter Editor.

After graduating from Sydney University in Agricultural Science Mike's first job started in 1964 with Agserv Industries Pty. Ltd. the Australian company that was at that time the distributor for Swiss company Geigy AG.[atrazine, simazine and other triazines, diazinon and DDT], and American company Amchem [amitrole, bromoxynil] as a Field Research Officer on herbicide research, development and technical service, based in Sydney working on projects mainly within New South Wales but also other States in winter cereals, woody weed control, turf and weed control on railway lines. After marriage in 1967 to Carolyn, two years were spent in Europe, mainly in England but with extensive travel over Europe. Nine months were spent working with Shell Research at their research station near Sittingbourne in Kent working on cyanazine breakdown in the soils of East Anglia and Kent. About the same length of time was spent high school teaching in various schools in London.

On return to Australia Mike took a job with GP McGowan & Associates, one of the leading agricultural consulting firms at the time, as a farm management consultant servicing clients around Condobolin in central NSW. However 1969-70 was not a good time to be working in a significant wheat growing area because of the introduction of wheat quotas by the government. Farmers were restricted in the amount of wheat they could sell making money short and the use of a consultant dispensible.

At this time Mike gave some thought back to weeds and herbicides and decided to try and introduce a contract research and development business specialising in providing product development services to agri-business. This was a new concept to Australia at the time but was influenced by Mike's experience in travelling long distances from Sydney to conduct field research trials in agricultural crops most of which are located well away from Sydney, and indeed most other capital cities in Australia, where virtually all R&D staff in the chemical companies were based at that time. Surely a regionally based operator could do it cheaper and better by being closer to field sites.

So what became Agrisearch Services Pty. Ltd. was started although it took 2 years on a very lean budget and help from an understanding bank manager for potential clients to warm to the idea of using outsiders to do even part of their R&D work. Now days all chemical, seed and fertiliser companies have extensive budgets for the use of outside contractors and some smaller companies depend entirely on contractors.

For the next 30 years Mike managed Agrisearch mostly based in Orange where the business relocated in 1971, adding an extra staff member on average every year and a new branch office every two or three years [Toowoomba, Shepparton, Mackay, Narrabri, Innisfail, Adelaide, Melbourne, Sydney, Armidale and Griffith]. The work expanded from agricultural chemical R&D trials in broad acre crops and horticulture to include animal health, agronomic, domestic pest, ornamental, regulatory, product development management, and laboratory services such as weed resistance and nematode testing.

In 1978/79 Mike took self funded study leave and spent time studying for an M.Sc.at Wye College, University of London working mainly on his other love [other than weeds] of plant pathology, and in particular, the effect of *Septoria* on wheat physiology. On occasions he has been an external lecturer at Orange Agricultural College.

Besides the satisfaction of establishing a novel and successful business, technical projects that Mike has been involved with personally over the years that leave particular memories are; being one of the first to work with a coded herbicide that became known later as glyphosate, early testing and development of Glean, development of chlorothalonil fungicide into a range of crops, development of many of the triazole fungicides in horticulture, screening for a Japanese client one of the first if not the first broadleaf selective post-emergent grasskiller at a time when chemically controlling grass weeds in broadleaved crops was not possible, design of a tractor mounted very low volume boom sprayer for use in small plots of cotton and other crops, setting up and running at the Orange laboratory a primary screening programme for CSIRO Organic Chemistry to test new candidate molecules as herbicides, insecticides, fungicides, or nematicides, running an agronomic programme from 1981-84 to evaluate the feasibility of a pyrethrum growing industry in Tasmania using new varieties bred by the University of Tasmania, and more recently introducing alternative herbicide programmes for use in hardwood plantation establishment on the north coast of NSW for NSW Forestry.

Mike has travelled extensively within Australia and overseas visiting clients and has attended many local and overseas conferences. One regret he has is that because of the commercial confidentiality of much of the work in private industry it is

difficult to publish papers and much good information is never published. Mike was elected a Fellow of the Australian Institute of Agriculture Science in 2003.

