

# NEWSLETTER

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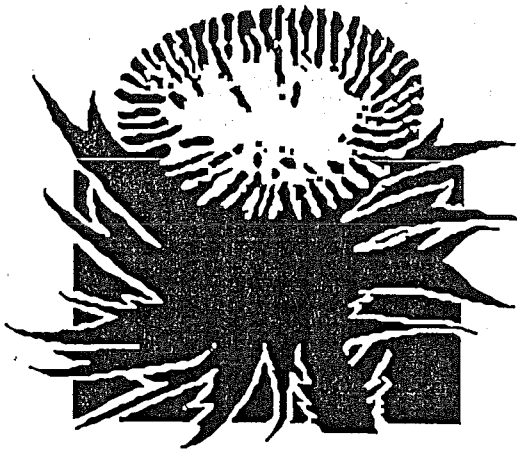
Number 1 March 1989

PRESIDENT: Jack Burke

SECRETARY: Mike Barrett

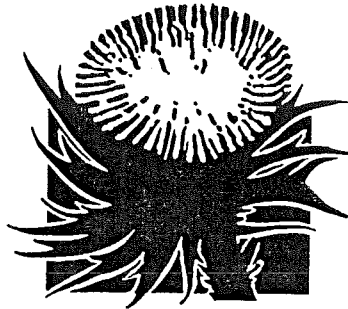
TREASURER: Geoff Jacobs

EDITOR: Max McMillan



**THE WEED SOCIETY  
 OF NEW SOUTH WALES**

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THE WEED SOCIETY  
OF NEW SOUTH WALES

1988 ANNUAL REPORT

This has been a busy year for both the Weed Society and many individual Members with several conferences, tours and seminars.

The lectureship in Weed Science at Sydney University has been retained which is a happy reward for our efforts..

Peter Michael retired in January this year and was presented with Life Membership of the Society at a Dinner at Sydney University.

The Society has been to the fore in CAWSS matters and are progressing well with incorporation which was strongly supported by members.

Travel Study Grants were awarded to Dr. R. Medd and Ms. D. Lemerle to support visits to Overseas Conferences. The value of the Weeds Prize was increased, and has been made available to the University of New England as well as Sydney University. The Sydney University recipient is Diane Munnich whose project was entitled "Determinants of Wheat Yield on the Lachlan Valley."

We have gained ten new members this year which brings the active list to approximately 100. It is sad to repeat that Austin Johnson died during the year.

Activities this year included a visit to Taronga Zoo to see the work being done on foreshore weed control; two seminars in Sydney with Prof. Paul Kavers (University of Western Ontario, Canada) and Dr. Jens Striebig (Royal Veterinary and Agricultural University, Copenhagen); two seminars at the ARI Wagga by Drs. Chester McWhorter and Malcolm Kemp; a no-tillage Project Team meeting and Field Day at Moree and a Southern Weeds and Herbicide Field Day in October.

To complete the year a Turf Field Day at the Turf Research Institute at Concord was followed by the Annual Dinner at Pennant Hills Golf Club in November.

These activities were well supported for the most part, and those unable to attend were kept well informed through the four interesting and informative newsletters ably produced by Bob Martin.

OVERSEAS STUDY TOUR AND CONFERENCE REPORTS  
(BOTH TOURS REPORTED BELOW WERE PARTIALLY FUNDED BY  
NSW WEED SOC. STUDY GRANTS)

1. Diedre Lemerle - EWRS Symposium "Factors Affecting Herbicide Activity and Selectivity" Wageningen, Holland.

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The Symposium examined the factors that affect herbicide performance, so that more accurate recommendations for herbicide use can be made, resulting in lower rates of application. An alternative approach, to adapt the crop to existing herbicides by the development of resistance of crops to non-selective herbicides was also discussed. Legislation is already in progress in Europe to ensure that pesticide use is reduced e.g. in Denmark pesticide use must be reduced by 50% by 1992. This stems from concern about contamination of the environment with herbicide residues (injuring sensitive crops; and getting into the groundwater/rivers). This concern as well as the development of herbicide resistant weeds, has also led to a trend toward more foliar-active short-term residual herbicides.

