

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Code: NT35/83/RI

Cat. No.: 1448

TITLE: Nematicide screening on weak sands.

1. Particulars of project

<u>This crop</u>	1st Ratoon	<u>Soil analysis:</u> Date: 10 November 1983
<u>Site</u>	Goodhope Sugar Estate, Groutville	<u>pH</u> <u>OM.%</u> <u>Clay %</u> <u>P.D.I.</u> 6,6      0,7      5
<u>Region</u>	N. Coast - Coastal	ppm
<u>Soil system</u>	Berea	P      K      Ca      Mg      Zn      Al
<u>Soil form/series</u>	Fernwood	40      46      316      96      0,8
<u>Design</u>	Randomised block. four replications	<u>Age:</u> 9,1 months <u>Dates:</u> 10.11.83-14.08.84
<u>Variety</u>	N8	<u>Rainfall:</u> (Gledhow) 1283mm    LTM: 829 mm
<u>Fertilizer (kg ha<sup>-1</sup>):</u>	N      P      K	Nov    Dec    Jan    Feb    Mar    Apr    May    Jun
24.11.83	94           94	110    162    212    283    139    109    27    29
13.01.84	24           24	<u>Jul</u> <u>Aug</u>
Total	118           218	199    13

2. Objectives

To continue assessing the efficacy of three promising nematicides, Furacon (Oncol), Turbufos (Counter) and Carbosulfan (Marshal) on ratoon cane.

3. Treatments

1. Control -1
2. Furacon (10G) 30 kg ha<sup>-1</sup>
3. Furacon (10G) 40 kg ha<sup>-1</sup>
4. Turbufos (10G) 30 kg ha<sup>-1</sup>
5. Turbufos (10G) 40 kg ha<sup>-1</sup>
6. Temik (15G) 20 kg ha<sup>-1</sup>
7. Curaterr (10G) 30 kg ha<sup>-1</sup>
8. Carbosulfan (25G) 10 kg ha<sup>-1</sup>

Note: The allocation of plots of the control treatment was not re-randomised for this crop, but allocation of all other treatments was re-randomised. The control is therefore not directly comparable with the other treatments, the effects of which are specific to this crop.

## 4. Results

Treatments	Tons cane /ha	Sucrose % cane	Tons sucrose /ha	Stalk heights (cm)	Stalk polulation x 1 000/ha
Control	76	11,8	8,9	195	166
Furacon (10G) 30 kg/ha	95	12,2	11,5	229	182
Furacon (10G) 40 kg/ha	91	12,2	11,1	219	179
Turbufos (10G) 30 kg/ha	90	12,4	11,2	219	175
Turbufos (10G) 40 kg/ha	84	12,4	10,4	202	165
Temik (15G) 20 kg/ha	101	12,4	12,5	224	191
Curaterr (10G) 30 kg/ha	98	12,6	12,3	223	189
Carbosulfan (25G) 10 kg/ha	90	12,5	11,2	220	183
Mean	90	12,3	11,1	216	179
CV %	12,2	2,7	11,5	6,8	6,9
LSD (P = 0,05)	16,3	0,49	1,9	21,5	18,2
(p = 0,01)	22,1	0,67	2,6	29,3	24,7

## 5. Comments

General: The mean yield for this crop was very high at 9,9 tons cane/ha/month compared with the yield of 5,6 tons cane/ha/month from the plant crop. The higher yields in this crop may be attributed to the high summer rainfall during the growth of this crop.

Furacon: The yields from cane treated with this nematicide were significantly (P = 0,01) greater than from cane which had not been treated with a nematicide and about 1,0 tons sucrose per hectare (ns) less than from Temik or Curaterr treated cane.

Yields from applying 30 kg/ha and 40 kg/ha were similar.

Turbufos: The yields from cane treated with Turbufos were significantly (P = 0,05) greater than those from cane not treated with a nematicide.

The yields from applying 30 kg/ha were about 1,2 tons sucrose/ha (ns) less than yields from cane treated with Temik or Curaterr.

Yields from applying 40 kg/ha were nearly one ton sucrose/ha (ns) lower than from plots treated with 30 kg/ha. The lower yields from the higher rate is of concern since there were indications of phytotoxicity in a previous trial (see catalogue number 2855). No phytotoxic symptoms were seen on the aerial parts of the cane in this crop.

Carbosulfan (10G): Yields from carbosulfan were significantly (P = 0,05) greater than from cane not treated with a nematicide and about 1,1 tons sucrose/ha (ns) less than from cane treated with Temik or Curaterr.

**Temik and Curaterr:** Unlike responses in the plant crop, the responses to Temik and Curaterr in this crop were very similar. The relatively better response from Curaterr in this crop may be associated with high rainfall during the three months following the application of the nematicides.