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SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

2 x 2 x 2 NPK FACTORIAL

Catalogue No.: 55
This crop: Plant: 1 Ratoon
Site: Marigny Klipfontein
Altitude: 300'
Soil series: Sand
Design: 2 x 2 x 2 NPK 2 reps.
Variety: N:Co.376
Fertilizer: See Below
Water regime: Dryland

Soil Analysis:

	pH	OM%	Clay%
P	5.6	.9	-
1R	5.1	.49	-

	p.p.m.			
	P	K	Ca	Mg
P	31.6	27.4	8142	401
1R	20.2	15.3	1683	460

Age: P = 21 mths. Oct. '59 - Aug. '61
 1R = 20 mths. Aug. '61 - June '63

Rainfall: P = 72.64"
 1R = 61.91"

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

Fertilizer:

	Plant		1st Ratoon
(Amm. Nit.)	N ₁ 148 lbs N/ac	(Urea)	N ₁ 103 lbs N/ac
			N ₂ 207 "
(Super P)	P ₁ 41.5 lbs P/ac	(Super P)	P ₁ 24.9 lbs P/ac
			P ₂ 49.8 "
(Mur. of Pot.)	K ₁ 100 lbs k/ac	(Mur. of Pot.)	K ₁ 100 lbs K/ac
	K ₂ 200 lbs K/ac		K ₂ 200 "

Treatment:

16 N/acre

	Plant	1st Ratoon
	N ₀ : Nil	N ₁ : 103
	N ₁ : 148	N ₂ : 207

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	N ₀	48.1	14.5	6.9
	N ₁	65.4	14.5	9.5
1st Ratoon	N ₀	55.9	13.7	7.6
	N ₁	58.4	13.8	8.1

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p.p.m.				
	P	K	Ca	Mg
P	31.6	27.4	8142	401
1R	20.2	15.3	1683	460

Age: P = 21 mths. Oct. '59 - Aug. '61
 1R = 20 mths. Aug. '61 - June '63

Rainfall: P = 72.64"
 1R = 61.91"

Object:

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

Fertilizer:

	Plant		1st Ratoon
(Amm. Nit.)	N ₁ 148 lbs N/ac	(Urea)	N ₁ 103 lbs N/ac
			N ₂ 207 "
(Super P)	P ₁ 4.15 lbs P/ac	(Super P)	P ₁ 24.9 lbs P/ac
			P ₂ 49.8 "
(Mur. of Pot.)	K ₁ 100 lbs K/ac	Mur. of Pot.)	K ₁ 100 lbs K/ac
	K ₂ 200 "		K ₂ 200 "

Treatments:

<u>16 K/acre</u>	
Plant	1st Ratoon
K ₁ : 100	K ₁ : 100
K ₂ : 200	K ₂ : 200

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
P	K ₁	58.3	14.5	8.5
	K ₂	55.3	14.5	8.0
1R	K ₁	60.7	13.7	8.3
	K ₂	53.6	13.8	7.4