

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

2 x 2 x 2 NPK FACTORIAL

Catalogue No.: 21  
This crop: Plant 1 Ratoon  
Site: Outspan, Frosterley  
Altitude: 400'  
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	5.18	1.0	-
1R	5.16	0.97	-

  

	p.p.m.			
	P	K	Ca	Mg
P	10	181	4206	554
1R	12	81	6133	1098

Age: P 23 mths. Feb. '59 - Dec. '60  
 1R 20 mths. Dec. '60 - Aug. '62

Rainfall: P = 65.84"  
 1R = 56.42"

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

Fertilizer:

Plant		1st Ratoon	
Amm. nit.	N <sub>0</sub> 148 lbs N/ac	Urea	N <sub>1</sub> 138 lbs N/ac
	N <sub>1</sub> -		N <sub>2</sub> 373 "
Super phos.	P <sub>1</sub> 24.9 lbs P/ac	Super phos.	P <sub>1</sub> 24.9 lbs P/ac
	P <sub>2</sub> 49.8 "		P <sub>2</sub> 49.8 "
Mur. of pot.	K <sub>1</sub> 100 lbs K/ac	Mur. of pot.	K <sub>1</sub> 100 lbs K/ac
	K <sub>2</sub> 200 "		K <sub>2</sub> 200 "

Treatments:

Plant	1st Ratoon
K <sub>1</sub> :100	K <sub>1</sub> : 100 lbs K/ac
K <sub>2</sub> : 200	K <sub>2</sub> : 200 "

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
P	K <sub>1</sub>	43.2	14.30	6.18
	K <sub>2</sub>	40.5	14.35	5.80
1R	K <sub>1</sub>	43.8	14.64	6.41
	K <sub>2</sub>	37.5	14.77	5.54

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Super phos. P <sub>1</sub> 24.9 lbs P/ac P <sub>2</sub> 49.8 "	Super phos. P <sub>1</sub> 24.9 lbs P/ac P <sub>2</sub> 49.8 "
Mur. of pot. K <sub>1</sub> 100 lbs K/ac K <sub>2</sub> 200 "	Mur. of Pot. K <sub>1</sub> 100 lbs K/ac K <sub>2</sub> 200 "

Treatments:

16 N/acre

Plant	1st Ratoon
N <sub>0</sub> : 0	N <sub>1</sub> : 138
N <sub>1</sub> : 148	N <sub>2</sub> : 373

Results:

Treatment	T.C.A.	Suc. %	T.S.A.
Plant	N	38.0	5.43
	N <sub>1</sub>	45.6	6.55
1st Ratoon	N <sub>1</sub>	45.0	6.75
	N <sub>2</sub>	36.3	5.23