A summary of the sessions follows:

1. Physiology and biochemistry Many papers described cell and tissue culture techniques used as models for screening herbicide activity. For example, embryo culture, suspension cell culture, isolated chloroplasts, and enzyme extracts. *In vitro* cells have been used to investigate the metabolic action of herbicides, or to establish the potential herbicidal activity of new compounds. These techniques have been especially useful for examining the mechanisms underlying resistance to herbicides. One paper described an assay for measuring the correlation between auxins and 'hormonal' activity of the phenoxy herbicides, based on a measurement of auxin induced H<sup>+</sup>-efflux. This is the closest any group has come to explaining the mode of action of the phenoxy herbicides. Such techniques also have potential for examining herbicide x environment interactions. Coupland and Bond used enzyme extracts of homogenates of plants grown in varying conditions to show the effects different environmental factors of herbicide activity. Several authors discussed the potential of optical isomers for reducing application rates of herbicides.

2. Mechanism of modification of herbicide activity and selectivity Instead of developing new herbicides to control weeds in crops, herbicides that are already available can be made safe. Hatzios reviewed the use of safeners. Herbicide safeners are chemical substances that selectively reduce the toxicity of specific herbicides on crop plants. Alternate names are antidotes, antagonists, protectants, modifiers or agriregulators. Most safeners appear to enhance the detoxification of herbicides in the crop plants. The resistance of blackgrass to chlorotoluron is due to the resistant types ability to detoxify the herbicide. This resistance can be eliminated by the synergistic activity of the mixed-function oxidase inhibitor 1-aminobenzotriazole (ABT). The potential for using such compounds for controlling resistant blackgrass in the field was discussed. A number of other papers examined the effect of safeners on crops and weeds and the mechanisms underlying their action. Several papers looked at the synergism or additive interactions that can occur between two herbicides, while others examined antagonism between herbicides. Many papers demonstrated the use of surfactants to reduce application rates. Scanning electron microscopy is being used to explain the effects of surfactants on the retention and uptake of herbicides at the cuticle surfaces.

3. Influence of environmental and edaphic factors on herbicide performance  
 Devine reviewed the experimental techniques used in studying the effects of environmental factors on herbicide performance, and emphasized the importance of using field as well as controlled environment studies in this work. A series of papers studied the effects of temperature, rain, relative humidity and rainfall on herbicide activity. While other papers presented data on soil factors, such as nutrient levels and moisture level. Several papers emphasized the need to account for plant growth stage. One paper examined the soil persistence characteristics of triasulfuron (Logran) a new sulphonylurea herbicide recently registered in Australia, and they suggest that the half-life varies between 12 to 38 days at 20°C. High soil moisture and temperature enhanced degradation, and microbial activity is important in the breakdown of this herbicide. The use of sophisticated models to predict pesticide residues based on environmental factors is becoming widespread. These models can predict persistence, concentration and distribution of herbicides within the soil given different environmental conditions eg. the Calf model. Chlorsulfuron has been withdrawn from the markets of Europe and the USA, because of residue problems, and the development of resistant weeds. This has led to the development of shorter residual sulphonylurea herbicides, to reduce the risk of such problems developing in the future. There are problems in detecting the very low concentrations of these herbicides that occur as soil residues. This area of research is receiving much attention.

I presented a paper at the Symposium on "The Variable Tolerance of Barley to Chlorsulfuron in South-Eastern Australia". This paper was presented as a poster and was well received.

4. Herbicide resistance and biotechnology The modification of the plant to tolerate broad spectrum herbicides that are environmentally and toxicologically acceptable is possible with recent advances in biotechnology. Resistance against broad spectrum herbicides can be achieved by gene transfer and/or cell selection techniques. Two approaches are used. Firstly, to render the target for herbicide action insensitive, or by overproducing a sensitive target protein. Secondly, to introduce a pathway which degrades or detoxifies the herbicide in the plant. Ishizuka and Watanabe used in vitro cell suspension culture (of carrot) to select for resistance to the sulphonylurea herbicide, DPX-F5384. They found that the sensitivity of the enzyme acetohydroxy acid synthase or AHAS (the target to this group) to the herbicide was comparatively reduced in resistant cells. They suggest that carrot cells gain resistance to DPX-F5384 by production of AHAS insensitive to the herbicide.

