THE WEED SOCIETY / OF NEW SOUTH WALES

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

NEWSLETTER NO. 6/81
Price - 10 cents

November, 1981

SOME THOUGHTS ABOUT WEED CONTROL IN THE 80's

Talk given to Weed Society of N.S.W. by Dr. L. W. Smith at Annual General Meeting, February, 1981.

The need for efficient, economical and effective weed control is greater today than it ever has been. The quality and quantity of agricultural production whether it be wheat, other cereals, vegetables, root crops, pastures and ultimately animal production is at a premium and weeds play a major role in this production.

It appears that in the 80's and in the 90's increasing emphasis will be placed on crop production. The changing export markets for Australian agricultural products would appear to favour crop production at the expense of animal production. Also there is the search for high energy crops which can produce alcohol or oil. These increased activities in crop production will place a big demand on weed control technology.

ENERGY AND WEED CONTROL

There has been a lot of publicity about energy crises and energy shortages and increased fuel costs. These are now real and they will have significant effects on our weed control practices in the future.

One of the main influences will be to lower the amount of tillage that is used for crop and pasture establishment. Terms such as conservation tillage, zero tillage, minimum tillage and direct drilling are now common place. These practices have resulted in savings in fuel and they will be adopted on a wider basis in the 80's and 90's. However what influences will these practices have on our weed populations? Obviously changes in weed problems and populations will occur, but we do not have many answers to this question at the moment.

One important likely effect will be to lower the weed seed resources of many annual weeds in the soil. Also with the soil not being disturbed as much the weed seeds will tend to be concentrated in the top layers of the soil where we can probably control them more easily.

Direct drilling has tended to increase the wild oat populations and we have had to use post emergence herbicides to control them, but this may be a blessing in disguise in the long run as they will not be deeply buried. Also perennial weeds will increase as less cultivation is used. New weeds will arise that we haven't taken much notice of in the past. For instance in the last few days I've become aware of cut-leaf nightshade and brown beetle grass, weeds I'd never heard of before.

BIOLOGICAL CONTROL

There is obviously increasing public pressure for biological control of many of our weeds especially blackberry, lantana, Bitou bush etc. and yet on the other hand you have very small minority groups able to exert great pressures in opposition to biological control, such as with Paterson's curse. If CSIRO lose the fight for biological control of Paterson's curse then the future looks bleak for other bio-control programmes such as with blackberries.

CHEMICAL WEED CONTROL

It is obvious that chemicals are going to be the main stay of weed control methods for many years, but what of the future of chemicals with all the media publicity about 2,4,5-T and its "toxic effects". Many councils and individuals will not use 2,4,5-T because of this publicity.

New chemicals and new uses for old chemicals will continually be arising. We may lose some chemicals such as 2,4,5-T but alternatives although more costly will also be found. Preference will be given to water soluble, post-emergence chemicals used at low rates (example "GLEAN") beccause these types of chemicals are energy efficient.

Tank mixes are proving popular and their use will increase to control broader spectrums of weeds. Pesticide labels will change dramatically and there could develop the concept of "truth in labelling" which puts the onus on the chemical company for correct labelling, not government authorities.

The cost of chemicals will increase and this means we are going to have to apply them more efficiently and this is where I see the major advances of the 80's and 90's occurring.

A programmed approach to crop production in the 90's will make it necessary for precision use of herbicides both in terms of the correct dosage and the precise timing of application.

To obtain increased efficiency I see advances will be made in the design of better equipment, able to apply chemicals at a faster rate, and at reduced volumes, which cuts down turn around time. There will be greater attention to spray retention on target plants rathar than on non-target plants.

We have already seen the development of:

i) CDA (Controlled Droplet Application),
ii) ULV (Ultra low volume Application),
iii) and machines such as weed wipers, rollers and wick applicators e.g. "Chem-hoe" and "Ropewicks" and
iv) equipment such as spot applicators and injectors.

These all apply less chemical, more accurately, where it is needed, for best effect.

Other application systems such as electrostatic sprayers, reticulating sprayers, and high frequency waves or electrical machines remain to be developed commercially.

In conclusion then I see the 80's and 90's as a period of considerable challenge and change for weed scientists. We will have to learn to use chemicals more efficiently and apply them more accurately. Both economic and environmental constraints will make this necessary.

Finally Weed Science as a discipline has come of age. It is now a very sophisticated science which must take advantage of the new technology as it arises.

AUSTRALIAN WEEDS

The first issue of Australian Weeds has now been published and you all should have received your free copy by now. There are 3 more issues ready to go so if you want to subscribe and receive copies, fill in the subscription request form that is included with your free copy and send to Inkata Press, 4 Langbourne Ave., North Clayton, 3168. The first copy contained a mixture of scientific and popular type articles which should appeal to all types of readers. The Editor, John Swarbrick, is to be congratulated for his efforts in getting this journal off the ground.

