

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

4 x 2 x 3 NPK FACTORIAL

Catalogue No: 17
This crop: P, 1R, 2R
Site: Jantoni, Cranbrook
Altitude: 600'
Soil series: Cartref (T.M.S.)
Design: 4 x 2 x 3 1 rep.
Variety: N:Co.293
Fertilizer: See below
Water regime: Dryland

Soil Analysis:

	pH	OM%	Clay%	ppm			
				P	K	Ca	Mg
P	5.1	.82	-	61	52	-	-
1R	-	-	-	-	-	-	-
2R	5.0	.80	-	198	696	-	-
<u>Age:</u> P	19 mths.	Feb. 57 - Oct. 58					
1R	26 mths.	Oct. 58 - May 60					
2R	25 mths.	May 60 - June 62					
<u>Rainfall:</u>	P = 67.59"	1R = 56.36"					
	2R = 66.77"						

Object:

To compare three levels of potassium in a plant crop and two ratoons:

Fertilizer:

	<u>Plant</u>		<u>1st Ratoon</u>		<u>2nd Ratoon</u>
Amm. Nit.	N1	49	N1	99	Urea N1 103 lbs N/ac
	N2	148	N2	198	N2 207 " "
	N3	247	N3	297	N3 310 " "
	N4	346	N4	396	N4 414 " "
S. Phos	P1	49.8	P1	49.8	P1 46.5 lbs P/ac
	P2	99.6	P2	99.6	P2 83.0 " "
	K1	100	K1	100	K1 100 lbs K/ac
	K2	200	K2	200	K2 200
	K3	300	K3	300	K3 300

Treatments: 1b K/ac.

	<u>Plant</u>	<u>1st Ratoon</u>	<u>2nd Ratoon</u>
K1	100	K1 100	K1 100
K2	200	K2 200	K2 200
K3	300	K3 300	K3 300

Results:

	<u>Treatment</u>	<u>T.C.A.</u>	<u>Suc.%</u>	<u>T.S.A.</u>
Plant	K1	60.8	15.88	9.65
	K2	53.6	15.59	8.36
	K3	56.8	15.63	8.88
1st Ratoon	K1	54.9	12.83	7.04
	K2	50.8	12.86	6.53
	K3	53.9	12.56	6.78
2nd Ratoon	K1	39.1	13.71	5.36
	K2	35.2	13.65	4.81
	K3	38.4	13.59	5.21

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1R	-	-	-	-	-	-	-
2R	5.0	.80	-	198	696	-	-
Age:	P	19 mths.	Feb. 57 - Oct. 58				
	1R	26 mths.	Oct. 58 - May 60.				
	2R	25 mths.	May 60 - June 62.				
Rainfall:	P	= 67.59"		1R	= 56.36"		
	2R	= 66.77"					

Object:

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

Fertilizer:

	Plant	1st Ratoon	2nd Ratoon	
Amm. Nit.	N1 49	N1 99	N1 103	lbs N/ac
	N2 148	N2 198	N2 207	" "
	N3 247	N3 297	N3 310	" "
	N4 346	N4 396	N4 414	" "
S. Phos	P1 49.8	P1 49.8	P1 46.5	lbs P/ac
	P2 99.6	P2 99.6	P2 83.0	" "
	K1 100	K1 100	K1 100	"
	K2 200	K2 200	K2 200	
	K3 300	K3 300	K3 300	

Treatment: 1b N/ac.

	Plant	1st Ratoon	2nd Ratoon
	N1 48	N1 99	N1 103
	N2 148	N2 198	N2 207
	N3 247	N3 297	N3 310
	N4 346	N4 396	N4 414

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	N1	50.8	16.31	8.30
	N2	57.2	15.89	9.09
	N3	60.2	15.57	9.37
	N4	60.7	15.07	9.15
1st Ratoon	N1	51.9	12.86	6.67
	N2	50.9	12.95	6.59
	N3	55.6	12.82	7.13
	N4	54.4	12.37	6.73
2nd Ratoon	N1	37.8	14.03	5.31
	N2	36.0	13.89	5.00
	N3	39.0	13.27	5.18
	N4	37.3	13.43	5.01