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SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

2 x 2 x 2 NPK FACTORIAL

Catalogue No: 53
This crop: P, 1R, 2R
Site: Benningfield, Inyaninga
Altitude: 300'
Soil series: Shale
Design: 2 x 2 x 2 NPK 2 reps.
Variety: N:Co.382
Fertilizer: See below
Water regime: Dryland

Soil analysis:

			ppm				
	pH	OM%	Clay%	P	K	Ca	Mg
P	5.59	4.56	-	19.7	119	VH	-
1R	5.65	3.60	-	147	126	200	2400
2R	5.24	4.50	-	11.7	113	154	419
<u>Age:</u> P	18 mths		March 60 - Sept 61				
1R	18 "		Sept 61 - June 63				
2R	13 mths		June 63 - July 64				
<u>Rainfall:</u> P	70.64"		1R 65.57"				
	2R 35.58"						

Object:

To compare two levels of N in a plant crop and two ratoons.

Fertilizer:

	<u>Plant</u>		<u>1st Ratoon</u>		<u>2nd Ratoon</u>		
(Urea)	N1	103	N1	103	N1	90	Lbs N/acre
			N2	207	N2	180	" "
(Sup. Phos.)	P1	24.9	P1	24.9	P1	24.9	" P/acre
	P2	49.8	P2	49.8	P2	49.8	" "
(M. of Potash)	K1	100	K1	100	K1	100	" K/acre
	K2	200	K2	200	K2	200	" "

Treatments: lbs N/acre

	<u>Plant</u>		<u>1st Ratoon</u>		<u>2nd Ratoon</u>	
	No	Nil	No	Nil	No	Nil
	N1	103	N1	103	N1	80
	N2		N2	207	N2	180

Results:

	Treatment	T.C.A.	Suc.%	T.S.A.
Plant	No	56.3	14.25	8.02
	N1	58.9	14.30	8.42
1st Ratoon	N0	35.2	14.01	4.93
	N1	37.8	13.94	5.28
2nd Ratoon	N0	26.1	14.36	3.74
	N1	30.0	14.31	4.29

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<u>Age:</u> P	18 mths	March 60	-	June 63			
1R	18 "	Sept 61	-	June 63			
2R	13 "	June 63	-	July 64			
<u>Rainfall:</u> P	70.64"			1R 65.57"			
2R	35.58"						

Object:

To compare two levels of K in a plant crop and two ratoons.

Fertilizer:

	<u>Plant</u>		<u>1st Ratoon</u>		<u>2nd Ratoon</u>		
Urea	N1	103	N1	103	N1	90	lbs N/acre
			N2	207	N2	180	" "
Sup. Phos.	P1	24.9	P1	24.9	P1	24.9	" P/acre
	P2	49.8	P1	49.8	P2	49.8	" "
M. of Potash	K1	100	K1	100	K1	100	" K/acre
	K2	200	K2	200	K2	200	" "

Treatments: 1b K/acre

	<u>Plant</u>		<u>1st Ratoon</u>		<u>2nd Ratoon</u>	
	Ko	Nil	Ko	Nil	K1	Nil
	K1	100	K1	100	K1	100
	K2	200	K2	200	K2	200

Results:

	<u>Treatment</u>	<u>T.C.A.</u>	<u>Suc.%</u>	<u>T.S.A.</u>
Plant	K1	58.1	14.26	8.28
	K2	57.1	14.29	8.16
1st Ratoon	K1	36.2	13.88	5.03
	K2	36.8	14.08	5.18
2nd Ratoon	K1	27.7	14.38	3.98
	K2	28.3	14.30	4.05