

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Code: R93/83/R

Cat. No. : 1383

TITLE: Ripener Screening - Shakaskraal1. Particulars of the crop:

This crop: Eighth ratoon
Site : Shakaskraal
 Block III
Region : N.Coast Coastal
Soil system: Umzinto Coastal
Soil form/series: Longlands/
 Waldene
Design : Incomplete Latin sq.
Plot size: 8,5m x 4 rows x 1,4 m
Variety : NCo 376
Date & age at spraying: 20/4/83
 8,8 mths
Date & age at harvest: 7/6/83
 10,3 mths
Duration of crop: 28/7/82-7/6/83
Sampling dates: 22/4/83 - 0 weeks
 18/5/83 - 4 "
 8/6/83 - 7 "
Irrigation: (mm) : 229
Rainfall : (mm) : 530
Total : (mm) 759

Spray method: CO₂ operated overhead
 boom with two TK 1,0
 floodjets

Pressure: 200 kPa

Volume/ha: 74 ℓ

Weather at spraying:

Calm, sunny and cool
 Dew on leaves.

Condition of cane at spraying:

7 - 8 green leaves
 9 -13 internodes, about 1m stick
 Av. Juice Purity = 84%

Sampling technique:

Four stalks taken from 4 pre-determined
 points in the two net rows. Starting
 point advanced by 1m on each sampling
 occasion.

2. Objectives:

1. To assess the potential of Fusilade as a ripener.
2. To continue assessing the effects of Reverseal 9 as an additive to Polado.
3. To assess the effects of an oil based additive - Penetrex on the ripening potential of Polado.

3. Treatments:

1. Control - not sprayed
2. Polado at 500 g product/ha
3. Polado at 500 g product/ha + Reverseal 9 at 350 ml/ha
4. Fusilade at 300 ml product/ha (75 g ai/ha)
5. Fusilade at 140 ml product/ha (35 g ai/ha)
6. Polado at 500 g product + Penetrex at 2 ℓ/ha.

4. Results

4.1 Results from samples

Date & weeks after spraying Treatments	ers % C - changes from day of spraying			Purity %		
	22/4 0	18/5 4	8/6 7	22/4 0	18/5 4	8/6 7
Control	9,3	+ 1,4	+ 2,9	85	89	93
Polado	8,9	+ 0,7	+ 3,3	84	86	92
Polado + Rev.9	8,6	+ 2,7	+ 3,6	83	91	92
Fusilade 300 ml	8,9	+ 2,2	+ 3,8	84	90	93
Fusilade 140 ml	8,7	+ 1,9	+ 3,7	83	89	92
Polado + Penetrex	8,8	+ 2,2	+ 3,8	84	90	93
MEAN	8,9	+ 1,9	+ 3,5	84	89	92
C.V.%	6,8	5,9	5,0	2,6	2,2	1,1
LSD (P = 0,05)*	0,66	0,7	0,68	2,4	2,2	1,2
	Stalk mass - changes in g/stalk from day of spraying			Mass ers - changes in g/stalk from day of spraying		
	Control	342	+ 63	+ 103	31,2	+ 12,2
Polado	329	+ 30	+ 91	29,1	+ 5,6**	+ 22,5
Polado + Rev.9	326	+ 39	+ 127	28,0	+ 13,3	+ 27,2
Fusilade 300 ml	356	+ 36	+ 87	32,1	+ 11,3	+ 24,2
Fusilade 140 ml	324	+ 44	+ 99	28,1	+ 11,1	+ 24,3
Polado + Penetrex	271	+ 91	+ 156	23,9	+ 15,8	+ 30,2*
MEAN	325	+ 51	+ 111	28,7	+ 11,6	+ 25,1
C.V.%	19,0	12,8	9,6	20,7	12,8	11,8
LSD (P = 0,05)*	68	53	46	6,6	5,7	7,0
LSD (P = 0,01)**	92	71	62	8,9	7,6	9,5

4.2 Results at harvest (7 weeks after spraying)

Treatments	Cane t/ha	ers % cane	ers t/ha	Stalk popn. (x 1000)	Stalk ht. at (cm) harvest	Stalk ht. of sample
Control	55	12,2	6,7	115	134	106
Polado	52	12,2	6,4	110	129	102
Polado + Rev.9	54	12,2	6,5	112	129	106
Fusilade 300 ml	52	12,7	6,7	113	130	103
Fusilade 140 ml	54	12,4	6,7	116	130	101
Polado + Penetrex	51	12,6	6,5	110	129	101
MEAN	53	12,4	6,6	113	130	103
C.V.%	10,3	5,0	12,0	5,5	4,4	6,0
LSD (0,05)	6,0	0,68	0,87	6,9	6,3	6,8

5. Comments

Despite no statistically significant evidence of any treatment effects, a trend (see fig.2) suggests that cane quality may have been improved slightly more by Polado applied in combination with either Rev.3 or Penetrex, than when it was applied alone.

The improvement in cane quality was similar for both rates of Fusilade tested. Based on the cane quality of the sample taken at 0 weeks, ers % cane improved by 43% in samples taken from Fusilade treated plots compared with an increase of 31% from untreated plots.

No effects from any treatment could be measured in terms of sucrose yields at harvest.

Available soil moisture was nil (according to profit and loss account) on several occasions before and after applying the treatments and consequently cane growth was not vigorous.

RAD/SN
2 August, 1983

Fig: 1

CHANGES IN CANE QUALITY EXPRESSED AS % OF QUALITY AT WEEKS