#### Visit to U.K.

In addition, I visited the Long Ashton Research Station, Bristol, and the Broom Barn Research Station, U.K., where I held detailed discussions with colleagues involved in various aspects of herbicide research, and examined experimental techniques and equipment. In particular, John Caseley, David Tottman and Alastair Blair, who have examined the effects of environmental factors on the performance of the sulphonylureas.

The cost of the trip was met by the Barley Research Council of Australia and the Weed Society of N.S.W.

#### Summary

The Symposium and subsequent visits and discussions with colleagues

provided information and techniques valuable to the herbicide x environment studies in progress at Wagga Wagga.

The visit reinforced the importance of examining factors affecting herbicide performance as a way to improve the efficiency of herbicides. Especially in the Australian environment i.e. the plant species, climate and soil types unique to Australia. The studies on the mechanisms affecting herbicide physiology and biochemistry being conducted overseas are relevant to Australia and do not need to be duplicated here. However, when studying the factors that affect herbicide performance it is essential trials are conducted in our environmental conditions, and that we do not extrapolate overseas data to our situation. This trip has led to a submission to the Wheat Research Council, to look at the effects of environmental factors on the performance of the post-emergence wild oat herbicides diclofop-methyl (Hoegrass) and tralkoxydim (Grasp).

## 2. Dick Medd - Overseas Study Tour to France and England.

### Introduction

An itinerary was developed to attend the 8th International Symposium on the Biology, Ecology and Systematics of Weeds, Dijon, France and a Symposium on the Biotechnology of Fungi for Improving Plant Growth, Brighton, England and to discuss some recent developments in the biological control of weeds in England. This report summarises the major findings with special reference to my research which aims to evaluate a seed pathogen for the biological control of wild oats.

### Biology, Ecology and Systematics of Weeds

The symposium provided me with the excellent opportunity to gain a perspective of weed problems and approaches to research into weed biology throughout Western Europe, Scandinavia and the Mediterranean, from where most of the contributions and 200 delegates attending the meeting originated. Sessions covered six topics:

- \* Biology of perennial weeds (9 papers);
- \* Competition between weeds and crops (16 papers);
- \* Weed seed banks in arable soils and germination (11 papers);
- \* Dynamics of weed populations and herbicide resistance (12 papers);
- \* Typology, ecology and evolution of weed communities (20 papers);
- \* Biological control, parasitic weeds and weed control techniques (4 papers).

There were three concurrent workshops on the final morning on herbicide resistance, plant competition, and (the one I attended) weed seed banks. The overwhelming impression left by the meeting was the lack of urgency and conviction to tackle a number of important challenges facing weed science. Those highlighted by the meeting included:

1. Herbicide resistance - increasing rapidly and attracting heavy resource input.
2. Over dependence on herbicides - legislative restrictions in Europe and general political activity on environmental issues.
3. Efficiency of weed management.
4. Improvement of advisory services - more accurate, up to date information and greater resources for expert and decision support systems required.
5. Weed immigration.

Research on weed biology is assuming greater importance but much of the work presented lacked direction, was poorly conceived and was of limited value for solving the problems highlighted above.

### The Biotechnology of Fungi for Improving Plant Growth

This well conceived symposium of invited review papers, organised by The British Mycological Society, proved extremely informative given my interests in using pathogens for biocontrol of weeds. Papers dealt more with proven cases, reviewing the already impressive use of a diverse range of fungi for promoting plant production: both through synergism [mycorrhiza] and through controlling pests biologically. All facets of developing and exploiting fungal pathogens were covered in the sessions:

- \* Mycorrhizas (3 papers);
- \* Biological control (7 papers);
- \* Modern biotechnological approaches (2 papers);
- \* Commercial and legislative considerations (2 papers);
- \* Fungal collection resources and data application (4 papers);
- \* Inoculum potential (8 papers).

Abstracts only were available - papers published later as a monograph.

