

**SOUTH AFRICAN SUGAR INDUSTRY
AGRONOMISTS' ASSOCIATION**

Code : R101/90/R1
Cat No.: 1817

Title: Late season ripening

1. Particulars of the project

This crop : First ratoon Site : Pongola Station Blk320 Region : Northern irrigated Soil system : Komatipoort Form/family : Hutton/Stella Design : Split plot Plot size : 12m x 6 rows x 1.4 m Variety : N17 and N19 Date and age at spraying : 15 Sep 12.2 months Sampling dates and days after spraying : 9/9 (0d) 9/11 (61d) Cycle : 9/9/92 - 9/11/93	Spray method : Tractor-mounted boom Pressure : 200 kPa (900 rpm) Volume : 7.8 ml/nozzle/s Weather at spraying : Clear, Sunny, gusts of wind Condition of cane at spraying : Severely lodged Purity \leq 87% Sampling technique : 4 stalks at 4 points in net rows
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Irrigation, Rainfall & Et (mm)											
	S	O	N	D	J	F	M	A	M	J	Jl
I	0	61	61	61	61	122	61	0	122	61	61
R	3	37	85	93	60	97	166	13	14	9	1
Et	100	195	194	198	233	171	177	162	107	128	112
	A	S	O	N							
I	0	0	61	0							
R	20	22	157	8							
Et	133	166	148	65							
Totals:	R = 785		I = 785		Et = 2289		R + I - Et = - 711				

2. **Objectives:**

1. To provide additional information on the responses of N17 and N19 to establish:
 - (a) optimum interval between spraying and harvesting late season cane and
 - (b) the optimum rate for each variety
2. To continue measuring the effects of Fusilade Super on the regrowth of the following crop.

3. **Treatments:**

Whole plots: 1. N17
2. N19

Sub-plots: 1. Control
2. Fusilade S 200 ml/ha
3. Fusilade S 400 ml/ha
4. Fusilade S 600 ml/ha

* Fusilade S applied 61 days before harvesting

4. **Results:**

4.1 **Changes in stalk wet (WM) and dry (DM) mass (g) of untreated cane after spraying date and change as % of total stalk mass**

Days from spray		0	61	Total	%
N17	WM	1022	1145	123	11
	DM	317	325	8	2
N19	WM	1150	1426	276	19
	DM	351	427	76	18

4.2 **Effects of Fusilade S (FS) on ers % cane at intervals after spraying**

Variety	200 ml/ha	400 ml/ha	600 ml/ha
N17	+ 0.9	+ 0.9	- 0.6
N19	- 0.5	- 0.6	- 0.2
LSD (0.05)	1.3		

4.3 Effects Fusilade S (FS) on ers mass (g/stalk)

Variety	200 ml/ha	400 ml/ha	600 ml/ha
N17	+14.6	+22.4	+15.2
N19	-10.6	-35	+ 7
LSD (0.05)	27		

4.4 Yields at harvesting - 61 days after spraying

Treatment	N17			N19		
	t c/ha	ers % c	t ers/ha	t c/ha	ers % c	t ers/ha
Control	125	11.2	14.0	118	12.5	14.8
Fus.200	120	12.1	14.5	128	12.0	15.3
Fus.400	124	12.1	14.9	123	11.9	14.5
Fus.600	126	10.6	13.4	119	12.3	14.6
Mean	124	11.5	14.2	122	12.2	14.8
CV%	3.6	4.0	3.1	3.6	4.0	3.1
LSD(0.05)	10.4	1.3	1.6	10.4	1.3	1.6

Comments:

The cane was severely lodged at the time of spraying. The ripener was applied earlier than is recommended and juice purities were about 87%. The evapotranspiration exceeded moisture received from rainfall and irrigation by 711 mm for the crop cycle. During three months before spraying little rain fell and one irrigation (61mm) was applied. The crop was therefore not growing vigorously and no responses to Fusilade Super could be expected under such conditions. Despite these poor conditions (which were alleviated by good rains in October) the sucrose content of N17 was raised slightly (ns) by 200 and 400 ml/ha. There were no indications of responses to the ripener from N19.