

SESSION 8a.

DISCUSSION

Double Gee (Emex australis)

Mr. Meadly said that, in Western Australia, DNOC had given the best result when applied at the seedling stage. A 1% solution had been used with sulphate of ammonia added at the rate of 2 lbs. per 100 gallons of water as an activator. The cost of treatment (35/- per acre) was a deterrent to large scale use.

If selectivity was not required the plant could be killed by spraying with sodium chlorate or an arsenic compound.

Capeweed (Cryptosterma calendula)

Mr. Meadly explained that "pre-emergence" spraying, mentioned in his paper, referred to pre-emergence of the cereal, and post-emergence of the weed. The use of high volume of applications of contact sprays was precluded in many areas where water supplies were not freely available. In Western Australia varying climatic conditions had little effect on the response of capeweed to phenoxyacetic acid compounds; the plant was relatively resistant under all conditions.

Crop Tolerance

Mr. Hore stated that the results at Longerenong agreed with those of workers at other centres. He had no information on the inheritance by plants of resistance to 2,4-D.

In response to a request for information on the germination of pasture legume seed following herbicidal treatment, Mr. Hore stated that germination counts had been made in connection with the Victorian work and were available for those interested.

Tolerance of Subterranean Clover to Chemical Weed Control in Improved Pastures.

The importance of pasture vigour in connection with the control of weeds in pasture was discussed. Vigour of pastures was considered important from the point of view of -

- (a) greater susceptibility of weeds as a result of higher soil fertility, and
- (b) the relationship of clover vigour to susceptibility to herbicides.

Mr. Johnson said, in experiments at Cootamundra and Yass, Subterranean clover injury had not been more severe in the more actively growing pastures.

Experience in South Australia had shown that MCPA appeared to be more effective than 2,4-D against saffron thistle, a common weed of clover in the colder south eastern areas of the State. In contrast 2,4-D gave better results than MCPA on saffron thistle in the northern wheat areas e.g., Minnipa.

Mr. Overell suggested that it might be for a similar reason that MCPA was more effective than 2,4-D against cardoon (Cynara cardunculus).

Mr. Meadly emphasized the need to distinguish between the effects of herbicide treatment on first year undersown clovers in cereals, and on clovers in well established pastures. He said, also, that experiments were being initiated in Western Australia to evaluate the effect of different herbicides on the time of flowering of clover. This could be of critical importance in the drier areas, if regeneration of clover in the succeeding year was affected.

Mr. Hore said that medics were definitely more susceptible to damage from phenoxyacetates at flowering than at earlier growth stages. He pointed out that the climate at Walpeup did not afford sufficient time to enable the medic to recover from a late spraying and set seed. It was very probable that this was not important in subterranean clover districts i.e., there was sufficient time in these areas for the plant to recover and set seed after treatment. This could explain the difference between findings at Walpeup and those reported by Mr. Johnson from work in New South Wales.

In reply to a question on the tolerance of white clover and Palestine strawberry clover Mr. Green quoted overseas work which indicated that white clover was highly resistant, being killed only by amine 2,4,5T. Mr. Orchard said that Palestine strawberry clover had been found to be resistant to 2 lbs. MCPA per acre, at Coonawarra, S.A.

Pre-Emergence Weed Control in Sugar Cane Areas

Commenting on the use of pre-emergence sprays (under similar climatic conditions), Mr. Overell stated that excellent results had been obtained with sodium pentachlorophenate for control of weeds in pineapples. The rate was 10 - 15 lbs. PCP plus 2 gals. emulsifiable oil applied in 100 gals. of water. Addition of the emulsifiable oil markedly improved the

effectiveness of the spray; two sprayings often gave complete control of weeds throughout the year.

Mr. Vallance said that there were no indications of increasingly rapid breakdown of herbicides in the soil after continued use. Rather did subsequent applications become more effective with increased skill of application on the part of the operator.

Selective Weed Control in Vegetable Crops

Mr. Overell said that effective results had been obtained in the Murray Valley with onions using a post-emergence spray (4-leaf stage of onion, pre-emergence of weed) of 4 lbs. chloro-IPC. The crop was sprayed in spring under conditions of ample soil moisture. Mr. Green said that good results had been obtained in New South Wales using kerosene prior to emergence of the crop. A kerosene of the type used for weed control in carrots had been used on onions up to 3 days after emergence. Under irrigation, kerosene pre-emergence crop sprays controlled grasses and early dicotyledons. Later spraying with DNOC was made more effective by the check the weeds received from the earlier treatment. A solvent naptha had given better results than kerosene in controlling weeds in carrots.

With strawberries, applications of 2 lbs. amine 2,4-D per acre immediately prior to planting out, and 1 lb. or less per acre at a later stage (after picking) had proved very successful.

A second very useful herbicide for weed control in strawberries was sodium dichlorophenoxyethyl sulphate which was applied at 2-4 lbs. per acre before germination of the weeds.

Mr. Orchard stated that in his experience 2,4-D could not be used safely as a low volume spray on peas.

Attention was drawn to the fact that Mr. Edwards' statement of the effectiveness of CMU on muck (organic) soils in Florida was directly opposed to the findings described by Mr. Levi in an earlier paper. Mr. Edwards replied that it was a very definite opinion at Cornell that CMU would give better results on muck than on mineral soils.

Selective Weed Control of Annual Weeds in Summer Grain Crops

Mr. Everist said that esters of 2,4-D had proved less effective in the control of mintweed in Queensland than either the amine or sodium salt. Under the best conditions, rates as low as 4 ozs. of 2,4-D would give a reasonable measure of

control of mintweed. In reply to a question the speaker said that esters of MCPA had not been tried.

King Island Melilot (Melilotus indica)

Mr. Harrison stated that flour millers were loath to accept wheat containing even the smallest quantity of melilot because of the possibility of the taint being carried over to bread. The facts were that if both the wheat grain and the melilot seed were quite ripe and dry there was no danger of the wheat being tainted merely by association with melilot. If, however, the wheat was immature or moist it would pick up the taint which would be imparted to the flour and subsequently to the bread. Conditions suitable for imparting taint existed during conditioning operations at flour mills.

Weed Control in the Sunraysia Area.

Several speakers reported damage to vines from applications of 2,4-D to weeds between trellises, and even from 2,4-D residues in spray tanks later used for insecticide applications. Mr. Webster explained that in the Sunraysia area the spraying of weeds in vines was facilitated by high trellising. Further, the material used was the non-volatile amine salt. Mr. Preston suggested that the successful use of 2,4-D in vines at Sunraysia could be explained in part, by the use of knapsack sprays fitted with nozzles giving a coarse spray pattern, and in part to the fact that applications were made in early spring when the vines were still dormant.