

SOUTH AFRICAN SUGAR INDUSTRY
AGRONOMISTS' ASSOCIATION

Code : HW 322/86
Cat. No.: 1559

Title: Garlon on *Physalis viscosa* (Sticky Gooseberry) in ratoon cane

1. Particulars of the project

This crop : Ratoon cane
Site : La Mercy Field Station
Region : N. Coast Coastal
Soil system : Umzinto/ C Lowlands
Soil form : Kroonstad
Design : -
Variety : NCo376
Fertilizer/
Ameliorants:

Clay % <14					
ppm					
P	K	Ca	Mg	Zn	Al
		October	November	December	
Rainfall		77,7	137,7	158,7	
LTM		127,8	110,0	95,2	

Conditions of spraying

Date : 17.10.86
Rain on day of spray : 0
No. days to 1st rain : 7
No. mm at 1st rain : 0,8
Temperature (°C) 8am : 20,8
 2pm : 22,6
Humidity (%) 8am : 80
 2pm : 81
Soil surface : Wet

Application details

Time of spray : 10.00 - 10.30
Applicator : Gas knapsack sprayer
Nozzle : APM Green floodjet
Output : 343 ℓ ha⁻¹
Pressure : 2 Bars

2. Objectives

To test various rates of Garlon on sticky gooseberry in ratoon cane

3. Treatments

	Rate (kg or ℓ prod ha^{-1})
1. Garlon (48) (O/R)	1,0
2. Garlon (Directed interrow)	1,5
3. Garlon (Directed interrow)	2,0
4. Garlon (Directed interrow)	2,5

Note on treatments

Treatment 1 was sprayed over the cane row. Good coverage of sticky gooseberry was obtained in the interrow from the flood-jet nozzle used. Treatments 2, 3 and 4 were directed sprays. Cane foliage was contacted (+60% coverage) depending on cane height.

At the time of spray, cane height was uneven and varied between the 3 to 6 leaf stage.

The area sprayed varied with each treatment according to the extent of *Physalis viscosa* invasion, as shown below. The efficiency at spraying is also shown below in table 1.

Table 1

Treatment	Rate (ℓ ha^{-1})	Area sprayed (m^2)	Efficiency (%)
1. Garlon (O/R)	1,0	42	98
2. Garlon (Dir)	1,5	33	90
3. Garlon (Dir)	2,0	15	80
4. Garlon (Dir)	2,5	67	94

O/R = Over the row

Dir = Directed interrow

Table II

Visual ratings of control of *Physalis viscosa* 18 and 29 days after Garlon treatments were applied.

Treatment	Rate	Percent kill	
		18	29
1. Garlon (O/R)	1,0	20	90
2. Garlon (Dir)	1,5	35	100
3. Garlon (Dir)	2,0	30	100
4. Garlon (Dir)	2,5	50	100

Table III

Visual ratings of stunting and leaf scorching of cane and other weed species 18 and 29 days after the treatment was applied.

Treatment	Rate (ℓ ha ⁻¹)	% Scorch									
		Cane				Panicum maximum		Sporobolus pyramidalis		Cyperus esculentus	
		Stunting		Scorching		18	29	18	29	18	29
1. Garlon (O/R)	1,0	5	5	5	0	-	-	-	-	10	10
2. Garlon (Dir)	1,5	5	5	20	5	-	-	5	5	-	-
3. Garlon (Dir)	2,0	5	5	8	5	-	-	-	-	30	20
4. Garlon (Dir)	2,5	5	5	15	5	5	5	-	-	60	30

Ratings

1. Stunting scale : 1 - 5, where 1 = Severly stunted
5 = Not stunted
2. Scorching scale: 0 -100, where 0 = Not scorched
100 = Dead

Comments on Table II

1. After 29 days, treatments 2,3 and 4 provided a 100% kill of *Physalis viscosa*.
2. The lower rate ($1,0 \ell$ ha⁻¹) of Garlon, although applied on the cane row, did not appear sufficient at any time, to kill sticky gooseberry.

Comments on Table III

Cane phytotoxicity

1. Garlon, above $1,5 \ell$ ha⁻¹ appears to scorch the cane. Phytotoxicity did not worsen when the rate was increased to $2,5 \ell$ ha⁻¹.
2. Slight stunting may have been caused at Garlon rates of $1,5 \ell$ ha⁻¹ and higher.

Grass control

1. Very poor control was obtained although the presence of grasses was very limited.

Cyperus esculentus

The higher rates of Garlon appeared to have scorched *C. esculentus* severly. It was not possible to see the prolonged effect of this chemical on *C. esculentus* as the trial had to be discontinued.

4. Conclusions

1. Garlon, at $1,5 \text{ l ha}^{-1}$, is adequate in controlling sticky gooseberry. Although the trial was discontinued after 29 days, it is reasonable to believe no regrowth would take place as this was shown in a previous trial in pots (HW 288)
2. The extent of cane damage will be evaluated in field trials currently underway. They will be taken to harvest.

LHGW/IS
11 March 1987