John would appreciate receiving any articles that you can contribute for future issues. Start writing now.

PROCEEDINGS OF THE 7TH ASIAN PACIFIC WEED SCIENCE CONFERENCE

Copies of these Proceedings are now available for your library at a cost of $6.00 for both volumes! Yes, you've read correctly, $6.00 for both volumes. Stocks are limited so order early from the Secretary, P.O. Box K287, Haymarket, 2000.

6TH AUSTRALIAN WEEDS CONFERENCE

A very successful Conference was held at Broadbeach, Qld. from September 14-18th. Approximately 150 people attended the Conference and 52 papers were presented in 10 sessions covering most aspects of weeds and weed control techniques.

Two Symposia entitled "Plants and Health" and "Herbicide Application" were held on two half-day sessions. These were particularly interesting and the papers will be published in the 2nd volume of the Proceedings.

Copies of the Proceedings are available from Greg Harvey, c/- Sir Allan Fletcher Research Station, Sherwood, Qld., 4075 at a cost of $25.00 for the two volumes.

NOTE

The 7th Australian Weeds Conference will be held in Perth, Western Australia in 1984. It will be hosted by the Weed Society of Western Australian and further details will be provided at a later date.

REPORT OF CAWSS MEETING, 14TH SEPTEMBER 1981 HELD AT BROADBEACH HOTEL QUEENSLAND

1. A cheque for $5000, being the surplus funds from the 7th APWSSC was handed to the President of CAWSS, Bill Parsons by Allan Mears.

2. Surplus Proceedings from the 7th APWSSC were to be distributed to the State Societies to sell at their own discretion, income to be retained by the Societies.

3. A motion was carried - "that any profits derived from CAWSS sponsored Australian Weed Conferences be forwarded by the Society organising the Conference to the Society organising the next Conference as soon as all accounts are finalised".

4. Also it was agreed "that future national weeds conferences convened by CAWSS be termed Australian Weeds Conferences and the numbering sequence for the Conference held in Queensland, 1981 be continued for future conferences.

5. The journal "Australian Weeds" was launched at the 6th Australian Weeds Conference. A Wheat Industry Research Council grant of $2000 and the $5000 from the APWSSC would be used towards the establishment costs of the journal.

6. Changes were made to the constitution of CAWSS so that the Council will be exempt from income tax and that the Council's income will be prohibited in distribution.

7. Other business included:-

   - guidelines to be established for the CAWSS Oration.
   - A proposal for a CAWSS Medal to be investigated.
   - employers should give consideration for use of term "Weed Scientist" when advertising for staff.

POINTS RAISED BY MR. N. JOHNSTON IN HIS ORATION

REGARDING THE FUTURE DIRECTION OF CAWSS

(THURSDAY, SEPTEMBER 17TH, 1981)

1. We should assume a more dynamic role in the persuit of our objectives. The first priority is to highlight to people and Government the national and socio-economic importance of weeds to the whole community.

2. We need to increase the membership of our Societies; encourage new societies e.g. Tasmania, A.C.T.; establish regional sub branches; and encourage specialist groups e.g. tropical weed scientists.

3. Our communications system will need to be overhauled in the 1980s. Does each Society have an effective public relations officer? Do we need a better abstracting service? We need a recruitment brochure for public information as well as recruitment purposes. We also need a directory of members and their particular interest in weed science and practice.

4. CAWSS should develop a policy position on weed research, extension, legislation and be in the position to comment on priorities for action at the political, community or farmer level.

5. CAWSS should be a member of, or have a consultative role in the Australian Weeds Committee.

6. The President of CAWSS should visit each member Society.

7. CAWSS should investigate opportunities for consultative work in weed research and control in the developing countries.

8. CAWSS should spearhead major developments in weed technology of practical application to Australia. Conservation tillage would be an example.

9. CAWSS will need to have a greater role in the training and education of membmers of the Societies.

10. There is an urgent need for a Chair of Weed Science at an Australian university.

11. In the longer term we should be looking at the incorporation of CAWSS or a "Weed Science Foundation" as a company limited by guarantee. This should allow Government, private and industry funds to be sought to support our objectives.

The Oration will be published in full in a future issue of Australian Weeds.

RECOMMENDATION MADE AT 6TH AUSTRALIAN WEEDS CONFERENCE

(SEPTEMBER 14 - 18TH, 1981)

1. That an approach be made to the Department of National Development and Energy to implement the recommendations of the National Committee on Management of Aquatic Weeds.

2. That some form of registration of herbicide application equipment be initiated.

3. That organisations representing rural producers, the rural media and herbicide manufacturers be admitted to C.A.W.S.S. or in some way become affiliated with C.A.W.S.S..

4. That C.A.W.S.S. establish a list of definitions for use by weed scientists and legislators (including registration authorities) in Austrlaia.