Thirty years after the start of Agrisearch, Mike sold his equity in Agrisearch in late 2000 to senior staff members, some of whom had already previously taken equity in the company and were serving as directors, and now works for Agrisearch on a part time basis in the areas of Quality Assurance [GLP study auditing], project management and regulatory consulting. Separate to this he works on litigation projects as an expert witness and finds this challenging if at times frustrating.

Windmills, Clogs and Cheese?

By Stephen Johnson

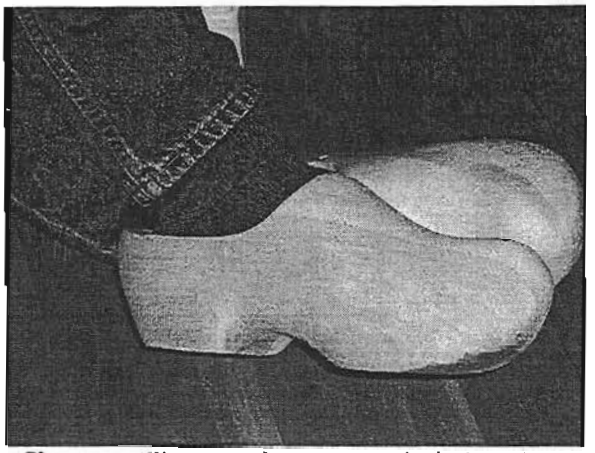
When someone mentions the Netherlands you generally conjure up images of windmills, clogs and cheese, and perhaps of tulips, sea dykes, reclaimed land and Holland since North and South Holland are two provinces. What is less well known is the reputation that Dutch agricultural scientists and extension officers have in many parts of the world including Africa, South America and parts of Asia. This reputation is driven by staff at the largest Dutch agricultural university in Wageningen, a small town of 30,000 inhabitants in the west near the German border.

Two society members Stephen and Annie Johnson recently spent six months study leave at Wageningen University and Research Centre (WUR). Aside from the high standard of national and international research conducted by staff and students of WUR, one of the strengths of the Crop and Weed Ecology group where Stephen worked is the use of predictive models. Stephen worked with Assistant Professor Lammert Bastiaans and PhD candidate Ingrid Haage in developing models to predict the weed resistance risk that may occur in Minimum Lethal Herbicide Dose (MLHD) systems. These systems involve the application of the minimum dose of photosynthesis and ALS (acetolactate synthase) inhibiting herbicides needed to control weed populations on a particular field. MLHD systems are becoming increasing common in cropping systems in the European Union as environmental activism is increased.

Annie was awarded a Learning through Exchange, Agriculture, Farming Systems and Environment (LEAFSE) exchange scholarship which allowed her to study various extension subjects to complete her Masters of Agriculture degree. WUR is renowned for its extension science and are world leaders in the areas of action research, participatory processes and facilitating change. Annie was pleased to find many of these processes being put into practice in some of the activities reported in the

Windmills at Kinderdijk (near Rotterdam)

conference papers at the 14th Australian Weeds Conference in Wagga Wagga. Both were amazed at just how easy and quick it was to travel within Europe to see the sights compared with their current home town of Narrabri in northern NSW. Stephen and Annie Johnson are both employed by the Department of Primary Industries where they work in cotton farming systems as a Research Scientist and Extension Officer respectively.



Clogs are still commonly worn outside during winter.

