

THE WEED SOCIETY / OF NEW SOUTH WALES

P.O. Box K287, Haymarket, N.S.W. 2000

PRESIDENT: Dr. L.W. Smith

HON. SECRETARY: Mr. W.J. Burke

NEWSLETTER NO. 5/79

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SEPTEMBER, 1979.

NOTICE OF SEMINAR

SPEAKER: JIM NEWMAN

PLACE: SYDNEY UNIVERSITY, ROOM 208 WOOLLEY BUILDING

SUBJECT: "PESTICIDES AND THE ENVIRONMENT"

DATE: THURSDAY, 20th SEPTEMBER, 1979

TIME: 3.00 p.m.

Jim Newman is a Fellow of the Institute of Biology in U.K., and is making his second visit to Australia. He is the Keynote speaker at the W.A. Weeds Conference next month.

Jim was trained originally as an entomologist, and after some years work in medical entomology, joined I.C.I. at Jealotts Hill in 1946. Became Manager of Entomology Section and was involved in early work in organophosphorus insecticides. Having a keen interest in ecological matters, was chosen in 1963 to form and lead a new section to investigate environmental problems related to pesticides.

After fifteen years specialising on ecological problems, Jim Newman is now a leading authority in the U.K. and is widely consulted within and outside the Company on environmental problems.

He has frequently acted as scientific spokesman for the industry on television and radio news programmes dealing with matters relating to the alleged hazards of pesticides. With the affiliation of Jealotts Hill Research Station with Reading University, Jim Newman was appointed a member of the academic staff. More recently he has undertaken further responsibilities to advise Plant Protection Division, its subsidiaries abroad and I.C.I. generally on environmental problems.

This meeting should be of wide interest to members and others, as Jim Newman is a most entertaining speaker.

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FIELD TRIP TO WAGGA - COOTAMUNDRA AREA

THEME: Weed Control in Winter Crops.

DATE: 3rd and 4th October, 1979.

Tentative ProgrammeWednesday, 3rd October:

- 9.30 a.m. Morning Tea - Agricultural Research Institute, Wagga Wagga.
- 10.00 a.m. - 12.30 p.m. - Wheat variety/herbicide interactions. Weed control in lupins. A. Leys, A.R.I. Wagga.
- 1.30 p.m. - 5.00 p.m. - Industry weed control trials in Wagga district.
- Evening - Dinner at the Commercial Club and overnight accommodation at Wagga.

Thursday, 4th October:

- a.m. - On farm weed control. Mr. B. Hart, "Carinya", Junee Reefs - cereals, rapeseed, reduced cultivation.
- Wild radish control. Mr. R. Judd's property, Ariaiah Park.
- Control of Stuartina spp. Trial at Winchendon Vale.
- p.m. - Weed control trials in Cootamundra district
 - tramlining and reduced cultivation on Mr. Hugh Roberts' property "Birralelee".
 - Industry trials.

The programme outlined above has yet to be finalised. Any chemical companies that have trials suitable for inclusion in this tour should contact Andrew Leys, Agricultural Research Institute, Wagga Wagga - phone 069 230892 (230999).

Accommodation can also be arranged if required.

SHORT REPORT ON SYMPOSIUM"Direct Drilling and No-Till Farming in N.S.W."Conducted 16th August, 1979

The symposium was attended by approximately 50 people. The objective was to briefly review the progress of Direct Drilling and No-Till farming in N.S.W. Summaries of the papers presented will be published in future Newsletters.

We heard of the development of project teams in both Southern and Northern N.S.W. to bring together interested parties to ensure that the high level of user interest is satisfied. One important message here, (which was reiterated many times), was the major differences between North and South regarding stage of development and problems.

It was most encouraging to hear of the interest being shown by the Soil Conservation Service in these methods.

The C.S.I.R.O. Division of Plant Industry has been working on direct drilling problems for many years, and it is likely that useful contributions will be forthcoming. A team has been established to investigate some basic aspects such as moisture and nutrient relationships.

Direct drilling of soyabeans on the N.S.W. North Coast is progressing well. 5,000 ha (25% of the total N.S.W. crop) was direct drilled in 1978/9. Main advantages include high yields of 2 - 3 tons/ha (mainly due to timeliness of sowing and harvesting) and control of Soil erosion.

