

SOUTH AFRICAN SUGAR INDUSTRY.

AGRONOMISTS' ASSOCIATION.

PHOSPHATE TRIAL.

<p><u>Catalogue No:</u> 46</p> <p><u>This crop:</u> 3rd Ratoon.</p> <p><u>Site:</u> Peel, Tongaat.</p> <p><u>Altitude:</u> 300 ft.</p> <p><u>Soil series:</u> Dolerite.</p> <p><u>Design:</u> Random block- 4 reps.</p> <p><u>Variety:</u> N.Co 376</p> <p><u>Fertilizer:</u> See treatment.</p> <p><u>Water regime:</u></p>	<p><u>Soil Analysis:</u></p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>pH</u></td> <td style="text-align: center;"><u>OM%</u></td> <td style="text-align: center;"><u>Clay%</u></td> </tr> <tr> <td style="text-align: center;">3R 5.21</td> <td style="text-align: center;">5.90</td> <td style="text-align: center;">-</td> </tr> </table> <table border="0" style="width: 100%;"> <tr> <td colspan="4" style="text-align: center;"><u>p.p.m.</u></td> </tr> <tr> <td style="text-align: center;"><u>P</u></td> <td style="text-align: center;"><u>K</u></td> <td style="text-align: center;"><u>Ca</u></td> <td style="text-align: center;"><u>Mg</u></td> </tr> <tr> <td style="text-align: center;">39</td> <td style="text-align: center;">130</td> <td style="text-align: center;">936</td> <td style="text-align: center;">300</td> </tr> </table> <p><u>Age:</u> 13 mths Aug'66-Sept'67</p> <p><u>Rainfall:</u> 37.61"</p> <p><u>Irrigation:</u> -</p>	<u>pH</u>	<u>OM%</u>	<u>Clay%</u>	3R 5.21	5.90	-	<u>p.p.m.</u>				<u>P</u>	<u>K</u>	<u>Ca</u>	<u>Mg</u>	39	130	936	300
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Treatments:

Urea	=	300 lbs/a
Double Supers Po	=	nil
P1	=	100 lbs/a
P2	=	200 lbs/a
P3	=	300 lbs/a
P4	=	400 lbs/a
P5	=	nil
Mur. of Potash	=	300 lbs/a

Results:

TREATMENTS	T.C.A.	%	T.S.A.
		SUCROSE	
Po	42.6	14.5	6.16
P1	47.0	14.4	6.75
P2	42.5	14.3	6.06
P3	47.2	14.6	6.88
P4	44.9	14.5	6.51
P5	47.5	14.5	6.90
S.E. single yield			3.48
C.V.			7.69%
L.S.D. between treatments 5%			5.24
L.S.D. 1%			7.25

Comment:

There has been a steady build up in soil phosphorous and the maximum response appears to be at the P1 level of 100 lbs./acre of double super phosphate.