Coming Events

- In mid 2005 the New South Wales Weed Society is planning another Seminar on legislative requirements in weed control similar to the one held last year at Hurstville. More details soon.
- The New South Wales Weed Society is also planning a second major seminar - to be held in the spring of 2005, probably in the outer Sydney area on the subject of water weeds and their control.
- 1st Tasmanian Weed Conference, "A Decade of Change". Tasmanian Weed Society, 13-14th October, 2005. Launceston. www.tasweeds.org. Karen Stewart 03 6421 7654.
- 20th Asian Pacific Weed Science Society Conference [APWSS]. Rex Hotel, Ho Chi Minh City, Vietnam. Full details on www.cirri.org/en/index-en.htm. November 7-11, 2005. The them is to be "Six decades of weed science from the discovery of 2,4-D"
- Grassland Society of Southern Australia, Annual Conference, Poster and Trade Display, 15-17 June 2005; University of Ballarat, Victoria. www.grasslands.org.au.
- BCPC International Congress – Crop Science and Technology. SECC, Glasgow, United Kingdom. October 31-November 2, 2005.
- 15th Australian Weeds Conference. Adelaide Convention Centre, Adelaide, South Australia. 24-28 September 2006. Contact Plevin & Associates Pty. Ltd. 08 8379 8222.
- 8th Queensland Weed Symposium. Townsville, Queensland. 19-22 June 2005. Contact Wayne Vogler 07 4787 0607 or Raewyn Dooley, Conference Planners NQ, 07 4772 5999.
- Biennial Local Government Noxious Weeds Conference, Orange, September 2005.
- 2nd Victorian Weeds Conference, Bendigo on 17-18 August 2005. For further information regarding the conference and the presentation of research contact Ros Shepherd at secwssv@surf.net.au.
- 4th World Congress on Allelopathy. Charles Sturt University, Wagga Wagga, Australia. www.csu.edu.au/special/allelopathycongress/. August 21-26, 2005.
- 9th International Conference on the Ecology and Management of Alien Plant Invasions. Hyatt Regency Hotel, Perth, WA. 17-21 September 2007. Organised by the Weeds Society of WA [WSWA]. www.congresswest.com.au/emapi9/.
- International Weed Science Society Conference. Vancouver, Canada, 2008.
- April 14, 2005. Practical Clues for Pasture Cropping Workshop – Wellington. Run by Stipa Native Grasses Association, in conjunction with Grain & Graze - Central West/Lachlan. Location: Property of George & Kerry and Chad & Louise Taylor, Wellington. Contact: Vivienne Putland, 02 6887 1348 Cost: Cost $35 (Stipa and CWCFA members $25)
- April 28, 2005. Practical Clues for Pasture Cropping Workshop – Walgett. Run by Stipa Native Grasses Association, in conjunction with Grain & Graze - Central West/Lachlan. Contact: Greg Rummery 02 6828 2077 Cost: Cost $35 (Stipa and CWCFA members $25). Please bring chair and mug.
- May 3-4 2005. Soil Biology - Soil Health Conference - RSL Dalby. RSVP: 27th April 05 Contact: Peter Wylie, 07 4662 4899 peter@horizonrural.com.au
- 20-22 May 2005. Australian Controlled Traffic Farming Conference; Gatton campus, University of Qld. Further information: www.ctf05.org
- 30 Jan to 2 Feb 2006. 5th Australian Sorghum Conference; Radison Palm Meadows, Gold Coast Qld. Contact: Andrew Borrell andrew.borrell@dpi.qld.gov.au
- 21-23 February 2006. 6th Australian Maize Triennial Conference, Griffith, NSW. Contact: Nick Hutchins, Tanya Cowell, 02 6968 4280, hutchag@bigpond.com http://www.maizeaustralia.com

APVMA Announces Draft Review Findings for Atrazine

The second draft final report for the review of atrazine was released for public comment on 8 December, 2004. . Following a detailed investigation, the review has concluded that, according to the weight of evidence, the chemical is not likely to be carcinogenic nor is it likely to be an endocrine disruptor in humans. Further information can be found on the APVMA website at http://www.apvma.gov.au/chemrev/atrazine_draftfinal2.pdf

The following is an AVCARE release.

What is atrazine? Atrazine is a selective systemic herbicide that can be used both before and after the emergence of a crop or tree to control grass and broadleaf weeds.
Is atrazine related to organochlorines? No. Atrazine is a triazine herbicide, which is a different class of chemistry to organochlorine insecticides.
What is atrazine used for? In Australia, atrazine is used to control weeds in summer crops such as sorghum, maize and sugarcane, and it is also widely used in Western Australia for control of weeds in lupin and Triazine Tolerant (TT) canola. Other uses include control of weeds in lucerne, grass seed, pasture, potatoes and timber plantations (pine and eucalypt). It is widely used for weed control in conservation tillage farming systems, in establishing seed beds prior to planting sorghum, or for maintaining fallow paddocks prior to planting wheat, peas or lupins(1). Atrazine plays a role in the management of Parthenium weed, a weed of national significance in Queensland, Northern Territory and northern parts of New South Wales(2).