Probably the highlight of the Seminar was to hear from Ross Baldwin who farms at Young. Ross has adopted direct drilling on an intensive mixed farm which he runs on his own. He maintains that the real benefit of direct drilling is achieved only when adopted on a whole farm basis; it is a complete system with improvement in both crop and stock productivity. Ross particularly stressed the possibility of continuous cropping without soil erosion.

Sod Seeding of rice is expanding rapidly with the widespread use of Triple Disc drills and knockdown herbicides. There are still refinements to the system being investigated, and it is hoped that direct drilling may solve establishment problems in heavier soils, particularly in the Murray Valley.

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THE PRESENT 2, 4, 5 - T POSITION

The most recent statement on 2, 4, 5 - T made by the National Health and Medical Research Council (N.H.M.R.C.) is given in full below.

It is, of course, implicit in the statement, but not specifically stated, that this applies "when 2, 4, 5 - T is used in accordance with label directions".

"At its Eighty-fifth Session, in June, 1978, Council, having examined all the available scientific evidence, stated that it could find no substantiated scientific evidence of a causal link between the use of 2, 4, 5 - T and human birth defects.

The recent action of the Environmental Protection Agency in the United States of America in restricting the use of 2, 4, 5 - T had led to the matter of the use and safety of 2, 4, 5 - T being again referred to the Council for advice.

Since its 1978 statement, Council had maintained these substances under review; all scientific evidence subsequently becoming available had been examined.

In particular a special working party of Council had investigated in detail the material on which the actions of the United States Environmental Protection were based.

Council noted the acknowledgement in the documentation from the United States of deficiencies and difficulties in the investigations performed, and the conclusion of the report that 'For all its complexity, however, this analysis is a correlational analysis, and correlation does not necessarily mean causation'.

Council expressed regret that the original data used in the compilation were not available as in its view some of these data had not received the statistical treatment considered essential to arrive at any valid conclusions.

It considered that the report did not substantiate the conclusions contained therein, nor did it provide a basis for concluding whether 2, 4, 5 - T causes or does not cause an increase in spontaneous abortion.

Council concluded that its review of past evidence and the examination of new material did not provide any scientific evidence of a causal link between the use of 2, 4, 5 - T and excess occurrence of spontaneous abortion and human birth defects. It therefore did not recommend any additional restrictions on the use of 2, 4, 5 - T."

THE SEVENTH CONFERENCE OF THE ASIAN-PACIFIC WEED SCIENCE SOCIETY

Progress Report - as at 14th August, 1979.

Number of Registration paid: 166

The countries represented in
paid registrations are:

Australia (A.C.T.; N.S.W.; Qld.; S.A.;
Tas.; Vic.; W.A.),
Hong Kong, Indonesia, Japan, Kenya,
Malaysia, New Caledonia, New Zealand,
Philippines, Singapore, Taiwan, U.K.
and U.S.A.

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INTERNATIONAL WEED SCIENCE SOCIETY (I.W.S.S.)

The President of the International Weed Science Society, Les Matthews, was injured in an automobile accident in Rome in November. While Les quickly recovered from broken bones and bruises, complications developed in the form of detached retinas in both eyes. Les has spent considerable time in hospital. One eye has been saved and the other is still in doubt.

The international weed control conference planned for Rome in 1981 has been put off indefinitely.

AQUATIC PLANT DATA SYSTEM

A massive, computerized, 10,000-item collection of aquatic weed literature and information, one of the most extensive such data resources found in one location, has been designed and readied to respond to inquiries and requests.

The predominantly English language material, collected from references worldwide by staff at the University of Florida, U.S.A., and cataloged under the guidance of International Plant Protection Center Aquatic Weed Program director Dr. George Allen, falls into 15 categories such as biocontrol, chemical control, and plant species.

The system can be directed to print out bibliographic references for an entire category or to cross reference two categories, e.g., chemical control and a particular plant species.

Cataloged material pertains to freshwater macrophytes only and excludes algae and marine plants. The system does not provide abstracts.

Aquatic Plant Data System (Cont'd)

Items in the collection include texts, papers, articles, and material from leading international journals and periodicals, as well as relevant leaflets, plus other sources. The majority of printed matter is stored at I.P.P.C./Florida. An average of between 15 and 50 new items have been received, cataloged, and entered into the system each week, according to Mimi Monsour, information specialist with the program.

