

**SOUTH AFRICAN SUGAR INDUSTRY
AGRONOMISTS' ASSOCIATION**

Code No : EVT 9/88
Project No: 3705
Cat. No. : 1693

Title: Estate variety trial on a Dwyka sand at Eston.

Particulars of project

This crop : Plant
Site : Eston
Region : Midlands
Soil system : Umzinto Midlands
Soil form/series: Longlands/Longlands
Design : Randomised block
Variety : See treatments
Fertilizer/ : N P K
Ameliorants : 124 60 164

Soil analysis Date: 17.11.89

<u>pH</u>	<u>O.M.%</u>	<u>Clay %</u>	<u>P.D.I</u>
5,8	N Cat 1	>14	

ppm

<u>P</u>	<u>K</u>	<u>Ca</u>	<u>Mg</u>	<u>Zn</u>	<u>Al</u>
20	75	760	253		

Age: 17,9 mths **Dates:** 25/3/88-21/9/89
Rainfall: 1155mm **L.T.M.:** 1290 mm
Irrigation: Nil

Rainfall (mm)

1988/89	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Rain	211	61	69	42	21	30	35	74	68	144	68	180	30	43	13	11	30	0	25
L.T.M.	106	53	28	26	16	39	86	109	94	117	95	167	106	53	28	26	16	39	86

Objectives:

To evaluate some of the newer cane varieties in a low rainfall area and on a moderately poor soil in the midlands.

Treatments:

- 1) NCo376
- 2) N12
- 3) N13
- 4) N16
- 5) N17
- 6) N18
- 7) N20

Results:

Plant Crop at 17,9 months

Yield component \ Variety	NCo 376	N12	N13	N16	N17	N18	N20	Mean	LSD 5%	CVS %
STALK DATA										
Population 000/ha	135	157	145	158	151	130	152	147		
Height (m)	1,52	1,45	1,51	1,55	1,70	1,59	1,42	1,53		
Eldana/100 stalks	2,4	0,8	2,4	0,4	0,8	2,8	1,6	1,6	2,5	118
% joints bored	7,0	3,8	4,3	6,1	4,3	6,3	3,2	5,0	3,1	47
YIELD DATA										
Purity	86,3	89,4	80,3	88,1	86,7	87,1	87,3	86,5		
ERS % cane	12,0	13,2	10,5	12,6	12,7	13,2	11,4	12,2		
Pol % cane	13,6	14,7	12,6	14,2	14,4	14,8	13,1	13,9	1,1	5,9
Cane t/ha	77	68	77	78	78	72	56	73	9	9,8
Suc t/ha	10,5	10,0	9,7	11,1	11,2	10,7	7,3	10,1	1,6	12,2
Yield t suc as a % of NCo376	100	95	92	106	107	102	70	96		
Yield t suc/ha/annum	7,0	6,7	6,5	7,4	7,5	7,2	4,9	6,8		

Comments

1. A fairly well distributed rainfall (90% of LTM) was recorded and the crop which was planted in autumn grew through a single summer characterised by lengthy overcast conditions.

Harvesting took place at a younger age than the normal (22 months) as the surrounding cane was required for seedcane.

2. Stalk Data

1. Eldana infestation was low with a mean of 1,6 eldana per 100 stalks (E/100), the greatest numbers recorded in N18 at 2,8 E/100 and the lowest in N16 at 0,4 E/100.
2. Rust was noted in N20 in March at about 12 months of age.
3. No lodging was recorded.

3. Yield

The differences in sucrose yield between the varieties were not significant with the exception of N20 which produced markedly less (P0,01) cane and sucrose than did all the other varieties.

N16 and N17 were the most productive varieties yielding 6% and 7% respectively more sucrose than did NCo376.

N12 was cut at a younger age than recommended for the area and is likely to have affected cane yield which was significantly less than that of the top yielding varieties in this crop. N12 produced 5% less sucrose than did NCo376.

RMCI/1b
16 January 1990