The main messages to emerge from the meeting were:

1. Only a small fraction of known fungi have been studied. There is great potential for future exploitation. Agricultural applications have lagged behind other industries such as pharmaceuticals.
2. Commerce in particular stressed the importance of having sound biological and ecological information about organisms. Provision of such data enables the commercial prospects to be more accurately judged, and ultimately assists in speeding-up their development.
3. Soil borne organisms were given a lot of coverage since they have proved to be more difficult to manipulate. Infection processes of soil fungi are difficult to study. In addition, the high levels of inoculum required to achieve results are generally prohibitively expensive, precluding their use in other than intensive enterprises such as nurseries.

Major advances reported included mutation of a fungus to produce fungicide resistance and changes to pathogenicity & host range by genetic manipulation.

### Long Ashton Research Station

I visited Long Ashton, the main weed research lab in UK, primarily to inspect their mycoherbicide projects. I met all members of the weed biology/annual crops group and presented a seminar "Relevance of seed kill for control of wild oat populations".

Although very receptive, scientists working on mycoherbicide projects are not permitted to discuss specifics of their programmes for reasons of commercial confidentiality. Nevertheless, I gained considerable insight to the programmes, inspected facilities, discussed techniques and, most rewarding of all, obtained encouraging comment and feedback on my seed pathogen research.

Mycoherbicide projects on *Rottboellia cochinchinensis*, a tropical annual grass of importance to maize and sugar cane growers, perennial field bindweed (*Convolvulus arvensis*) and one on general weeds of winter cereals are all in initial stages of isolating fungal pathogens showing herbicidal potential.

### CAB Institute of Biological Control, Silwood Park

CABIBC is a staging and quarantine station for clearing biological control agents for clients on a commission basis. Although are concerned entirely with classical biocontrol, survey procedures now also include prospective agents for inundative biocontrol research in cooperation with other laboratories eg. the Long Ashton work on *Rottboellia cochinchinensis*.

I met plant pathologists working on rust fungi of *Parthenium hysterophorus* (parthenium weed), *Cryptostegia grandiflora* (rubber vine), both under contract to Q. Lands Dept., and *Euphorbia* spp. (leafy spurge complex) under contract for USDA. I inspected quarantine facilities and gained insight into their host specificity testing. My seminar "Potential regulation of wild oat populations used a seed fungus" evoked excellent comment and stimulating interchange, which coming from this specialised group was most productive and rewarding.

### Imperial Chemical Industries, Jealotts Hill

I visited ICI to canvas commercial prospects of attacking seeds as a strategy for regulating annual weed populations. The very favourable response had several significant elements:

1. At the moment there is no product for directly regulating seed populations and this amounts to a new market niche for exploitation.
2. ICI is particularly keen to support integrated pest management and recognise the value of long term pest control strategies. This gives commercial security of having markets based on a diversity of products whilst appearing responsible by reducing pesticide use overall.
3. Tactics that 'top-up' control strategies are commercially attractive - particularly if they complement a competitor's product as this provides a market share and presents an image of integrated management.

### Concluding remarks

Problems arising from the high level of dependence on chemical pesticide place immediate and pressing demands on weed science to come up with more cost effective and safer methods of weed control. These needs were certainly echoed throughout the Dijon meeting. However, it was refreshing to attend the Symposium at Brighton where the meeting accepted the challenges and got on with the job of developing new technology, such that delegates were left in no doubt that fungi will play a significant role in future management of weeds.

It was both reassuring and stimulating to receive tremendous interest and encouragement (from weed biologists, plant pathologists, weed biocontrol specialists and private enterprise) from discussing my research into the novel use of fungal seed pathogen for biological weed control. More rewarding, however, was the exposure to a wealth of ideas and techniques used in the quest to develop plant pathogens as biocontrol agents. These findings, together with the establishment of numerous personal contacts, are invaluable resources that will undoubtedly assist my research.

### Acknowledgements

My sincere appreciation is expressed to the Wheat Research Council for providing the funds to undertake this study. I also thank the New South Wales Premier and the Minister for Agriculture and Rural Affairs for approval to proceed overseas on-duty.

