

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Cat No : 1689
 Project No : 3475
 Code No : EVT 6/87

Title : Estate variety trial in a valley on the South Coast

1. Particulars of project

This crop : First ratoon Site : Sezela Region : South Coast Soil system : Umzinto Coast Lowlands Soil form/series: Katspruit Design : Randomised blocks Variety : See treatments Fertilizer/Ameliorants : N 132 P - K 132 (Sezela Field Practice)	<table border="1"> <tr> <th colspan="4">Soil analysis</th> <th colspan="2">Date: 31/8/89</th> </tr> <tr> <td>pH</td> <td>OM %</td> <td>Clay %</td> <td>PDI</td> <td></td> <td></td> </tr> <tr> <td>5,5</td> <td>1,8</td> <td>< 29</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="6" style="text-align: center;">ppm</td> </tr> <tr> <td>P</td> <td>K</td> <td>Ca</td> <td>Mg</td> <td>Zn</td> <td>Al</td> </tr> <tr> <td>15</td> <td>88</td> <td>77</td> <td>241</td> <td>1,2</td> <td>-</td> </tr> <tr> <td colspan="2">Age:</td> <td colspan="4">11,5 months</td> </tr> <tr> <td colspan="2">Dates:</td> <td colspan="4">8/9/88 - 24/8/89</td> </tr> <tr> <td colspan="2">Rainfall:</td> <td colspan="4">777 mm</td> </tr> <tr> <td colspan="2">LTM:</td> <td colspan="4">967 mm</td> </tr> <tr> <td colspan="2">Irrigation:</td> <td colspan="4">Nil</td> </tr> </table>	Soil analysis				Date: 31/8/89		pH	OM %	Clay %	PDI			5,5	1,8	< 29				ppm						P	K	Ca	Mg	Zn	Al	15	88	77	241	1,2	-	Age:		11,5 months				Dates:		8/9/88 - 24/8/89				Rainfall:		777 mm				LTM:		967 mm				Irrigation:		Nil			
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2. Objectives To evaluate new varieties for use in valleys on the South Coast where harvesting is done annually in winter

3. Treatments

Standards : NCo376, NCo310, N12, N14

New varieties : N16, N17, N19

4. Rainfall (mm)

1988/1989	S	O	N	D	J	F	M	A	M	J	J	A	TOT
Rainfall	24	43	61	138	38	238	25	155	9	19	27	0	777
LTM	68	98	114	102	120	128	104	62	43	24	34	70	967

5. Results

		Age 11,5 months - 1st Ratoon									
Yield Components	Variety	NCo376	NCo310	N12	N14	N16	N17	N19	Mean	LSD 5%	CV %
	Stalk Data Harvest										
1. Population '000/ha		118	111	135	100	137	109	101	116	-	
2. Height (m)		2,27	2,25	2,27	2,37	2,34	2,35	2,29	2,30	-	
3. Lodging [1 - Nil [9 - Fully		1,4	1,8	1,0	1,4	1,4	2,0	2,2	1,6		
4. Eldana E/100S		0,4	2,1	0,8	3,6	0,8	1,2	0,4	1,3	2,0	
5. Eldana % Joints Bored		1,9	1,4	2,1	4,6	3,5	2,7	2,7	2,7	-	
Yield Data											
1. Purity		87,5	91,9	89,1	88,5	89,0	90,0	91,2	89,6	-	-
2. POL % Cane		13,6	15,3	13,5	13,9	13,7	14,8	15,5	14,3	1,4	7,3
3. ERS % Cane		11,9	13,9	11,9	12,3	12,1	13,2	14,0	12,8	1,5	9,1
4. Cane t/ha		99	81	100	92	105	88	80	92	19,8	16,3
5. Sucrose t/ha		13,3	12,4	13,5	12,9	14,4	13,0	12,2	13,1	3,2	18,4
6. Yield t suc AS] a % of NCo376]		100	93	102	97	108	98	92	-	-	-

6. Comments

- Weather** - Rainfall was 80% of the LTM with the crop receiving less than half the expected precipitation in the early ratooning stage and the summer season being characterised by long periods of overcast weather.
- Eldana** - Infestation was low with a mean of 1,3 eldana per 100 stalks (E/100 S) and the highest incidence was recorded in N14 at 3,6 E/100 and the lowest in NCo376 and N19 (0,4 E/100).
- Yield** - The variability in cane and sucrose yield was high and consequent differences between varieties were not significant although N16 appeared to be the most productive variety. N16 produced 1,1 t sucrose (8%) more and had a substantially higher stalk population than NCo376. The varieties did not differ significantly in cane yield.

4. Sucrose content

NCo310 and N19 contained substantially more sucrose than did NCo376, N12, N14. N17 was intermediate. N12 was cut at a younger age than recommended (>15 months).

RKMcI/cvp
9 January 1990