

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

C 2 X 2 X 2 NPK FACTORIAL

Catalogue No.: 19  
 This crop: P. 1R. 2R.  
 Site: Camp, Sinembé.  
 Altitude: 600'  
 Soil series: Cartref (T.M.S.)  
 Design: 2 x 2 x 2 NPK 3 Reps.  
 Variety: N:Co.376  
 Fertilizer: See below.  
 Water regime: Dryland.

Soil Analysis:

	pH	OM%	Clay%	P.P.M.			
				P	K	Ca	Mg
P	5.3	.28	-	17	102	1060	130
1R	5.3	.57	-	12	89	1402	115
2R	5.3	-	-	8	47	5142	96

Age: P 29 mths. Feb. 60 - July 62.  
 1R 18 " July 62 - Nov. 63.  
 2R 20 " Nov. 63 - June 65.

Rainfall: P = 79.92"  
 1R = 49.17"  
 2R = 47.54"

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

Fertilizer:

Plant	1st Ratoon	2nd Ratoon
(Amm. Nit) N <sub>1</sub> 99 lbs. N/ac (Super P.) P <sub>1</sub> 33.2 " P/ac (Mur. of Pot.) K <sub>1</sub> 100 " K/ac K <sub>2</sub> 200 " "	(Urea) N <sub>1</sub> 103 lb. N N <sub>2</sub> 207 lb. N (Super P.) P <sub>1</sub> - P <sub>2</sub> 33.2 " P (Mur. of Pot.) K <sub>1</sub> 100 K <sub>2</sub> 200	(LAN) N <sub>1</sub> 100 N <sub>2</sub> 200 (Super P.) P <sub>1</sub> 41.5 P <sub>2</sub> 83.0 (Mur. of Pot.) K <sub>1</sub> 50. K <sub>2</sub> 100

Treatments:

Plant	1st Ratoon	2nd Ratoon
K <sub>1</sub> 100	K <sub>1</sub> 100	K <sub>1</sub> 50 lbs. K/ac.
K <sub>2</sub> 200	K <sub>2</sub> 200	K <sub>2</sub> 100

Results:

	Treatment	T.C.A.	% Suc.	T.S.A.
P	K <sub>1</sub>	45.9	14.85	6.82
	K <sub>2</sub>	49.7	14.77	7.34
1R	K <sub>1</sub>	34.5	14.83	5.12
	K <sub>2</sub>	38.3	14.76	5.65
2R	K <sub>1</sub>	24.8	13.67	3.40
	K <sub>2</sub>	23.6	13.63	3.23

7

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

2 X 2 X 2 NPK FACTORIAL

Catalogue No.: 19  
This crop: P. R1. R2.  
Site: Camp, Sinembe.  
Altitude: 600'  
Soil series: Cartref (T.M.S.)  
Design: 2 x 2 x 2 NPK 3 Reps.  
Variety: N:Co.376  
Fertilizer: See below.  
Water regime: Dryland.

Soil Analysis:

	pH	OM%	Clay%	p.p.m.			
				P	K	Ca	Mg
P	5.3	.28	-	17	102	1060	130
1R	5.3	.57	-	12	89	1402	115
2R	5.3	-	-	8	47	5142	96

Age: P 29 mths. Feb. 60 - July 62.  
 1R 18 " July 62 - Nov. 63.  
 2R 20 " Nov. 63 - June 65.

Rainfall: P = 79.92"  
 1R = 49.17"  
 2R = 47.54"

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

Fertilizer:

Plant	1st Ratoon	2nd Ratoon
(Amm. Nit) N <sub>1</sub> 99 lbs. N/ac (Super P.) P <sub>1</sub> 33.2 " P/ac (Mur. of Pot.) K <sub>1</sub> 100 lbs. K/ac K <sub>2</sub> 200 " "	(Urea) N <sub>1</sub> 103 lb. N N <sub>2</sub> 207 lb. N (Super P.) P <sub>1</sub> - P <sub>2</sub> 33.2 " P (Mur. of Pot.) K <sub>1</sub> 100 K <sub>2</sub> 200	(LAN) N <sub>1</sub> 100 N <sub>2</sub> 200 (Super P.) P <sub>1</sub> 41.5 P <sub>2</sub> 83.0 (Mur. of Pot.) K <sub>1</sub> 50 K <sub>2</sub> 100

Treatments:

lb. N/acre

Plant	1st Ratoon	2nd Ratoon
N <sub>0</sub> Nil	N <sub>1</sub> 103	N <sub>1</sub> 100
N <sub>1</sub> 99	N <sub>2</sub> 207	N <sub>2</sub> 200

Results:

	Treatment	T.C.A.	% Suc.	T.S.A.
Plant	N <sub>0</sub>	43.2	15.03	6.49
	N <sub>1</sub>	52.5	14.59	7.66
1st Ratoon	N <sub>1</sub>	34.9	14.85	5.18
	N <sub>2</sub>	37.9	14.71	5.58
2nd Ratoon	N <sub>1</sub>	25.4	13.85	3.52
	N <sub>2</sub>	23.0	13.45	3.10