How does atrazine work? Atrazine is mainly absorbed through the roots of weeds and then transported to the actively growing tips and leaves. Some absorption through leaves does occur. Atrazine kills the weed by inhibiting photosynthesis. This takes between 14 and 21 days.

How is it applied? Atrazine can be applied by spraying onto the effected area either via a ground spray rig or agricultural aircraft. The size and topography of the area as well as the distance from waterways or other sensitive areas, type of crop, product label restrictions and available machinery all influence the decision as to what method is used.

How is the safety of atrazine assessed? Atrazine has one of the most comprehensive and up-to-date safety information packages of any agricultural chemical. It has been assessed and approved for use in specific circumstances detailed on the product label by the Australian Government regulator of agricultural chemicals, the Australian Pesticides and Veterinary Medicines Authority (APVMA). This assessment has included the evaluation of specific scientific data in relation to impacts the product may have on: human health and safety, both to the users of the product plus those exposed to the product the environment, including safety to animals, non-target species of native plants and waterways, the export of Australian crops, animals and animal produce. Information on the registration and chemical review process can be obtained from the APVMA and is found at www.apvma.gov.au/publications/information_sheets.shtml

The APVMA released a second draft final report for atrazine in October 2004. This review found that amongst other things:

- 'atrazine poses no undue hazard to most users'(3)
- 'it appears unlikely that atrazine, when used in accordance with the label recommendations, will contaminate waterways to any extent likely to
- present a hazard to the environment, or to human beings through the consumption of contaminated drinking water'(4)
- 'it is unlikely that atrazine is impacting adversely on populations of Australian amphibians at current levels of exposure'(5)

- 'atrazine is unlikely to be an endocrine disruptor in humans'(6).
- on the weight of evidence from extensive animal studies, atrazine is not a human carcinogen(7)
- 'epidemiological data from human exposures also provide support for the absence of a carcinogenic potential for atrazine'(8)

Public comments on the draft review report were invited until February 2005. A copy of the draft report can be found at http://www.apvma.gov.au/chemrev/atrazine_draftfinal2.pdf

Does atrazine cause cancer in humans? No. The APVMA, US EPA(9) and the International Agency for Research on Cancer (IARC, 1999) have all concluded that the mechanism acting in the animal studies that originally raised concern over a link to cancer were not relevant to humans. On the weight of evidence, atrazine is not a human carcinogen. Atrazine has been used in many countries for over 40 years and extensive testing and monitoring during this time by many independent agencies has produced no evidence that atrazine causes cancer in humans.

Is atrazine hazardous to users? When used in accordance with the label directions, there is no undue health risk to people using atrazine.

Does atrazine cause cancer in Tasmanian Devils? There is no evidence to link atrazine to the disease affecting Tasmanian Devils.

Should a user follow the label instructions? Yes. All users should read and comply with the label instructions before handling or using any registered product. Label directions are set by the APVMA and exist to protect the public and environment.

Does atrazine stay in the soil? The length of time a herbicide such as atrazine stays in the soil (termed persistence) is expressed as the period of time that it takes for 50 per cent of a herbicide to degrade (half-life). Atrazine has a median half-life of 41 days(10) depending on microbial populations, soil moisture levels, soil temperature, soil pH and farming practices.

What is the impact of atrazine on waterways? The key factor that determines the likelihood of atrazine moving into waterways is the vulnerability of the soil to surface runoff. Very dry or wet soils that prevent the absorption (infiltration) of atrazine into the soil surface layer pose some of the greatest risks. Storm events also increase the risk of movement towards waterways.

The potential risk to groundwater increases where soils are permeable and water tables are shallow. Permeable soils are usually sandy, but can include cracking clay soils and karstic terrain(11).

However, the movement to ground or surface water can be managed with careful use of the product, and the product labels stipulate the following instructions to limit the movement of atrazine into waterways.