5. That a committee be formed to:-

   (i) produce a set of guidelines for testing crop varietal tolerance to herbicides by standardizing the methods used

   and

   (ii) develop a national tolerance testing scheme with centres situated in major environmental/agronomic zones.

6. That ways be investigated to give some period of protection to bodies which develop innovative uses of "old" herbicides.

7. That ways be investigated in which some encouragement or protection can be given for the development of herbicides likely to have only a minor use.

8. That a programme of permanent weed surveying be encouraged in the States.

ANNUAL GENERAL MEETING is to be held on Friday, 26th February at a venue yet to be decided. Further details will be provided at a later date.

NEWS OF MEMBERS

John Ryan, formerly Manager of the farm at the Agricultural and Veterinary Research Centre, Orange has been appointed as Special Agronomist (Glen Innes). This is the second Special Agronomist (Weeds) in the Department and he will join with Jim Dellow in making a significant impact on the weed problems in the State.

- Welcome to new member Peter Gorham. Peter is Field Officer (Weeds), Cowra with the N.S.W. Department of Agriculture.

- the death is reported of P. G. Lawry, Weeds Officer, Narrabri Shire.

THE WORLD'S WORST WEEDS

1.	Cyperus rotundus	nutgrass
2.	Cynadon dactylon	couch grass
3.	Echinochloa crusgalli	barnyard grass
4.	Echinochloa colonum	awnless barnyard grass
5.	Eleusine indica	crowsfoot grass
6.	Sorghum halepense	Johnson grass
7.	Imperata cylindrica	blady grass
8.	Eichhornia crassipes	water hyacinth
9.	Portulaca oleracea	pigweed
10.	Chenopodium album	fat hen
11.	Digitaria sanguinalis	summer grass
12.	Convolvulus arvensis	bindweed
13.	Avena fatua	wild oats
14.	Amaranthus hybridus	slim amaranth
15.	Amaranthus spinosus	needle burr
16.	Cyperus esculentus	yellow nutgrass
17.	Paspalum conjugatum	sourgrass

FAMILAR FLORA OF THE NEW SOUTH WALES LANDSCAPE

The genus Polus:

Polus powerii - A most popular species, planted in avenues contributing to the beauty of our urban and country areas alike. Particularly spectacular at metropolitan intersections where, with a background of brightly painted advertising hoardings, ensure that the ugliness of our historic buildings and harbour views are screened. This genus is being replaced by Powerus subteraineana, a much less spectacular genus.

Polus footballii - This extremely popular species, the varieties of which may be seen distributed throughout large (mostly bare) paddocks, reserved within urban areas for the local population to gather while the majority of them throw abuse, insults, beer cans, bottles, rocks, etc. at a small selected group, hotly persueing each other in order to inflict injury to one who at the time is clutching a bag of air which he intends to transport to a white painted line

through the base of a Polus footballii, which are planted at each end of this base and muddy paddock, which is probably showing signs of the decorative efforts of the majority group who have distributed artistically, the beer cans and bottles previously mentioned, ice cream wrappers, potato chip containers, mutilated remains of Big Ben pies, cigarette packets, etc.. Some of the varieties, to be described later, include P. footballii "Leagueii", P. footballii "Soccerii", P. footballii "Aussirulus", P. footballii "Unionus", etc..

N.B. Contributions to this series are solicited and welcome.

RE-ASSURANCE ON 2,4,5-T IN NEW ZEALAND

A preliminary report of reproductive outcomes among pesticides applicators using 2,4,5-T in New Zealand shows that aerial operators can be reassured about using this widely criticised but extremely useful agricultural chemical.

The report was made by Dr. Allan H. Smith, MB ChB PhD, senior lecturer in epidemiology, Dr. Ronald P. Matheson, BSc MB ChB, house surgeon, Mr. David O. Fisher, BSc, scientific officer, Department of Community Health, Wellington Clinical School of Medicine, Dr. Cyril J. Chapman, BSc MB ChB, medical geneticist, Cytogenetics Unit, Wellington Hospital, Wellington, New Zealand.

Their report summary published earlier this year, in the NZ Medical Journal stated:

"Reproductive outcomes among New Zealand chemical applicators using 2,4,5-T and other pesticides were compared with those of agricultural contractors by means of a postal questionnaire survey. The overall response rate of 86 per cent yielded 459 married chemical applicators and 422 married agricultural contractors. Rates of congenital defects, stillbirtrhs, and miscarriages among the 1172 chemical applicator births were compared wit the rates among the 1122 agricultural contractor births.

No significant differences were found and the rates of congenital defects of 20 per 1000 bitrhs for the chemical applicators and 16 per 1000 births for the agricultural contractors were close to those reports in other New Zealand studies. These results are reassuring, particularly for the general population whose exposure from spraying activities is many orders of magnitude lower than that experienced by chemical applicators and their wives," the report said.