SUMMARY OF THE CAWSS SUBMISSION TO THE SENATE  
ENQUIRY ON AGRICULTURAL AND VETERINARY CHEMICALS  
(PREPARED BY MIKE BARRATT, KEN WATSON AND PETER MICHAEL)

The impact of weeds on Australian agriculture and horticulture, and on the community, is significant.

The ultimate objective of legislation is to minimise herbicides and their residues in the environment within the limits of current technology.

It is recommended that Commonwealth legislation should encompass a Model Act to be adopted by all States and Territories in order to achieve uniformity. This registration system would be more acceptable in terms of international trade and contacts.

Commonwealth bodies involved in clearance will require additional resources.

Recommendations are made relating to Maximum Residue Levels (MRLs) for minor food crops, and the use of referees to examine efficacy data.

The development and implementation of Integrated Management Systems for weed control to maintain production and avoid soil degradation is crucial.

Funds are needed to generate data bases, to research application methods and develop weed control strategies for public land as priorities to measure economic impact of weeds.

Resources for training and extension in Reduced Tillage Systems are essential.

It is recommended that the Council of Australian Weed Science Societies (CAWSS) be involved in policy decisions and advisory bodies where appropriate.

PETER MICHAEL RETIRES

A farewell dinner at Sydney University, attended by sixty friends and colleagues was most enjoyable.

This function was well attended by Weed Society members, and provided a most suitable occasion for Warwick Felton to confer Life Membership on Peter. Peter is one of our very few Life Members and a most worthy recipient.

Two colleagues, Dr Peter Goodwin and Dr Bill Greenhalgh, paid tribute to Peter's work at the University over nearly twenty years.

Responding Peter acknowledged the value of the Weed Society and made a plea for the need to reinforce interpretative skills amongst students.

Peter is looking forward to continuing research at the University as an Associate.

An appropriate weed quotation used by Peter should have the last word.



from "The Form and Purpose of the Thistle"  
 ("God's Purpose ioi' the Thistle")

But I can form nae notion o' the spirit  
 That gars it tak' the difficult shape it does,  
 Nor judge the merit yet or the demerit  
 O' this detail or that sae far as it goes  
 T'advance the cause that gied it sic a guise  
 As maun ha'e pleased its Maker wi' a gey surprise.

- Hugh MacDiarmid 1926

#### DR. CHARLES GREENHAM - AN APPRECIATION

Dr Charles Greenham, one of our foundation members, died in November, 1988 at the age of 78. After graduating at the University of Queensland, gaining the University Gold Medal in Botany and obtaining his Masters' Degree he began work at CSIRO in Canberra on wheat rust, later moving to weed control. His studies on chemical weed killers before the advent of MCPA and 2,4-D and his work, in 1946, on preliminary trials with hormone-like weed killers are milestones in Australian herbicidal research.

Charles continued his studies on herbicides in his long career up to his retirement from CSIRO in 1971. He is well-known for his work on skeleton weed and mistletoe control. He spent two study periods overseas in 1952 at Oxford and in 1961-2 at the University of California at Davis.

During the Second World War (1939-45) he was seconded to the Standards Laboratory in Sydney where he was concerned with optics, rifle sights and slip gauges. His great interest in physical studies led to his work on electrical determination of cold hardiness and to his wide range A.C. bridge for determining injury and death. He gained his Doctor of Science degree in 1966 for his thesis "Some Studies in Disease and Injury in Plants based on Impedance Properties of the Cell Membranes".

We, as members of the Weed Society of N.S.W., acknowledge with gratitude his fine, dedicated contribution to a wide range of subjects, and we extend our sympathy to his daughter, Margaret Henty and his son, Peter, now living in Canberra.

Peter Michael.

#### MEMBERS NEWS

Welcome to new Members:

Ray Naish	Dow Chemical (Australia) Limited, P.O. Box 384, NORTH SYDNEY, N.S.W., 2060.
Leanne Bramner	Dupont, P.O. Box 881, GRIFFITH, N.S.W., 2680.
Judith Rowling	National Trust Centre, Observatory Hill, SYDNEY, N.S.W., 2000.
Kimberley Jones	Agricultural Research Centre, Forest Road, ORANGE, N.S.W., 2800.
Helen Wood	School of Science and Technology, Riverina-Murray Institute of Higher Education, WAGGA WAGGA, N.S.W., 2650.

