

FS

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

CODE : N14 X RIPENER 2/84/Sw.SIM

TITLE : RIPENER FOR EARLY SEASON RIPENING OF N14 IN SWAZILAND

1. PARTICULARS OF PROJECT

Cat. No.	: 1463	Spray Dates	: Ethrel 22/3/84
This crop	: Plant		: Polado 26/4/84
Site	: Simunye Field 805		: Fusilade (PPO05)
Region	: Northern Irrigated (Swaziland)		26/4/84
Soil Set/Series	: 'R'/Rondsring	Spraying Method	: Hand held Spray King Knapsack with 'T' boom fitted with two T.K. 1,5 nozzles. Delivery rate ± 50L/ha @ 150 Kpa
Design	: Extended Latin Square	Conditions of Spraying	: 7.00 a.m. - calm Dew on leaves
Variety	: N14	Age	: 12,2 months
Fertilizer	: At Plant - 53kgN + 80kgP/ha	Dates	: 27/6/83 - 3/7/84
	: Top Dressing - 80kgN/ha	Irrigation	: 529 mm
		Rainfall	: 878 mm
		Total Water	: 1807 mm

2. OBJECTIVES

- * To investigate the ripening ability of the current most important ripeners on early cut N14.
- * To test the effectiveness of "piggyback" treatments to enhance the ripening effect.

3. TREATMENTS

- * Control
- * Ethrel at 1,5L product/ha
- * Polado at 500 gm product/ha
- * Fusilade (PPO05) at 350 ml product/ha
- * Ethrel/Fusilade combination at 1,5L and 500 gm/ha respectively.

/2.....

Notes on Treatments

- * Ethrel was sprayed at 9,9 months of age on 22nd March, 14,7 weeks before harvesting.
- * Polado and Fusilade (PPO05) were sprayed at 10,1 months of age on 26th April, 9,7 weeks before harvesting.
- * Cane purity at 9,9 months of age was 65,9%.

4. SAMPLING METHOD

- * Sampling commenced just prior to spraying Ethrel and then at 5, 9, 11 and 15 weeks thereafter.
- * The first two samplings were composite, with the remainder being made up of 12 stalks per plot comprising 3 from 4 localities in the two nett rows. Stalks for each subsequent sampling were taken at different positions.
- * Unforeseen problems prevented sucrose samples being taken on a regular two weekly basis as was planned.

5. RESULTS

5.1 Harvest Data

TREATMENT	TONS C/HA	JUICE PURITY %	DM % CANE	ERS % CANE	TONS ERS/HA	% INCREASE DECREASE IN TONS ERS/HA
Control	130	77,3	22,4	8,9	11,5	-
Ethrel	125	77,7	22,9	9,0	11,2	-2,6
Polado	118**	79,6	23,9	9,9	11,7	+1,7
Ethrel/ Fusilade	117**	79,1	23,6	10,0	11,7	+1,7
Fusilade	121**	77,9	23,7	8,9	10,7	-7,0
Mean	122	78,3	23,3	9,3	11,4	-
CV %	4,0	3,1	-	11,5	11,2	-
LSD (0.05)*	6	3,0	-	1,3	1,6	-
LSD (0.01)**	8	4,1	-	1,8	2,2	-

5.2 Treatment effects on Ers % Cane from initial spraying to harvest

TREATMENT	WEEKS AFTER ETHREL	0	5	9	11	15
	WEEKS AFTER POLADO/FUSILADE		0	4	6	10
Control		4,3	6,4	6,6	8,0	8,9
Ethrel		-	6,7	7,4*	8,4	9,0
Polado		-	-	7,5*	8,8*	9,9
Ethrel/Fusilade		-	-	7,7*	8,9**	10,0
Fusilade		-	-	7,2	8,7*	8,9
Mean		4,3	6,6	7,3	8,6	9,3
CV %				9,5	6,4	11,5
LSD (0.05) *				0,8	0,7	1,3
LSD (0.01) **				1,2	0,9	1,8

5.3 Treatment effects on stalk heights (cm to TVD)
Populations taken before treatments (x1000/ha)

TREATMENT	WEEKS AFTER ETHREL	0	8	10	POPULATIONS
	WEEKS AFTER POLADO/FUSILADE		3	5	
Control		212	265	276	104
Ethrel		207	254	260	104
Polado		211	254	257	101
Ethrel/Fusilade		207	249	250	103
Fusilade		212	257	256	103
Mean		210	256	260	103

6. COMMENTS

- * This trial was situated in the same field as N14 x Ripener 1/84 and produced similar immature cane at harvest.
- * 500 gm Polado, 350 ml Fusilade and Fusilade plus 1,5L Ethrel/ha all had a highly significant (P=0.01) depressing effect on cane yields.
- * Stalk height measurements taken at 3 and 5 weeks after spraying Polado and Fusilade confirm that growth was retarded by all the products involved, but was most severe (up to 10% reduction) where the combination treatment was used.

- * Ers % cane for the Polado treated plots increased significantly ($P=0.05$) between 4 and 6 weeks after application. Ers % cane for the Ethrel treated plots was significant ($P=0.05$) only at 9 weeks and was similarly only significant at 4 weeks for Fusilade, Ers % cane was highly significant ($P=0.01$) after 6 weeks for the Ethrel-Fusilade combination treatment.
- * None of the products tested increased Ers tons/ha significantly due to reductions in cane yields. The Ethrel/Fusilade treatment and Polado along produced the highest yields (N.S.) with the exceptionally low yield from Fusilade attributed to one unusually low Pol % Cane reading.

NBL/gj
22.3.85