

THE WEED SOCIETY / OF NEW SOUTH WALES

c/o Department of Agriculture, ~~Box 36, G.P.O.~~, Sydney

No. 68/3

July, 1968

NOTICE OF GENERAL MEETING

The next meeting of the Society will be held at Agriculture House, 1st Floor, 195 Macquarie Street, Sydney, on Monday 22nd July at 7.30 p.m.

The speaker will be Mr. D.G. Sharp of Plant Protection Ltd., Fernhurst, England on:

"The Application of Bipyrindyl Herbicides".

Mr. Sharp is a graduate engineer whose main field of work has been in the development of techniques of applying the bipyrindyls (paraquat and diquat). This talk should be of interest to all workers in the weed field who are concerned with the mechanics of applying a herbicide to a target plant.

A light buffet tea will be available preceding the meeting at a cost of \$1.00 per head. Time 6. p.m.

Please advise Agriculture Club by telephoning by Friday 19th July if you wish to have tea.

Phone 221 - 1769
221 - 1767

Subscriptions

Members are reminded that subscription for 1968 have been due since the 1st March.

Subscriptions are:

Ordinary members:	\$4. 00
Corporate members:	\$10. 00

Subscription should be forwarded to the Treasurer:

Mr. A. D. Mears
N.S.W. Department of Agriculture
State Office Block
SYDNEY. N.S.W. 2000

PERSONAL NEWS:

Mr. K.R. Green, Principal Agronomist (Weeds) of the N.S.W. Department of Agriculture and Past President of the Society departs on an overseas tour on 10th July. He will visit weed science workers and administrators in the U.S.A., United Kingdom and Europe.

Mr. D. Oliver previously Technical Officer with W.A. Flick and Co. has joined the N.S.W. Department of Agriculture as Research Agronomist (Weeds). Mr. Oliver will be primarily engaged in weed control work in vegetables.

Mr. K.A. Watson, Amalgamated Chemicals Ltd. will be paying a brief visit to the British Solomon Island and Papua - New Guinea during July.

Mr. P.R. Gregory.

Mr. Gregory reports that he is enjoying his course at Wye and has passed his first set of exams, which means he is half-way through.

He gives his address at Wye College, Near Ashford, Kent, England. He wishes to be remembered to his friends in the Society.

Contributions to the Personal News section and general contributions to the Newsletter are invited from members. They may be phoned, handed or posted to any member of the Committee where names and addresses were given in the May Newsletter.

FORTHCOMING EVENTS:

The provisional programme for the remainder of the year is as follows:

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| August | A seminar on Council Weed Problems. |
| September | Timber Control Field Day |
| October | Weed Control in Summer Cereal Crops |
| November | Pesticide Legislation. It is expected that this will be a joint meeting with other interested organisations. |
| December | Overseas Developments in Weed Science
Mr. K.R. Green. |

The Weed Society of Victoria will be holding a two day conference in Melbourne entitled, 'First Victorian Weeds Conference' on November 7th and 8th, 1968.

The N.S.W. Society has made preliminary plans for a symposium on Woody Weeds in May 1969. Ecology, Control, Economic Problems, and Management are suggested topics.

CORRESPONDENCE:

Weed Control in Crops

The following contributions have been received on this subject. The Editor has exercised his prerogative of condensing these letters.

Agricultural Research Station, Wollongbar.

6th June, 1968.

Dear Sir,

I would like to comment on the note in the May, 1968, Newsletter regarding the measurement of weed control in crops.

Since a complete census of weed flora in any one experiment is usually impractical, some form of sampling technique is required.

Many sampling techniques which have been developed have their main use in the study of natural communities along some environmental gradient, for example:- the line transect, and are unsuitable for the problem at hand. Some form of "quadrat" is probably the most useful sampling apparatus. Since the lower the perimeter to area ratio the lower the error due to edge effect, a circle would probably be the most desirable shape. However, the circular shaped "quadrat" has found most use in focusing attention on the spread of vegetation about a point and a square shape is probably adequate.

Within the quadrat, counts such as density of "individuals" suffer from the fact that it is often difficult to define an "individual" and that no allowance is made for the size of individuals or varying leaf area indices among different species. Ground cover, usually expressed as a percentage, overcomes this problem in part and is frequently used as an index of the status of a species and thus gives some indication of competitive ability. Ground cover is independent of quadrat size, can be fairly easily assessed visually (say, have the limit of reading as 10%) and would be readily comprehended by landholders.

The number of samples required per replication could be defined as the number of samples taken when further sampling produces no significant decrease in the coefficient of variation of the data.

Yours faithfully,

Bruce A. Auld,
Research Agronomist (Weeds)

Yanco Agricultural College and
Research Station, Yanco.

11th June, 1968.

Dear Sir,

In the Newsletter for May 1968 you invited comments on the importance of weed counts in herbicide trials in crops. Below are a few points which come to mind.

Collection of meaningful data on this subject is (also) hampered by the inherent variability in the distribution of naturally occurring plants. It is often necessary to count many quadrats before results are statistically acceptable.