- DO NOT apply this product within 60 m of natural or impounded lakes or dams.
- DO NOT use in channels and drains.
- DO NOT apply under meteorological conditions or from spraying equipment which could be expected to cause drift of this product or spray mix onto adjacent areas, particularly wetlands, waterbodies or watercourses.
- DO NOT contaminate streams, rivers or waterways with the chemical or used containers. This product is very highly toxic to algae and aquatic macrophytes.

The APVMA review of atrazine has found that the following additional environmental protection statements should be added to all atrazine product labels –

- DO NOT apply product to any drainage line. Drainage lines show evidence of the action of periodically flowing water (for example, gravel, pebble, rock or sand bed, scour hole or nick point) and/or an incised channel at least 30 cm deep.
- DO NOT handle, mix, apply or conduct testing operations to areas susceptible to runoff where drainage results in rapid entry into waterways. These areas include roads, access tracks, snig tracks and compacted log dumps where no specific action has been taken to prevent runoff into waterways, or areas mounded perpendicular to the contour.

The use of Best Management Practices (BMPs) has a key role to play in reducing chemical losses in runoff, especially in forestry. BMPs are practices or combinations of practices, industrial techniques and good housekeeping principles determined to be the most effective and practical means of preventing or reducing the amount of non-point source pollution. If BMPs are followed for atrazine use, atrazine concentrations in rivers and in groundwater aquifers should be below the relevant water quality guidelines set for drinking water and for the protection of aquatic life.

Has atrazine been documented [found] in the Australian food supply? No (12).

Has atrazine been found in Australian drinking water? Atrazine has rarely been found in Australian drinking water supplies. When atrazine has been detected it has been below the National Health & Medical Research CouncilAustralian Drinking Water Guideline level of 0.1 mg/L.

What is the difference between the Drinking Water Guideline and the established Health Guideline of atrazine? The drinking water guidelines are set at the minimum level of detection. That is to say, the target level of atrazine in drinking water is less than 0.1 mg/L. The health guideline, however, refers to the level to which the occurrence of an additive in the drinking water may be consumed life-long without risk to health. In the case of atrazine, the "established health guideline" has recently been set at 40 mg/L. This health guideline is set by 'The Joint Committee of the National Health and Medical Research Council' and the 'Agricultural and Resource Management Council of Australia and New Zealand'.(13)

Can atrazine be used for weed control in home gardens or for non-agricultural uses? No. The APVMA changed the approved uses in December 1998 and removed the use of atrazine in home gardens, lawns, golf courses, drains and other non-agricultural uses. These changes are reflected on the product label.

Is atrazine used in other countries? Yes. In the United States of America atrazine is registered for use to control weeds in crops such as sugarcane, corn, guava, wheat stubble, commercial and residential lawns, Bermuda grass, forest plantings and golf courses.

In Canada atrazine can be used for the control of weeds in corn. There are restrictions on application rates and no aerial application is allowed. In the European Union authorisation of the use of atrazine was withdrawn in September 2004. The reason for this decision was that available monitoring data did not fully address some of the regulators questions. However, limited uses have been retained until 2007 in some member states such as Ireland, the United Kingdom, Spain and Portugal.

Why is atrazine still registered for use in Australia given the overseas situation? Atrazine is a valuable tool for Australian farmers.

The Australian government has recently completed its own independent review of atrazine, and has taken into account the reviews of peer countries including the European Union, the United States of America and Canada. The APVMA's conclusion is that if the controls specified on the product labels are followed, atrazine can be used safely and with low risk to the environment.

Are there other alternatives to using atrazine in Australia? Farmers and foresters who use atrazine and follow best management and integrated weed management practices do so in a planned and co-ordinated manner. Before selecting atrazine as the herbicide most suited to the weed problem, the user will need to make decisions based on the following issues:

- Have other non-chemical management options been considered?
- Is the use allowed and listed on the product label?
- Is atrazine in the appropriate mode of action group to prevent the build up of resistance? (see files/resistancestrategie/15102004%20HRMS.pdf for more information on herbicide resistance strategies).
- Will another product address the weed problems more effectively?

Where can I find out more information?

