

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

9000/47 HERBICIDE TRIAL

CAT: 1775

Object: To evaluate the efficacy of a range of herbicide treatments for the control of water grass (*Cyperus esculentus*) in sugarcane.

Location: Hippo Valley Estates, Section 12, Field 3D.

Soil type: Predominantly PE.1 sandy clay loam with 34% clay 60% sand and a pH of 6,30.

Variety/Spacing: NCq376, 1,5m between rows.

Fertiliser/Irrigation: Applied by Section Manager in accordance with normal estate practice.

Treatments: (a) Herbicides

<u>Trade name</u>	<u>Chemical name</u>	<u>Rate /ha</u>	<u>Time of application</u>
1. Gesapax	Ametryne	4kg	post-emergent
2. MCPA	MCPA	4l	" "
3. Gesapax+MCPA	-	4kg+4l	" "
4. Diuron	Diuron	1,5kg	" "
5. Diuron+MCPA	-	1,5kg+4l	" "
6. Actril DS	Ioxynil+2,4-D	2l	" "
7. Sencor	Metribuzine	3kg	" "
8. Lasso	Alachlor	4l	" "

(b) Controls

9. Hand weeding after second assessment.
10. Hand weeding at spraying and when weeds appear.

- CONDUCT:
1. The trial was marked out and quadrant positions pegged before spraying.
 2. The trial was sprayed on 8 November 1990 when the weather was calm and the soil moisture was 15,8% (determined by gravimetric analysis).
 3. Weed counts were done on 15 November, 14 and 19 December 1990.
 4. Hand weeding was done on all plots after the last assessment.

Spraying details: Herbicides were applied using a lever operated knapsack sprayer with a pressure gauge attached to the lance. The lance had 03 F110° nozzle capable of delivering 211 l/ha by maintaining pressure at 200 kPa.

RESULTS AND DISCUSSION

Relevant data are presented in the table below. Herbicide treatments differed in their efficacy in controlling the (yellow flowered) water grass with the MCPA treatments giving greater control than the rest. Addition of Ametryne did not enhance or inhibit the effect of MCPA but Diuron appeared to have a synergistic effect.

Actril DS gave satisfactory control but plants emerging soon after spraying survived. Lasso and Diuron applied at 4l and 1,5kg/ha respectively did not give satisfactory control of the weed. Increasing the rate of Lasso would probably improve its performance, but Diuron would need to be applied pre-emergently at a higher rate on a more moist soil.

None of the chemicals showed long persistence but the weeds leaves were smothered as the cane canopy closed. There were no broadleaf weeds at the trial site and there was no evidence of crop damage to cane stalks or leaves.

EFFECTS OF HERBICIDE TREATMENTS ON YELLOW WATER GRASS

TREATMENTS	DAYS AFTER SPRAYING					
	No. of weeds			No. of stalks		
	7	36	41	7	36	41
Gesapax	42	44	45	56	45	41
MCPA	66	23	6	75	62	38
Gesapax+MCPA	3	5	5	62	53	45
Diuron	73	98	72	53	82	47
Diuron+MCPA	24	3	3	56	46	44
Actril DS	0	26	25	60	53	42
Sencor	40	52	41	52	46	42
Lasso	15	20	15	63	59	38
Controls	4	52	47	43	45	41

CONCLUSION

MCPA gave the best control of the water grass but more observations are needed to confirm this. Diuri, Desegran and repeated applications of Actril should be included in future trials since these are also known to control the weed.

CN/Apr '91
vdr