There are also factors which limit the applicability of these weed count versus yield data, even where it is possible to obtain them. Yield differences recorded in herbicide trials represent the effects of two factors, weed competition and the phytotoxic effect of the herbicide on the crop. The problem of separating these effects is discussed by Hazard in the Australian Weeds Research Newsletter for November, 1967 (No. 11).

Similarly it is dangerous to apply results to a situation with different weed flora. The yield response obtained will obviously vary with both the susceptibility of weed species to the herbicide, and the relative competitive ability of the weeds. The only situation where these factors could possibly be discounted would be that in which a specific weed is to be controlled e.g. Avena spp. in wheat.

The usefulness of weed counts in predicting yield responses is only going to be effective over a limited range of weed density. Obviously yield reduction per weed plant per unit area is not going to be constant over all weed densities. At lower levels this relationship can possibly be regarded as approximately constant, but as weed density rises a limiting value is approached, beyond which an increase in weed numbers will not affect crop yield. Weed counts on the rapidly descending section of the yield weed density curve will be of use, but where weed densities are in excess of the limiting value, they will be of little use in defining the curve. This yield as weed density curve will be different for each crop - weed system, and will also be dependent on environmental features.

This objection is, no doubt an academic one, and not one directly related to the extension situation. It can be assumed in the great majority of cases that the limiting value of weed density referred to above is in excess of the weed density which makes spraying economic.

Perhaps a somewhat more basic approach is called for to supplement, rather than replace, weed density data from herbicide trials. This approach would entail firstly ecological studies on the competitive effects of certain weeds on certain crops, and the ways in which these effects are varied by environmental changes (e.g. soil fertility, moisture availability, temperature).

Complementary to this approach would be field trials of relevant herbicides on weed free stands of the crops involved, and possibly pure stands of weeds.

Consideration of the results of the above seems to be the only way of securing definitive results. The amount of work involved in such an approach,, however, probably means that we will have to be content with approximations and data of limited applicability for many years.

Yours faithfully,

David J. Swain

Industrial Weed Control

About 30 members and visitors attended the meeting held in Agriculture Club on 24th June.

One of the points arising from the discussion session was the following.

Herbicide labels usually specify so much chemical per unit area. In the industrial weed control field areas treated are often irregularly shaped and discontinuous. Recommendations for use of a concentration e.g. so many lb or pints per 100 gallons, would be much more practicable.

Concentration recommendations are commonly used for 2,4-D (0.1%) and 2,4,5-T (0.4%) per overall spraying and 4.0% per frill application). Can such recommendation be made for the commonly used industrial herbicides?

Members comments would be appreciated.

PRODUCT INFORMATION:

PARAQUAT FOR CONTROL OF WILD OATS AND WIMMERA RYE GRASS IN CEREAL CROPS

Following some commercial trials in the 1966-67 season in the Wagga area of New South Wales, recommendations were made in the 1967-1968 season on the use of paraquat in controlling Wild Oats and Wimmera Rye Grass in cereal crops.

Because of the dry season in the South Western area of the State, very little paraquat was used for this purpose in that area last year, but several thousand acres in the North Western part of the wheat belt were treated pre-sowing with 2 oz. active ion ($\frac{1}{2}$ pint 20% concentrate) per acre for the control of Wild Oats.

A survey carried out at the end of the season covering 42 farms on which the product had been used showed that of the six farmers who were not satisfied, three stated they had a poor initial kill (two by aerial application, one by ground), and the other three (one aerial application and two ground) felt that subsequent germination of Wild Oats prevented a nett profit being gained. The 36 farmers who would use it again had yield increases due to the spraying, which ranged from 3 - 39 bushels per acre.

The method involves normal ploughing and cultivating to prepare a seed bed, but no further cultivations before a "sowing rain" is received in the sowing period. The Wild Oats and other weeds are then sprayed to give a contact kill, and sowing is carried out within five days.

Paraquat is sold under the trade name of 'Gramoxone'.

STATEMENT OF RECEIPT AND PAYMENTS - 11 MONTHS TO 31.12.67

<u>RECEIPTS</u>		<u>PAYMENTS</u>	
Bank Balance	1.2.67		
Petty Cash		\$530.44	
Newsletters		9.30	
		<u>12.00</u>	
Sundry Income			\$551.74
Joining Fees			100.00
Membership Fees			
Corporate		270.00	
Ordinary		212.00	
In Advance		<u>62.00</u>	
Dinner Fees			544.00
Symposium			118.00
Bank Interest			664.00
Donations			20.80
Sale of Proceedings			10.00
Refund of Petty Cash			112.50
			2.95
		<u>\$2,123.99</u>	
			<u>\$2,123.99</u>
			\$429.26
			139.97
			835.77
			39.86
			<u>47.00</u>
			1,491.86
			608.13
			12.00
			<u>12.00</u>
			632.13

I certify the above statement to represent the true and correct position of the accounts of the Weed Society of N.S.W. according to the records produced and explanations given.

A.D. MEARS
HON. TREASURER

E. BRAGG
HON. AUDITOR, 1.7.68.

Weed Society of N.S.W.,
C/- Department of Agriculture, Sydney.
Newsletter No. 68/3, July, 1968.

SYDNEY
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18 JULY
1968

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