

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

3 x 3 x 3 NPK FACTORIAL

Catalogue No: 78 (Second Cycle)
 This crop: P : 1R
 Site: 68 Rich Mwawine
 Altitude:
 Soil series: Coastal sand
 Design: 3 x 3 x 3 1 rep.
 Variety: 339
 Fertilizer: See below
 Water regime: Dryland

Soil Analysis:

	pH	OM%	Clay%	ppm			
	P	K	Ca	Mg			
P	5.2	.51	-	20	15	5410	-
1R	5.4	.73	-	20	14	8421	325
Age: P	28 mths March 59 - July 61						
1R	22 mths July 61 - May 63						
Rainfall:	P=90.92", 1R=66.93"						

Object:

To compare three levels of K in a plant crop and first ratoon (second cycle)

Fertilizer:

	No	N ₁	N ₂	Superphosphate			Muriate of Potash		
				P ₀	P ₁	P ₂	K ₀	K ₁	K ₂
P (Amm. nit.)	148	297		41.5	83.0		125	237	lbs/ac

Treatments: lb. K/acre

	<u>Plant</u>		<u>1st Ratoon</u>
	K ₀	Nil	Nil
	K ₁	125	125
	K ₂	237	250

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	K ₀	71.1	13.2	9.3
	K ₁	68.7	12.9	9.1
	K ₂	75.1	12.8	9.6
1st Ratoon	K ₀	29.2	15.2	4.4
	K ₁	31.0	15.1	4.7
	K ₂	29.0	15.1	4.4

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3 x 3 x 3 NPK FACTORIAL

Catalogue No: 78 (First cycle)
This Crop: P : 1R : 2R
Site: 65 Rich Mwavine
Altitude: 300'
Soil series: Coastal Sand
Design: 3 x 3 x 3 1 rep.
Variety: Co.301
Fertilizer: See below
Water regime: Dryland

Soil Analysis:

	pH	OM%	Clay%	ppm			
				P	K	Ca	Mg
				Nil			
<u>Age:</u> P	24 mths	Nov	52	-	Oct	54	
1R	22 mths	Oct	54	-	Aug	56	
2R	22 mths	Aug	56	-	June	58	
<u>Rainfall:</u>	P = 82.8"		1R = 84.1"				
	2R = 91.5"						

Object:

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

Fertilizer:

(Amm. Sulphate)	No	-	
	N ₁	95	lbs/ac
	N ₂	190	
(Super Phos.)	P ₀	-	
	P ₁	43.5	lbs/ac
	P ₂	87.1	
(M. of Potash)	K ₀	-	
	K ₁	835	lbs/ac
	K ₂	277	

Treatments:

K₀ - Nil
 K₁ - 835 lbs K/ac
 K₂ - 271 "

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	K ₀	38.8	15.8	6.12
	K ₁	38.3	15.5	5.94
	K ₂	34.4	15.6	5.97
1st Ratoon	K ₀	29.6	16.9	4.44
	K ₁	32.8	16.9	5.55
	K ₂	31.2	16.8	5.21
2nd Ratoon	K ₀	24.0	14.4	3.45
	K ₁	26.2	14.4	3.76
	K ₂	25.4	14.5	3.69

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SOUTH AFRICAN SUGAR INDUSTRY

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3 x 3 x 3 NPK FACTORIAL

Catalogue No: 78 (First cycle)
This crop: P : 1R : 2R
Site: 65 Rich Mwawine
Altitude: 300'
Soil series: Coastal Sand
Design: 3 x 3 x 3 1 rep. (NPK)
Variety: Co.301
Fertilizer: See below
Water regime: Dryland

Soil Analysis:

<u>pH</u>	<u>OM%</u>	<u>Clay%</u>
	Nil	
	ppm	
P	K	Ca Mg
	Nil	
<u>Age:</u> P	24 mths	Nov 52 - Oct 54
1R	22 mths	Oct 54 - Aug 56
2R	22 mths	Aug 56 - June 58
<u>Rainfall:</u>	P=82.8", 1R=84.1", 2R=91.5"	

Object:

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

Fertilizer: lb/ac

(Amm. Sulphate) No -
 N1 95 lbs/ac
 N2 190 lbs/ac

(Super. Phos.) Po -
 P1 43.5 lb/ac
 P2 87.1 lb/ac

(Mur. of Pot.) Ko -
 K1 835 lb/ac
 K2 277 lb/ac

Treatment: No - Nil
 N1 - 95 lb N/acre
 N2 - 190 lb N/acre

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	No	36.6	15.9	5.82
	N1	41.1	15.3	6.29
	N2	37.8	15.6	5.91
1st Ratoon	No	28.4	17.1	4.86
	N1	32.8	16.6	5.46
	N2	32.4	16.7	5.43
2nd Ratoon	No	18.1	14.5	2.65
	N1	27.2	14.3	3.92
	N2	30.2	14.4	4.34

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AGRONOMISTS' ASSOCIATION

3 x 3 x 3 NPK FACTORIAL

Catalogue No: 78 (Second Cycle)

This crop: P : 1R

Site: 65 Rich Mwawine

Soil series: Coastal Sand

Design: 3 x 3 x 3 1 rep.

Variety: Co.339

Fertilizer: See below

Water regime: Dryland

Soil analysis:

	pH	OM%	Clay%
P	5.2	.51	-
1R	5.4	.73	-

	ppm			
	P	K	Ca	Mg
P	20	15	5.410	-
1R	20	14	8.421	325

Age: P 28 mths March 59 - July 61

1R 22 mths July 61 - May 63

rainfall: P = 90.92" 1R 66.93"

Object:

To compare three levels of N in a plant crop and first ratoon (second cycle).

Fertilizer:

	No	N ₁	N ₂	Superphosphate			Muriate of Potash		
				P ₀	P ₁	P ₂	K ₀	K ₁	K ₂
P (Amm. nit.)	-	148	297	-	41.5	83.0	-	125	237 lbs/ac
1R (Urea)	-	155	310	-	41.5	83.0	-	125	250 lbs/ac

Treatments: 1b N/acre

	<u>Plant</u>	<u>1st Ratoon</u>
No	N ₀	N ₀
N ₁	148	155
N ₂	297	310

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	No	75.7	12.8	9.5
	N ₁	72.7	13.1	9.5
	N ₂	66.9	13.1	9.0
1st Ratoon	No	33.9	15.0	5.1
	N ₁	27.2	15.0	4.1
	N ₂	28.2	15.3	4.3