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SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

NPK FACTORIAL EXPERIMENT

Catalogue No: 153
This crop: Plant
Site: Powerscourt, I.S.E.
Altitude: 2,500'
Soil Series: Inanda
Design: 4 x 2 x 3 NPK
Variety: N:Co.293
Fertilizer:

N	P	K
60	42	0
120	83	83
180		166
240		

Water regime: Dryland

Soil Analysis:

	pH	OM%	
	4.9	9.7	
ppm			
P	K	Ca	Mg
22	135	-	-

Age: 24 months (11/56 - 11/58)
Rainfall: No data available.

Object:

To determine yield responses to N, P and K on an Inanda series soil.

Treatments:

- N1 : 60 lb. N in furrow
- N2 : 60 lb. N in furrow, 60 lb. N top-dress
- N3 : 60 lb. N in furrow, 120 lb. N " "
- N4 : 60 lb. N in furrow, 180 lb. N " "

Results:

Treatment	T.C.A.	% Sucrose	T.S.A.
N1	64.8		9.14
N2	66.7		9.59
N3	66.5		8.61
N4	70.3		9.29
S.E.	+ 8.01	-	+1.33
C.V. %	11.9	-	14.5

Comment:

No significant treatment effects, no interactions

29th November, 1966.

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Variety: N:Co.293
Fertilizer: N P K
 60 42 0
 120 85 83
 180 166
 240

Soil Analysis:

pH	OM%	ppm			
		P	K	Ca	Mg
4.9	9.7	22	135	-	-

Age: 24 months (11/56 - 11/58)
Rainfall: No data available

Water regime: Dryland

Object:

To determine yield response to N, P and K on an Inanda series soil.

Treatments:

K1 : 0 lb. K/ac.
 K2 : 83 lb. K/ac.
 K3 : 166 lb. K/ac.

Results:

Treatment	T.C.A.	% Sucrose	T.S.A.
K1	55.9	14.1	7.88
K2	66.9	13.7	9.17
K3	78.4	13.3	10.43
S.E.	± 8.01	-	±1.33
C.V. %	11.9	-	14.5

Comment:

Tons Cane per acre and Tons Sucrose per acre data show a highly significant linear response to potash, the average response per unit dressing being:

11.27 T.C.A. ± 4.33 @ 5%
 6.03 @ 1%

1.28 T.S.A. ± 0.72 @ 5%
 ± 1.00 @ 1%