

SOUTH AFRICAN SUGAR INDUSTRY

(K)

AGRONOMISTS' ASSOCIATION

NITROGEN TRIAL

Catalogue No.: 44
This crop: P, 1R, 2R, 3R.
Site: Red Hill, Mwavine.
Altitude: 300'
Soil series: Sand
Design: Random Block, 4 Reps.
Variety: N:Co.376.
Fertilizer: See below.
Water regime: Dryland.

Soil Analysis:				
	pH	OM%	Clay %	
P	5.7	.81	-	
1R	5.0	.88	-	
2R	5.4	.55	-	
3R	5.3	.89	8	
P.P.M.				
	P	K	Ca	Mg
P	76	180	4761	324
1R	36	109	5204	610
2R	22	74	438	26
3R	37	86	145	45
Age:	P	21 mths.	Feb. '60 - Dec. '61.	
	1R	18 "	Dec. '61 - June '63.	
	2R	12 "	June '63 - June '64.	
	3R	16 "	June '64 - Oct. '65.	
<u>Rainfall:</u>	P	79.13"	1R	52.81"
	2R	34.73"	3R	45.82"

Object: To compare five levels of nitrogen with a control in a plant crop and three ratoons.

Fertilizer:

Plant	1 Ratoon	2 Ratoon	3 Ratoon
(urea) N ₀	N ₀	(LAN) N ₀	(LAN) N ₀
N ₁ 46	N ₁ 46	N ₁ 460	N ₁ 115 lbs N
N ₂ 92	N ₂ 92	N ₂ 920	N ₂ 230 "
N ₃ 138	N ₃ 138	N ₃ 1380	N ₃ 345 "
N ₄ 184	N ₄ 184	N ₄ 1840	N ₄ 460 "
N ₅ 230	N ₅ 230	N ₅ 2300	N ₅ 575 "
(SP) 41.5	(SP) 41.5	(SP) 24.9	(SP) P ₁ 16.6 " P
(MP) 300	(MP) 200	(MP) 100	P ₂ 33.2 " P
			(MP) K ₁ 100 " K
			K ₂ 200 " K

Treatments:

lb. N/acre

Plant	1 Ratoon	2 Ratoon	3 Ratoon
N ₀	-	-	-
N ₁ 46	46	46	115
N ₂ 92	92	92	230
N ₃ 138	138	138	345
N ₄ 184	184	184	460
N ₅ 230	230	230	575

Results:

	Treatment	T.C.A.	% Suc.	T.S.A.
Plant	N ₀	67.6	14.46	9.76
	N ₁	75.5	15.36	11.60
	N ₂	66.6	14.55	9.69
	N ₃	65.5	14.05	9.20
	N ₄	73.0	14.64	10.69
	N ₅	66.4	14.80	9.83
1st Ratoon	N ₀	47.6	13.68	6.51
	N ₁	48.6	12.86	6.25
	N ₂	64.6	13.47	8.70
	N ₃	59.6	13.52	8.06
	N ₄	60.2	13.10	7.89
	N ₅	50.3	12.81	6.44
2nd Ratoon	N ₀	41.4	12.21	5.05
	N ₁	49.1	11.24	5.52
	N ₂	51.1	11.98	6.12
	N ₃	48.2	12.10	5.83
	N ₄	44.7	11.69	5.22
	N ₅	38.9	11.84	4.61
3rd Ratoon	N ₀	27.7	12.84	3.56
	N ₁	26.7	11.94	3.19
	N ₂	30.4	12.74	3.87
	N ₃	28.6	12.92	3.70
	N ₄	28.3	12.38	3.53
	N ₅	26.0	12.33	3.21

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