

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

IRRIGATED PHOSPHATE TRIAL

Catalogue No: 116
This crop: Plant
Site: Ottawa Section N.E.L.
 Paddock Field
Altitude: 200'
Soil series: Windermere clay
Design: Random block
Variety: N:Co.376
Fertilizer: See treatments
Water regime: Irrigated trial
 23.28" applied

Soil Analysis: (Beater)

p.p.m.
 pH P K Ca Mg
 7.5 18 68 7019 409

Age: 14 months (8/63 - 11/64)

Rainfall this crop: 35.76"

Object: To test Phosphate response.

Treatments:

1. Supers 8.3% P 0 lbs/acre
2. Supers 8.3% P 400 " "
3. Supers 8.3% P 800 " "

All plots
 Amm. Nitrate 31% N 400 lbs/acre
 M. Potash 50% K 300 lbs/acre

Results:

Fertilizer	% Suc.	T.C.A.	T.C.A.M.	T.S.A.	Lbs. S.A.M.	Purity	Rank	
							Cane	Suc.
Super 8.3% P								
0 lbs/acre	14.98	38.9	2.778	5.827	832	91.7	3	3
400 " "	15.13	44.6	3.186	6.748	964	91.9	1	1
800 " "	14.77	42.1	3.007	6.218	888	91.6	2	2

S.E. = \pm 5.60 Difference between treatments not statistically
 C.V. = 13.4% significant.

Conclusions:

The significant response to phosphate was not anticipated due to the relatively high soil analysis, but a trend indicates that 400 lbs/acre superphosphate to be adequate.

28th November, 1966.

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IRRIGATED PHOSPHATE TRIAL

Catalogue No: 116
This crop: 1st Ratoon
Site: Ottawa Section N.E.L.
 Paddock Field
Altitude: 200'
Soil series: Windermere clay
Design: Random Block
Variety: N:Co.376
Fertilizer: See treatments
Water regime: Irrigated
 29.0" applied

Soil Analysis: (Beater)

p.p.m.
 pH P K Ca Mg
 7.5 18 68 7019 409

Age: 12 months (11/64 - 11/65)

Rainfall this crop: 28.87"

Object: To test phosphate response.

Treatments:

- | | |
|-------------------------------|---|
| 1. Supers 8.3% P 0 lbs/acre | |
| 2. Supers 8.3% P 400 lbs/acre | L.A.N. <u>All plots</u> 26%N 600 lbs/acre |
| 3. Supers 8.3% P 800 lbs/acre | M. Potash 50%K 200 " " |

Results:

Fertilizer	T.C.A.	Suc. %	T.S.A.	T.C.A.M.	Lbs S.A.M.	Rank	
						Cane	Suc.
Supers 8.3% P							
0 lbs/acre	53.75	13.11	7.044	4.478	1174	3	3
400 "	56.58	13.21	7.474	4.715	1246	1	1
800 "	55.10	13.24	7.295	4.591	1216	2	2

S.E. = \pm 5.240 Difference between treatments not statistically significant.
 C.V. = 9.50%

Conclusions:

No significant response to phosphate in the 1st ratoon was obtained as in the case of plant cane but the trend indicates that Nil or at the most 400 lbs/acre super will suffice.

28th November, 1966.

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PHOSPHATE TRAIL

<u>Catalogue No:</u>	116	<u>Soil Analysis</u>
<u>This Crop:</u>	2nd Ratoon	
<u>Site:</u>	Paddock - Ottawa	
<u>Altitude:</u>	200'	
<u>Soil Series:</u>	Windermere	pH
<u>Design:</u>	Random Block	
<u>Variety:</u>	NCO 376	
<u>Fertilizer:</u>	See Treatments	
<u>Water Regime:</u>	Irrigated	

		<u>p.p.m.</u>			
		P	K	Ca	Mg
		7.5	18	68	7019
				409	
		<u>Age:</u> 14 months (16/11/65 - 8/2/67)			
		<u>Rainfall:</u> 40.65"			
		<u>Irrigation:</u> 19.00"			

Object: To test phosphate response

Treatments:

	<u>PLANT</u>					<u>RATOONS</u>		
						N	P	K
1.	Supers - 8.3% P	-	0	LBS/ACRE	-	138	-	100
2.	" " "	-	400	" "	-	138	33	100
3.	" " "	-	800	" "	-	138	-	100
	All Plots		N - 80					
			K - 150					

Results:

TREATMENT	T. .A.	S.% C.	T.S.A.
1	55.5	13.49	7.48
2	57.3	13.40	7.67
3	54.8	13.48	7.36
MEAN	55.5	13.46	7.50
S.E. Treatment Mean	1.64	0.098	0.285
L.S.D. (0.05)	5.1	0.30	0.88
C.V.	7.8%	3.3%	10.0%

No significant evidence of any differences.