

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Code: HW 298/85/R5

Cat. No: 1537

Title: Phytotoxicity trial - ratoon cane

1. Particulars of the project

This crop: Ratoon cane

Site: Shakaskraal

Region: N. Coast Coastal

Soil system: Umzinto/Coast
lowlands

Soil form/series: Longlands/
Waldene

Design: Random blocks

Variety: NCo376

<u>Fertilizer/</u>	<u>N</u>	<u>P</u>	<u>K</u>
<u>Ameliorants:</u>	164	33	164

Soil analysis: Date: 6.9.85

<u>pH</u>	<u>Clay%</u>
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5,7	<29
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<u>ppm</u>			
<u>P</u>	<u>K</u>	<u>Ca</u>	<u>Mg</u>
12	90	639	168

Age: 12,7 months Dates: 20.8.85-11.9.86

Rainfall: 841 mm L.T.M.: 990 mm

Irrigation: 77 mm

Total 918 mm

Weather conditions at spraying:

Date	:	25.10.85
General	:	Overcast and warm
Rainfall: on day of spray (mm)	:	0
No. days to 1st rain	:	3
No. mm at 1st rain	:	4,8
Sunshine hrs	:	7,2
Dew	:	Nil
Wind	:	Fairly strong
Temperature (°C) : 8 a.m.	:	24,7
2 p.m.	:	26,9
Relative humidity (%) 8 a.m.	:	70
2 p.m.	:	63

2. Objectives

Standard phytotoxicity programme.

3. Treatments

3.1 Rates

<u>Treatments</u>	<u>Rate (kg or l prod/ha)</u>
1. Control (unsprayed)	-
2. Diuron (80) + Actril DS (70)	2,5 + 1,25
3. Bladex Plus (50) + S	9
4. Bladex Plus + Actril DS	8 + 1
5. Trimexachlor (40) + S	5
6. Trimexachlor + Diuron + S	5 + 2,5
7. Mon 097 (96) + Diuron + S	3 + 3
8. Lasso (38) + Diuron + S	6 + 3
9. Control (unsprayed)	-

Note: All treatments applied directed interrow.

4. Experimental

Plots were 8 m x 5 rows x 1,4 m gross and 6 m x 3 row x 1,4 m net in size.

There were 6 reps per treatment.

Conditions and application details

Time of spray : 07:00 - 09:10
Applicator : CP3
Nozzle : APM Green
Output : 330 l/ha
Pressure : 1,5 Bars
Soil surface : Dry
Leaf canopy height : 43 cm
No. leaves/shoot : 7-8

5. Results

Table 1. Crop measurements taken 2,5; 4,7 and 8,0 months after spraying.

Treatments	Rate in kg or ℓ product ha ⁻¹	Stalk length (cm)			Stalk population (1000/ha)		
		T+2,5	T+4,7	T+8,0	T+2,5	T+4,7	T+8,0
1. Control (untreated)	-	60	127	147	212	150	129
2. Diuron + Actril DS	2,5 + 1,25	62	125	146	236	162	139
3. Bladex Plus + S	9	66	132	151	248	156	138
4. Bladex Plus + Actril DS	8 + 1	60	126	146	215	157	129
5. Trimexachlor + S	5	60	128	146	233	163	146
6. Trimexachlor + Diuron + S	5 + 2,5	60	128	149	242	163	131
7. Mon 097 + Diuron + S	3 + 3	60	127	146	237	164	144
8. Lasso + Diuron + S	6 + 3	56	123	145	227	157	138
9. Control (unsprayed)	-	63	135	154	236	164	145

Stalk length and population

No evidence of any treatment effect.

Table 2. Yield data at harvest.

TREATMENTS	Rate in l or kg product ha ⁻¹	YIELD			Crop measurements	
		Cane t/ha	Sucrose % cane	Sucrose t/ha	Stalk length (cm)	Stalk population (1000/ha)
1. Control (unsprayed)	-	70,2	14,3	10,1	151	141
2. Diuron + Actril DS	2,5 + 1,25	75,7	14,1	10,6	150	147
3. Bladex Plus + S	9	79,9	14,3	11,4	155	150
4. Bladex Plus + Actril DS	8 + 1	72,7	13,8	10,0	150	149
5. Trimexachlor + S	5	81,0	13,8	11,2	153	160
6. Trimexachlor + Diuron + S	5 + 2,5	77,9	14,4	11,2	156	153
7. Mon 097 + Diuron + S	3 + 3	77,3	13,4	10,4	152	145
8. Lasso + Diuron + S	6 + 3	70,1	13,6	9,5	146	138
9. Control (unsprayed)	-	81,7	14,4	11,8	160	156
C.V.%		11,1	4,0	11,3	4,0	10,8
D		4,89	0,32	0,69	3,51	9,32
LSD (0,05)		9,89	0,65	1,41	7,10	18,84
LSD (0,01)		13,25	0,87	1,89	9,50	25,22

Yield: Cane t/ha and Sucrose t/ha

1. No statistical evidence of any treatment effect.

Conclusions

There is no statistical evidence that any of these treatments reduce yields.

GW/SN
5 December 1986