"We are ready to provide bibliographies (printouts) and material in response to requests", Ms. Monsour said. "However, requestions need to be quite specific and, initially, limited to two questions", she added.

There is no cost for using the service which is supported in part by the U.S. Agency for International Development/Oregon State University weed systems contract co-ordinated by the International Plant Protection Center.

To request category lists and obtain further specifics of the service, write: Information Storage and Retrieval System, I.P.P.C. Aquatic Weed Program, 3103 McCarty Hall, University of Florida, Gainesville, FL 32611, U.S.A. (From: I.P.P.C. INFOLETTER No. 38, November 1978, International Plant Protection Center, Oregon State University, Corvallis, OR 97331, U.S.A.)

TIME REQUIRED FOR HANDWEEDING

Following a request from the I.W.S.S. for data on the hours required for handweeding various crops the following data was received:

<u>Crop</u>	<u>Location</u>	<u>Hours per Hectare to Handweed</u>	<u>Source</u>
Soybeans	Peru	360 if 6 hour day	R. Frans
Transplanted Tomatoes	Ohio, U.S.A.	71 following herbicide 133 following cultivation	R.C. Henne
Maize	Rhodesia	24-48 if 6 hour day only between rows	P.E.L. Thomas
Beans	Wyoming, U.S.A.	4.4 - 15.5 following broadcast herbicide 31.8 no herbicide	R. Comes
Sugarbeets	Washington, U.S.A.	2-111 following broadcast herbicide 141 no herbicide	J.H. Dawson
Various Vegetables	California, U.S.A.	10 following broadcast herbicides	H. Kempen
Rice	Various	16-500 depending on location and rice culture	van Heemst*
Wheat	-	101	"
Sorghum	-	50	"

Time Required for Handweeding (Cont'd)

<u>Crop</u>	<u>Location</u>	<u>Hours per Hectare to Handweed</u>	<u>Source</u>
Millet	-	88-298	van Heemst*
Maize	-	160-441	"
Cotton	-	50-700	"
Jute	-	140	"
Groundnut	-	102-293	"
Cassava	-	115-1069	"

*N.B. The last 9 items were provided by Mr. van Heemst at the Centre for Agrobiological Research, Wageningen, The Netherlands, who has been collecting data on the topic from many sources. The source of the other items can be obtained if required by contacting the Secretary of I.W.S.S.

PARTHENIUM NEWSLETTER

Parthenium now has its own newsletter. The editor is Dr. P.V. Subba Rao, Department of Biochemistry, Indian Institute of Science, Bangalore, India.

HERBICIDE HANDBOOK OF THE WEED SCIENCE SOCIETY OF AMERICA

The fourth edition is now available from W.S.S.A., 309 West Clark Street, Champaign, IL 61820, U.S.A. The new edition contains 479 pages of information on the herbicides registered for use in the United States. Such information as chemical characteristics, herbicidal use, precaution, physiological and biochemical behaviour, and toxicological properties is included. This is NOT a recommendation handbook. Price U.S.\$7.50.

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FIRST AUSTRALIAN JOJOBA (ho-Ho-ba) CONFERENCEBATHURST, 19th - 21st SEPTEMBER, 1979

The Agricultural Technologists of Australasia, in association with Congress Information Centres in Sydney, are organising the first Australian Jojoba Conference.

What is Jojoba?

The Jojoba plant produces a seed that contains 50% pure liquid wax. Jojoba (pronounced ho-Ho-ba with J's as H's as in Spanish) was, commonly referred to as an oil, has unique properties which make it one of the most promising agro-industry developments in the world today. A few of the scores of uses of Jojoba wax include pharmaceuticals, polishes, detergents, lubrication of automotive transmissions and as a petrol additive. It can also replace sperm whale oil. The meal remaining after extraction of the oil contains 30-35% protein which makes an excellent cattle feed.

Jojoba is being hailed as the "Super Bean" of the future and this conference will bring together current research and experience in adapting Jojoba to Australian conditions. The plant thrives in marginal agricultural areas and is extremely tough in that once established it can withstand being burnt off as it will re-sprout. Jojoba survives long droughts and can apparently be irrigated with brackish water with a saline content. Plants have a life span of up to 100 years and once established have low fertiliser and management requirements.