SUMMARY OF MEMBERSHIP FEB. 21ST 1989.

	CURRENT 1988	PREPAID 1989	ARREARS 1987/8	ARREARS 1987 & PRIOR*
CORPORATE	10	-	2	1
INDIVIDUAL	87	7	27	23

\* If no response in 1989, will be deleted.

NOTE ON INDIVIDUAL MEMBERSHIP.

\* RETIREMENT 8 in 1988 \* NEW MEMBERS 8 in 1988  
4 to date 1989

THE WEED SOCIETY OF N.S.W.TREASURER'S REPORT TO AGM 3RD MARCH, 1989.

Please accept my apologies once again, but business committments have again placed me in another situation on this day.

Attached are the reports for 1988.

These include:-

1. Statement of Assets detailing all transactions involving 1988 Cash Flow.

The only extra-ordinary items of note were -

\* Credit of \$4,400 from 8th Australian Weeds Conference Committee for Management fees.

\* Debit of \$3,000 to Institute of Ag. Science for their share of proceeds from Pesticide School.

2. Statement of Cash Flow summarising from Statement of Assets, Income and Expenditure.

3. Summary of Assets

Of the former it is unlikely any further response can be expected from one, and of the individuals, 23 appear also to be no longer responding.

Of the balance of 27 individuals it is likely about 7 have departed the scene on transfer, but it is expected that the remaining 20 will respond to further communication in 1989.

Many thanks once again to all members for their participation and co-operation in 1988. If it is acceptable to the Society I would be most happy to continue as Treasurer in 1989, though I believe I may have to relinquish the position due to other committments in 1990.

In the interests of the Society, I am desperately in need of a volunteer

In the interests of the Society, I am desperately in need of a volunteer auditor, as Sally has had to withdraw from that role. Should anyone be in a position to help, I would be most grateful.

Whatever decision is made, I look forward to working with you all in 1989.

GEOFF JACOBS.

SUMMARY OF ASSETS AT JAN. 25TH 1989.

* AUSTRALIAN SAVINGS BONDS, SERIES 22	- 14.75%	\$ 3,600.00
* ADVANCE BANK STEP AHEAD ACC. 2681492	- 11.0%	3,684.89
* ADVANCE BANK TERM DEPOSIT	- 13.0%	12,435.59
* ANZ CHEQUE ACC.		2,070.00
	<u>TOTAL</u>	<u>21,791.31</u>

STATEMENT OF CASH FLOW AS AT JAN. 25TH 1989.

CASH IN CHEQUE AC. FEB. 1, 1988 - \$421.29

INCOME DETAILS	DOLLARS	EXPENDITURE DETAILS	DOLLARS
Interest Comm. Bonds	531.00	Tax/Duty	10.68
Interest Cheque Ac.	19.05	Student Prize-Syd. Uni.	50.00
Subscriptions	1336.00	Postage-Newsletter	182.59
Pest. School Proc.	60.00	Aust. Post - box	48.00
Deposits-Savings Ac.	1800.00	Aust. Post-News. Reg.	40.00
Annual Dinner	1686.00	Visit Exps.-Dr Streibig	400.00
Manage. Fee-8th AWC	4400.00	Visit Exps.-Dr Cavers	150.00
		Secretarial Expenses	692.97
		Overnight Transport	69.11
		Logo Design	206.87
		Field Tour Exps.	36.64
		Share of Pest. School	
		Institute of Ag. Sc.	3000.00
		Turf Grass Sponsorship	500.00
		Annual Dinner	1795.65
		Study Tour Grants	1000.00
		Bal. in Excess Expend.	1649.54
	9832.05		9832.05
Bal. of Account	421.29		
Plus	1649.54		
Bal. at Jan. 25, 1989	2070.83		

PUBLICATION NEWS

THE UK PESTICIDE GUIDE 1989: The new edition of the "green book", the UK Pesticide Guide 1989, is available from BCPC Publications (0734-341998) or CAB international (0491-32111).

