SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Cat.No.: 1565

Title: Winter weed control (Observation)

1. Particulars of the project

This crop : Weeds only

Site: Central Field Station

Region: N. Coast coastal

Soil system: Berea

Soil form/series: Hutton/ Clansthal

Design: 2 reps/treatment

Variety: -

Fertilizer/ Ameliorants:	N	P	K
	-	-	-

Soil analysis:

pH	Clay%
8,1	<14

ppm

P	K	Ca	Mg
>80	57	>1800	52

Rainfall:	July	Aug	Sept
	5,0	43,0	49,8
L.T.M.	28,6	47,2	67,3

Irrigation: Nil

Weather condition at spray:

Date of spray 28.7.86

Rainfall: On day of spray(mm) 0

No. days to 1st rain: 3

No.mm at 1st rain : 2,0

Sunshine hrs : 9,4

Dew : Nil

Wind : Nil

Temperature(°C) 8am : 12,2
2pm : 22,9

Relative humidity(%)
8am : 84
2pm : 40

Soil surface : Dry

Time of spray : 09.10-09.50

Application details

Applicator : CP3

Nozzle : APM Green

Pressure : 1,5 bars

Output : 287 ℓ ha^{-1}

2. Objectives

To compare treatments for their effects on an existing broadleaf weed spectrum in winter.

3. Treatments

	Rate (kg or ℓ product ha^{-1})
1. MCPA (40) + S	7
2. 2,4-D (48) + S	6
3. Actril DS (70)	1,5
4. Gesapax (50) + S	8
5. Gesapax + Actril DS	4

Plot size: 2 interrows x 50 m x 1,5 m = 150 m^2

Weed spectrum:

	% Ground cover	Distribution	Stage of growth
Bidens pilosa	± 15	Scattered	Flowered (20-50cm)
Argemone mexicana	± 8	Scattered	Flowered (20-60cm)
Erigeron bonariensis	± 3	Sparse	Few flowered (5-70cm)
Senecio ilicifolius	± 5	Scattered	Flowered (20-50cm)

Also present: Gomphrena celusoides and Sonchus sp.

Note on treatments:

Treatments were applied in the interrows of cane, treated previously with Roundup (3.4.86).

4. Results

Table 1 - Mean visual ratings of % kill taken 11 days after treatments were applied

Treatment	% Kill					
	Argemone mexicana	Erigeron bonariensis	Gomphrena celusoides	Senecio ilicifolius	Sonchus oleraceus	Bidans pilosa
1. MCPA + S	75	15	8	23	25	15
2. 2,4-D + S	73	25	9	20	15	15
3. Actril DS	70	20	23	33	30	15
4. Gesapax + S	68	15	15	30	28	60
5. Gesapax + Actril DS	78	15	25	60	30	35

Comments

1. *Solanum nigrum* was not controlled by treatment 3.

   A visual rating done 70 days after treatments were applied, showed that all broadleaves present at spray had been controlled. However, other broadleaf species had germinated since.

   C. rotundus was also identified.

Table 2 - % ground cover of weeds that germinated after treatments had been applied. Rating taken 70 days after treatments were applied

Treatment	% ground cover					
	Oxalis corniculata	*Portulaca oleracea*	*Digitaria sanguinalis*	*Eleusine indica*	*Bidens pilosa*	*Cyperus rotundus*
1. MCPA + S	10	2	5	2	-	2
2. 2,4-D + S	5	-	-	-	-	10
3. Actril DS	5	-	-	-	-	10
4. Gesapax + S	-	-	-	-	-	-
5. Gesapax + Actril DS	-	-	-	-	5	4

Conclusions

1. Differences arise in the control of broadleaf weeds in winter, from different treatments. Perhaps, a number of trials over a range of soil types would show more clearly the efficacy of each of these treatments.

LHGW/SN
3 April 1987