- Australian Pesticides and Veterinary Medicines Authority
- www.apvma.gov.au ph.02 6272 5158
- Commonwealth Department of Agriculture, Fisheries and Forestry.
- www.daff.gov.au ph. 02 6272 3933.
- Commonwealth Department of Environment and Heritage
- www.deh.gov.au ph. 02 6274 1111
- Commonwealth Department of Health an Ageing
- www.health.gov.au
- State/Territory Government departments responsible for environment protection
- State/Territory Government departments responsible for health
- State/Territory Government departments responsible for primary industries

Footnotes:

1 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004.
2 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004.
3 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p. 9
4 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p.10
5 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p11
6 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p.11
7 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p.11
8 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p.12
9 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p.17
10 British Crop Protection Council, The e-Pesticide Manual, 13th edition, Version 3.
11 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p.70
12 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p. 44
13 APVMA, The reconsideration of approvals of the active constituent atrazine, registration of products containing atrazine, and their associated labels. Second draft final review report including additional assessments, October 2004, p.17

Pesticide Spraying – Avoiding Drift - and the Effect of Weather

Two recent pamphlets may be of interest to readers involved in spraying. The first from the Australian Government Bureau of Meteorology [BOM] is called *Weather for Pesticide Spraying*. Using some nice figures it explains how wind, temperature, humidity, temperature inversions, stability and thermal drift interact to affect spraying. It is available from the BOM. Weather information specific to ground sprayers is available at the BOM Registered Users Internet site. Details by emailing webvic@bom.gov.au or phone 03 96694984 for information about accessing this site.

The second pamphlet is published by the Queensland Department of Primary Industries and Fisheries and is called *Spray Right – Reduce Drift – Guidelines for Drift Reduction*. Part of this pamphlet is reproduced below.

Spray right – reduce drift

Guidelines for drift reduction

1. Communication

Identify any sensitive situation within a 3 km radius. Make sure the operator knows the location of any susceptible crop or sensitive area near the crop to be sprayed.

Talk to neighbours who have susceptible crops or sensitive situations to avoid later conflict.

If conditions become unsuitable during the spray operation, tell the operator to stop.

Communication is cornerstone to Best Management Practices.

2. Chemical selection

All pesticides have potential off-target effects. Select a non-volatile alternative instead of a volatile product. Volatile products may move from the target area hours after spraying.

Select chemicals that have low toxicity or are not toxic to the non-target situation.

Apply products according to the label directions. Do not apply more adjuvant than indicated on the label. A number of spray additives such as spray oils increase droplet size.

Use products for low volume or high volume application rather than ULV products. Low volume or high volume products can be applied using larger droplets.

3. Equipment Setup

Minimise droplet release height

Under the same weather conditions, reducing the droplet release height significantly reduces the drift distance.

With ground rigs select 110° nozzles to minimise boom height. Minimise the amount of boom bounce and movement.

Ensure aerial operators stop spraying before climbing and don't start until the plane has levelled out. It may take two or more runs to treat the headlands.

Use large droplets

When spraying close to sensitive areas, increase the droplet size, to decrease the downwind movement of droplets. However, the droplet size selected must be able to control the pest. As the droplet size is increased, increase the spray volume to maintain coverage.

Equipment Type

Well setup air assisted sprayers reduce the amount of drift by controlling the movement of any small droplets produced.

Shielded sprayers reduce drift by shielding any small droplets from prevailing wind.

4. Avoid undesirable weather conditions

Spray in neutral conditions. Do not spray when thermal (unstable) or inversion (stable) conditions exists. Significant off-target movement results of these conditions. Check for these conditions using smoke or by observing the movement of spray droplets.

Continually monitor weather conditions at the site of application. The site of application often has its own micro-climate due to issues such as crop growth and irrigation.

Some areas have dial-up weather stations that can assist monitoring (contact Cotton Australia for more information).

Keep accurate records of the spraying conditions.

SprayLog is available from DPI&F ($6.60). Phone 07 46881360

5. Spray with a cross wind between 1 and 4 m/s (3-15 kph)

Under light wind conditions the direction is often variable and may result in unpredictable off-target movement. With no wind, there is a risk that off-target movement will occur if a wind springs up.