NEW BOOK: Weed Science in the tropics, Principles and practices by I.O. Akobundu, International Institute of tropical Agriculture, Ibadan, Nigeria. contents include: Weed Science in Integrated Pest Management; Weed Biology and Ecology; Weed Crop Interactions; Weed Management; Herbicides; Herbicides in the Environment; Herbicide Action in Plants and Soils; Herbicide Formulations and Use of Adjuvants; Herbicide Application; Safe Use of Herbicides; Weed Control in Cereals; Weed Control in other Food Crops; Weed Control in Fibre Crops; Weed Control in Plantation Crops; Weed Control in Reduced Tillage and Multiple Cropping Systems; Control of Aquatic Weeds; Glossary. 0471915440 approximately 472pp December '87.

PROCEEDINGS AVAILABLE: Proceedings from the meeting "Climate and Agriculture: Systems Approaches to Decision Making" will be available shortly. The 23 papers plus summaries of all the discussion sessions cover the areas necessary for a systems approach: to state or pose large-scale complex problems correctly, to model the relationships in a realistic yet compatible manner, and to follow up the system through its life cycle. Topics include crop/environment modeling, crop/pest modeling, animal/environment/nutrition modeling, remote sensing, public and private meteorological services for agriculture, expert systems, economic strategies and decision making, and understanding and evaluating methods of information dissemination. Cost is \$25.00 US currency to University of Nebraska and mailed to: Dr Albert Weiss

Center for Agricultural Meteorology and Climatology  
245 L.W. Chase Hall  
University of Nebraska-Lincoln  
Lincoln, NE 68583-0728

SEAWIC Annotated Bibliography 5/1988.

SEAWIC (South East Asian Weed Information Center)

Includes abstracted references on Aquatic weeds, environmental impact, herbicide analysis and residues, herbicide application, herbicide chemistry and properties, herbicide physiology, pesticides, weed anatomy and morphology, weed biology, weed chemistry, weed control, weed ecology, weed genetics, weed identification and taxonomy, weed interference, weed physiology, weed-predator-disease relationships, weed research, weed utilization, weeds.

Southeast Asian Regional Center for Tropical Biology  
PO Box 17  
BOGOR 16001, Indonesia

WEEDwatcher 8 & 9/1988 Published by SEAWIC.

This newsletter contains short articles and abstracts on tropical weeds, a bibliography of recent publications, a section entitled "who is doing what in weed research?" and a section on current research results.

Toxicity of Pesticides (Wall Chart) produced for FARM magazine by W.A. Department of Agriculture in conjunction with "Australian Horticulture" magazine and Rhone-Poulenc. A good practical guide for pesticide users. Highly recommended. Includes measurement of toxicity, protective equipment, how pesticides enter the body. The main chart lists pesticides under poison schedule ratings - protective clothing shown diagrammatically.

