

(49)

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

RATES OF NITROGEN

Catalogue No: 184
This crop: R5
Site: Waterbosch Section,
 D27 (S) Doornkop.
Altitude: 500 m
Soil Series: Inanda
Design: 5 x 5 Latin Square
Variety: NCo 376
Fertilizer: See treatments
Water regime: Dryland

Soil Analysis:

<u>pH</u>	<u>OM%</u>	<u>Clay %</u>	
5.4	-	-	
<u>P.p.m.</u>			
<u>P</u>	<u>K</u>	<u>Ca</u>	<u>Mg</u>

18	106	149	124
<u>Age:</u> R5; 26 mths. (6/68 - 8/70).			
<u>Rainfall:</u> 1663 mm			
<u>Irrigation:</u> -			

Object:

To test three rates of nitrogen top-dressing and, at the highest rate, two rates of potash, with a no nitrogen control.

<u>Treatments:</u> Kg/ha:	<u>N</u>	<u>K</u>
1	0	168
2	67	168
3	134	168
4	202	168
5	202	224

All plots received 19 kg. phosphate per hectare.

Results:

TREATMENTS	T/HA CANE	E.R.S.	T/HA E.R.S.
168 K + 0 N	84	15.4	14.0
168 K + 67 N	71	15.5	12.0
168 K + 134 N	87	15.5	14.7
168 K + 202 N	105	15.6	17.7
224 K + 202 N	99	15.1	16.4
S.E. Treatment Mean	5.42	0.14	0.95
L.S.D. (0.05)	16.7	0.4	2.9
(0.01)	23.4	0.6	4.1
C.V. %	13.6	2.1	14.1

Comments:

1. There is a statistically significant response to nitrogen application.
2. Omitting plot 14 which gave abnormally low yields, the mean yields for the 67 N treatment are:

76 tc/ha and 12.8 t ers/ha.

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The yield curve is still rather erratic but does not indicate a levelling off in response to the higher application rates.

3. There is no significant evidence that high nitrogen application has had any adverse effect on E.R.S.
4. There is no significant evidence that the higher rate of potash has had any effect on cane yields, but it appears to have lowered the E.R.S.