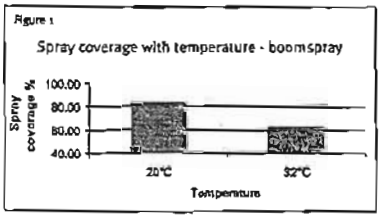
With constant crosswind, the spray swath will be predictable. No susceptible crops in the upwind direction will be contaminated.

High wind speeds have the potential to increase the distance droplets travel downwind and may. High wind speed coupled with high travel speeds may increase drift from Air Induction nozzles due to shear of the droplets.

6. Spray at temperatures of less than 28°C and humidity greater than 50%

When using water-based products, evaporation of the spray droplets increases off-target movement. (Figure 1)

Figure 1



Spray when temperatures are less than 28°C and the relative humidity is high, that is, when Δt. (the difference between the wet and dry bulb temperatures) is less than 8°C (Table 1)

Table 1 Minimum Humidity for Various Temperatures (at < 8°C)

Temperature	Minimum Humidity
30°C	50%
25°C	45%
20°C	40%

7. No Spray buffer

Small droplets travel in the wind currents until they are caught by a target. All spray application is characterised by a peak deposit close to the centre line of application and a downwind tail. The amount of pesticide in the downwind tail is affected by factors such as the wind speed, release height, droplet size, catching efficiency of the surface.

Downwind 'buffer' areas have the capability to catch droplets that move off-target. The type of the buffer determines the ability to trap small droplets. A no spray strip on the downwind side of the crop to be treated can be used. Other buffers can be specifically vegetated strips.

Bare fallows have much lower catching efficiency than a growing crop such as wheat or cotton.

8. Training and accreditation

Ensure applicators receive appropriate training (eg: Chemcert® SMARTtrain®).

9. Records

Keeping records satisfies the legal requirements for various National and State legislations as well as providing important information to manage future spray applications.

Check for local requirements before spraying.

10. Engaging Contractors

Use licensed contractors who have appropriate insurance cover and industry accreditation such as Spraysafe® for Aerial Operators.

Confirm all application requests with written spray orders.

ASSESSING THE SITUATION

The variables associated with droplet movement interact together in a complex manner. These recommendations can be used as a guide. The procedures you adopt will vary for each situation. There will be situations when the risk of off target movement will be too high despite the actions you take to overcome it.

There will be times when spraying cannot occur until conditions become favourable.

Nozzle Selection

Drift Risk	High	Medium	Minimal
	Susceptible situation < 1km downwind	Susceptible situation 1-30km downwind	Susceptible situation > 30km downwind
Droplet Size using BCPC & ASAE Standard	Coarse Droplets	Medium Droplets	Fine Droplets
Nozzle Pressure	Use minimum pressure. Refer to manufacturers specifications for the appropriate pressure, as changes in pressure will change the droplet size.		
Boom Height	Minimise boom height. Refer to nozzle specifications. Lower heights are possible with 110° nozzles or by angling nozzle away from vertical.		
Caution	Can have problems with grass contact and coverage. May not be suitable for insecticides and fungicides. Need higher water volume.	Suitable for grass control at recommended pressures. Suitable for insecticides and fungicides. Nozzles still produce fine droplets.	Watch temperature and humidity.
Wind	1-3m/s or 3-10kph	1-4m/s or 3-15kph	1-4m/s or 3-15kph
Maximum Temperature	28°C at > 50% humidity	28°C at > 50% humidity	28°C at > 50% humidity

Note: The above information is to used as a guide. The Risk distances depend on the products being used, the nature of the sensitive situation. There are times when spraying cannot occur until conditions change.

A Good Weed

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

Print Post Approved
PP247134/00010

SURFACE MAIL

POSTAGE PAID AUSTRALIA

The Weed Society acknowledges the generous support of Dow AgroSciences Aust Ltd, Frenchs Forest, Luhrmann Environment Management Pty Ltd www.luhrmann.com.au, Pennant Hills, Syngenta, Pendle Hill, Bayer Australia Ltd, Pymble and Nepean Blue, info@nb.au.com for their sponsorship of *A Good Weed*