

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Code : NT27/80/R5

Cat. No.: 1269

TITLE: Temik, Curaterr and Vydate rates and application methods

1. Particulars of the project

This crop : 5th ratoon  
Site : Tongaat, Klipfontein  
 Webb Field  
Region : North Coast coastal  
Soil system : Berea  
Soil form/series: Clansthal  
Design : Randomised block:  
 6 replications  
Variety : N55/805  
Fertilizer : N      P      K  
 (23.02.1982)      141      -      141

Soil analysis: Date: 23.05.1983

<u>pH</u>	<u>OM%</u>	<u>Clay%</u>	<u>PDI</u>
5,7	-	6	-
ppm			

<u>P</u>	<u>K</u>	<u>Ca</u>	<u>Mg</u>	<u>Zn</u>	<u>Al</u>
27	63	151	53	1,1	-

Age: 16,0 months      Dates: 21.01.82-20.05.83

Rainfall: 1 039 mm      LTM: 1 499 mm

<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>
51	97	106	89	17	11	4	10	49	160	74

<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>
123	75	57	90	21	5

2. Objectives

- 2.1 To determine the efficacy of Temik and Curaterr at various rates when applied on top of or under a trash blanket.
- 2.2 To establish whether a lower rate of Vydate (10 l/ha) is as effective as the current registered rate of 12 l/ha.

3. Treatments

	<u>kg prod/ha</u>		<u>kg prod/ha</u>
1. Control	Nil	7. Curaterr over trash (OT)	30
2. Temik - over trash (OT)	15	8. Curaterr - under trash (OT)	20
3. Temik - over trash (OT)	20	9. <u>Curaterr - under trash (U)</u>	30
4. Temik - under trash (U)	15	10. Vydate - 10 l/ha	
5. Temik - under trash (U)	20	11. Vydate - 12 l/ha	
6. Curaterr - over trash (OT)	20		

### Comments on treatments

. Over trash

The nematicide granules were applied in a band onto the trash over the cane line.

. Under trash

A hoe was used to draw a 5 cm deep furrow next to the cane row into which the nematicide granules were spread, covered with soil and then covered with trash.

. Vydate

Vydate was applied to the foliage on 25 March 1982 when the crop was two months old and had about eight green leaves.

### 4. Results

Treatments	Cane t/ha	Ers % cane	Ers t/ha	Stalk height (cm)	Stalk popu x10 <sup>-3</sup>	Tc/ha/ month	Tons cane/ ha/100 mm rainfall
Control	77	13,3	10,3	153	110	4,8	5,1
Temik 15 OT	97	13,2	12,7	188	119	6,1	6,5
Temik 20 OT	106	13,7	14,5	204	122	6,6	7,1
Temik 15 U	84	13,5	11,5	173	117	5,3	5,6
Temik 20 U	100	13,4	13,4	191	120	6,3	6,3
Curaterr 30 OT	76	13,3	10,1	157	112	4,8	4,8
Curaterr 20 OT	78	13,3	10,4	162	110	4,9	5,2
Curaterr 30 U	82	13,4	10,9	161	115	5,1	5,5
Curaterr 20 U	72	13,5	9,7	153	107	4,5	4,8
Vydate 12 ℓ	87	14,0	12,2	171	120	5,4	5,8
Vydate 10 ℓ	90	13,4	12,1	185	114	5,6	6,0
Mean	86	13,5	11,6	172	115	5,4	5,7
CV %	10,6	5,0	12,7	6,9	6,4		
LSD (P=0,05)	10,6	0,78	1,7	13,7	8,5		
LSD (P=0,01)	14,1	1,0	2,3	18,3	11,3		

4.1 Group means4.1.1 Methods of application

Treatments	Cane t/ha	Ers % cane	Ers t/ha
Temik OT	101	13,4	13,6
Temik U	92	13,5	12,5
Curaterr OT	77	13,3	10,2
Curaterr U	77	13,5	10,3
Mean	87	13,4	11,7
SE	2,6	0,19	0,43
LSD (0,05)	7,5	0,55	1,21
LSD (0,01)	9,9	0,73	1,61

4.1.2 Rates of nematicides

Temik 15	91	13,4	12,1
Temik 20	103	13,6	14,0
Curaterr 20	75	13,4	10,0
Curaterr 30	79	13,3	10,5
Mean	87	13,4	11,7
SE	2,6	0,19	0,43
LSD (0,05)	7,5	0,55	1,21
LSD (0,01)	9,9	0,73	1,61

4.1.3 Nematicides

Temik	97	13,5	13,0
Curaterr	77	13,4	10,3
Mean	87	13,4	11,7
SE	1,86	0,14	0,3
LSD (0,05)	5,3	0,39	0,86
LSD (0,01)	7,0	0,52	1,14

4.2 Comparison of responses in 4th and 5th ratoons

Ratoon	Rainfall		Response in tc/ha/annum and percentage						
	mm/annum	% LTM	Temik	%	Curaterr	%	Vydate	%	Mean
4th	1 193	107	+ 8,2	16	0	0	+ 8,2	16	5,5
5th	779	69	+15,0	26	0	0	+ 8,2	14	7,7

5. Comments5.1 Nematicides

The response to Temik was highly significant ( $P=0,01$ ) and while there was no response to Curaterr the response to Vydate was substantial ( $P=0,05$ ).

5.2 Rates

The responses to both rates of Temik applied were highly significant but the response to Temik applied at 20 kg/ha was on average 12 tons cane/ha greater than the response to Temik applied at 15 kg/ha.

There was no response to either rate of Curaterr.

The responses to Vydate applied at 12 and 10 l/ha were similar and responses to both rates were statistically significant ( $P=0,05$ ).

5.3 Method of application

The difference of nine tons cane/ha in favour of applying Temik over trash compared to the response from applying it in a furrow below trash, was statistically significant ( $P=0,05$ ).

There was no response to Curaterr applied either under or over trash.

5.4 General

The increase of 15 tons cane/ha/annum due to Temik is equivalent to a response of 26%.

The reason for the greater response to Temik in this (5th ratoon) crop compared with the response in the previous crop is not known. However it would appear that because of the higher rainfall during the previous crop, particularly during the first six months, the untreated cane (no nematicide) was affected less by nematodes than in this crop (5th ratoon). See figure 1.

Note: This trial has been terminated.

Fig. 1

Rainfall and stalk heights of treated and untreated cane

4th ratoon

5th ratoon

