SOUTH AFRICAN SUGAR INDUSTRY
AGRONOMISTS' ASSOCIATION

EXPERIMENT RESULT

CODE : N17 x RIPENER 20/87/SW KWA 'H'
CAT: 1630

TITLE: RIPENER FOR LATE SEASON RIPENING OF N17 IN SWAZILAND

1. PARTICULARS OF PROJECT

This crop : Plant
Site : Kwamadevu Estate Field L
Region : Northern Irrigated (Swaziland)
Soil Set : 'H'
Design : Randomised blocks 6 replications
Variety : N17

Fertilizer :	N	P	K	S
	176	63	176	60
Total (kg/ha)	176	63	176	60

Spray date : All rates of Fusilade Super sprayed on 12/10/87
Spray method : CO^2 constant pressure knapsack with hand held 'T' boom. Delivery rate ± 55,56 l/ha @ 280 kpa through two TK 1,5 nozzles.
Conditions at spraying : Early morning - very calm
Age : ± 15 months
Date : 8/86 - 26/11/87
Irrigation :
Rainfall :
Total :
Not available

2. OBJECTIVES

* To determine the optimum rate of Fusilade Super for N17 cut towards the end of the season.

* To observe any carry-over effects to the following crop.

3. TREATMENTS

C = Control
F1 = Fusilade Super @ 0,30 l/ha (PP005 125 ec - 37,5 gm a.i./ha)
F2 = Fusilade Super @ 0,45 l/ha (PP005 125 ec - 56,3 gm a.i./ha)
F3 = Fusilade Super @ 0,60 l/ha (PP005 125 ec - 75,0 gm a.i./ha)
F4 = Fusilade Super @ 0,75 l/ha (PP005 125 ec - 93,8 gm a.i./ha)

Notes on Treatments

* All rates of Fusilade were sprayed when the cane was ± 13,4 months of age, 6,5 weeks before harvesting.

* At the time of spraying, juice purity was 89%, sucrose 14,9% cane and moisture 68%.

4. SAMPLING METHODS

* All samples, including those taken at spraying were from each nett plot.

* Plot samples consisted of 16 stalks taken in groups of 4 from 4 localities in the nett line. Two stalks were cut from the centre and two from each side of the row at each locality.

5. RESULTS

Table I. Harvest results.

TREATMENT	TONS CANE /HA	ERS % CANE	TONS ERS /HA	SUC % CANE	TONS SUC /HA	% DIFFERENCE TONS SUC/HA
Control	81	13,7	11,2	15,2	12,4	-
F1 (0,30 l/ha)	79	14,1	11,1	15,6	12,3	- 0,8
F2 (0,45 l/ha)	87	14,4	12,5	15,9	13,7	+10,5
F3 (0,60 l/ha)	82	14,5	12,0	16,0	13,2	+ 6,5
F4 (0,75 l/ha)	82	14,6	11,9	16,0	13,1	+ 5,6
LSD (0,05)*	9	0,5	1,4	0,5	1,5	-
(0,01)**	12	0,7	1,9	0,7	2,0	-
SIGNIFICANCE	N.S	**	*	**	N.S	
MEAN	82	14,3	11,7	15,7	12,9	-
CV %	8,6	3,1	9,7	2,6	9,5	-

Table II. Treatment effect on sucrose % cane from time of spraying to harvest.

	SUCROSE % CANE			
	WEEKS AFTER SPRAYING			
TREATMENT	0	3	5,5	6,5
Control	15,1	14,6	14,9	15,2
F1 (0,30 l/ha)	14,9	15,0	15,3	15,6
F2 (0,45 l/ha)	15,1	15,3	15,8	15,9
F3 (0,60 l/ha)	14,9	15,3	15,8	16,0
F4 (0,75 l/ha)	14,6	15,0	16,0	16,0
LSD (0,05)*	0,8	0,6	0,4	0,5
(0,01)**	1,1	0,8	0,5	0,7
SIGNIFICANCE	N.S	*	**	**
MEAN	14,9	15,1	15,6	15,7
CV %	4,6	3,3	2,0	2,6

Table III. Treatment effects on gms Ers/stalk from time of spraying to harvest.

	ERS GMS / STALK			
	WEEKS AFTER SPRAYING			
TREATMENT	0	3	5,5	6,5
Control	103	104	108	138
F1 (),30 l/ha)	105	105	104	126
F2 (0,45 l/ha)	107	110	122	136
F3 (0,60 l/ha)	110	113	120	139
F4 (0,75 l/ha)	104	109	127	144
LSD (0,05)*	21	15	21	17
(0,01)**	29	20	28	23
SIGNIFICANCE		N.S.	*	*
MEAN	106	108	116	136
CV %	16,8	11,4	14,8	10,3

6. COMMENTS

* The cane at the time of spraying appeared to be well suited for chemical ripening although cane quality was high and moisture % cane lower than ideal.

* Cane yields were somewhat low but uneffected by any of the rates of Fusilade Super tested. (Table I).

* Cane quality increased linearly for samples taken at 5,5 weeks after spraying and at harvest, but differences, except between F1 and F2 were not significant between adjacent treatments (Table II). Compared to the control however, rates of 0,45 l/ha Fusilade and above were all significantly (P=0,01) better.

* Sucrose and Ers ton/ha yields were greater for rates of 0,45 l Fusilade/ha and above but failed to reach significance above F1 and the control. Table III shows gms Ers/stalk change from spraying to harvest with significant differences appearing between treatments at 5,5 weeks after spraying. Samples taken at harvest were from commercially topped cane which may have jeopardized results for ripened cane.

* The lighter rates of Fusilade seemed to produce the best ripening responses on N17 but optimum rates are difficult to deduce from these results. Further work is required to determine more precisely the best rate of this chemical on this variety.

NBL/cg