## CONFERENCE — WORKSHOP CALENDAR

- 23 June, 1989 Symposium on Herbicides Friends or Foes?, Clunies Ross House, Parkville.  
Contact: Mr Bob Richardson, Keith Turnbull Research Institute, PO Box 48, Frankston, 3199, Tel (03) 785 0137.  
DEADLINE FOR BOOKINGS: WEDNESDAY, 21ST JUNE, 1989.
- 17-21 July, 1989 Fifth Biennial Noxious Plants Conference, Northern Rivers College of Advance Education.  
Contact: Robert Dyason, NSW Agriculture & Fisheries, P.M.B., Grafton, 2460. Tel (066) 420420.
- 22-28 July, 1989 Fourth International Conference on Bracken: biology, economic significance and control, University of Sydney.  
Contact: Prof JA Thompson, School of Biological Sciences, Macleay Building a12, University of Sydney, NSW, 2006.
- 25-27 July, 1989 Conference on Alternatives to Chemical Control of Weeds, Rotorua.  
Contact: Dr JA Jabkiewicz, Forest Research Institute, Private Bag, Rotorua, NEW ZEALAND.
- 23-29 July, 1989 Third International Symposium on Poisonous Plants, Logan, Utah.  
Contact: Registration Services, Conference and Institute Division, Utah State University, Logan, Utah 84322-5005. 801/750-1638.
- 1-3 August, 1989 Second International Symposium on Adjuvants for Agrichemicals, VPI&SU, Blacksburg, VA/USA.  
Contact: CL Foy, Department of plant Pathology, VPI&SU, Blacksburg, VA 24061-0331/USA.
- 21-26 August, 1989 Twelfth Conference of the Asian-Pacific Weed Science Society, Seoul, Republic of Korea.  
Contact: Dr. K.U. KIM, C/- College of Agriculture, Kyungpook National University, TAEGU 702-701, Republic of Korea. Fax (053) 954-6806, Tlx K54400 PUBLICD EST-12.
- 5-7 Sept., 1989 Prospects for Amino Acid Biosynthesis Inhibitors in Crop Protection and Pharmaceutical Chemistry, a residential conference to be held at Churchill College, Cambridge.  
Contact: LG Copping, Dow Research, Letcombe Laboratories, Letcome Regis, Wantage, Oxon, OX12 9JT.
- 11-15 Sept., 1989 Nature Conservation - The Role of Corridors, a conference/workshop held at Busselton, WA.  
Contact: Miss P Hussey, Roadside Vegetation Conservation Committee, PO Box 104, Como, WA, 6152.
- 11-14 Sept, 1989 The 11th Long Ashton International Symposium, University of Bristol, UK, "Herbicide resistance in weeds and crops".  
Contact: Dr RK Atkin, Scientific Liaison Officer, Long Ashton Research Station (AFRC-IACR), University of Bristol, Long Ashton, Bristol, BS18 9AF, United Kingdom.

- 17-21 Sept, 1989 In Service Weed Science Research Training Workshop, \$800.00. 4-5 days, QAC, Gatton. For qualified people working in weed control research.  
Contact: John Swarbrick, QAC, Gatton, Q. Tel. (075) 620289.
- 7-11 Nov, 1989 International Conference on Seed Science and Technology (CSST), Hangzhou, China. Registration fee, \$US 250.00.  
Contact: Mr Luo Xisheng, Zhejiang Association for Science and Technology, 47 Huan Cheng Road, (North) 310003 Hangzhou, P.R. China.
- 4-5 June, 1990 EWRS International Symposium on Integrated Weed Management in Cereals, Helsinki, Finland.  
Contact: GW Cussans, Long Ashton Research Station, Bristol BS18 9AF, United Kingdom.
- 16-28 July, 1990 International Symposium on Seed Dormancy, Germination and Vigour, Norbrisk, USSR.
- July, 1990 Climatic Risk in Crop Production - International Symposium, Brisbane, Q.  
Contact: Mr Vic Catchpoole, Symposium Secretary, CSIRO Div. of Tropical Crops and Past., Cunningham Laboratory, 306 Carmody Rd, St Lucia, Qld, 4067, Tel. (07) 3770209.
- 6-10 August, 1990 Ninth Australian Weeds Conference, Adelaide Conference Centre, Adelaide, SA.  
Contact: JW Heap or DW Stephenson, C/- SA Department of Agriculture, Northfield Laboratories, GPO Box 1671, Adelaide, 5001.
- 28 Aug-Sept, 1990 Fourth International Mycological Conference, Regensburg, Germany (FRG).  
Contact: Prof Dr Andreas Bresinsky, Botanisches Institut der Universitat, D-8400 Regensburg, Federal Republic of Germany (FRG), Tel. (0941) 433108.

**SEMINAR FRIDAY JUNE 30, 2.00PM**

ROOM N 208  
WOOLLEY BUILDING  
DEPARTMENT OF AGRONOMY AND HORT SCIENCE  
SYDNEY UNIVERSITY

Dr Heinrich Haas  
Veterinary and Agricultural University  
Fredericksberg, Denmark

"The Danish experience in initiating and implementing a policy to reduce herbicide use"

Enquiries: Jack Burke, Phone: 6880444

Subs reminder: Members are reminded that annual subs are due. Still only \$12.00 private and \$25.00 corporate. Cheques payable to NSW Weeds Society.