Jojoba is a native of the Sonoran Desert that straddles the U.S./Mexican border. Only a few thousand acres have been planted around the world to date and large areas of Australia are very suitable for Jojoba cultivation. The conditions necessary for cultivation will be discussed at the conference.

One conference session will also survey the potential for sugar beet, castor oil, guayule, cassava, euphorbia (the "petrol tree") and other crops that yield hydro-carbons. This is a surprising new area of agriculture.

This conference is an opportunity to "get in on the ground floor" of these entirely new agricultural industries. For further information and registration forms, all enquiries to:

Agricultural Technologists of Australia,
P.O. Box 307, BATHURST, N.S.W. 2795.

For telephone enquiries, ring BATHURST (063) 31 2088 or SYDNEY (02) 27 6053.

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DICAMBA HERBICIDE

Dicamba (3,6-dichloro-o-anisic acid) was first made available to the Australia grain producer about 1964. Since then vast changes have occurred in the varieties of wheat, barley and oats available to the producer. With the introduction of the Trade Practices Act in 1974, improvements in consumer protection and changes in registration legislation, it has become evident that an update in crop safety recommendations was required on all herbicides.

The update of safety recommendations on the dicamba label commenced in 1973, with investigations of Dicamba + 2,4-D on Clipper Barley. Further work was conducted in 1975, again into Clipper Barley in South East Queensland. In 1977/78, extensive research was conducted by the re-sellers of Dicamba products and Velsicol Australia Limited the supplier of Dicamba to the Australian market.

The research results are summarised as Technical Bulletin 612-2 available from Velsicol Australia Limited.

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PART 2 OF GLOSSARY OF TERMS IN WEED SCIENCE PREPARED

BY EXPERT COMMITTEE ON WEEDS, CANADA

Early postemergence	The application of a chemical when the weeds and/or the crop have just emerged.
Emersed plant	A rooted or anchored aquatic plant adapted to grow with most of leaf and stem tissue above the water surface and not rising and falling with the water level.
Emulsifiable concentrate formulation	Clear solution of toxicant in solvent and emulsifiers for dilution in water to form an "emulsion". (Emulsions sometimes carry label directions for dilution in similar solvent to form solutions).
Emulsifier	A surface-active agent which promotes the suspension of one liquid in another.
Emulsion	A dispersion of globules of a liquid in a liquid.
Encapsulated formulation	Herbicide enclosed in tiny capsules of thin polyvinyl or other materials intended to control the release of the herbicide.
Epinasty	A response of plants due to disturbance of the normal growth pattern which produces twisting, cupping, or curling of the plant parts.

Ester	An organic compound which is formed by reacting an organic acid with an alcohol.
Flake formulation	Ready-to-use material in flake form composed of toxicant and possible inert ingredients.
Floating plant	A free-floating or anchored aquatic plant adapted to grow with most of its vegetative tissue at or above the water surface and rising and falling with the water level.
Flowable formulation	A concentrated suspension that can be diluted with water.
Foliar application	Herbicide applications made to the leaves of plants as opposed to a soil application.
Formulation	The form in which the manufacturer prepares a herbicide to facilitate its use.
Granular formulation	Ready-to-use solid mixture of any dry, free flowing particles (larger than 500 microns size) composed of toxicant and inert ingredients. Sand is included in this class.
Growth stages of cereals	<p>(a) The 1-leaf stage is the time from emergence until the second leaf is visible. The 2-leaf stage is the period between the appearance of the second leaf and that of the third leaf and so on.</p> <p>(b) Flag-leaf stage is the stage when the spike or panicle begins to enlarge within the sheath of the uppermost leaf on the stem. The blade of the leaf is usually at right angles to the stem at this stage. (Also called shot-blade or boot stage).</p> <p>(c) Heading stage is when the spike or panicle emerges from the sheath.</p> <p>(d) Milk stage is when the endosperm of the developing seed is in a liquid state.</p> <p>(e) Dough stage is when the endosperm of the developing seed has a dough-like consistency.</p>
Herbicide	An agent (usually chemical) used to destroy or inhibit plant growth.
High volume spray	Spray application of more than 600 litres/ha.