

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

NITROGEN TRIAL

Catalogue No.: 27
 This crop: P, 1R, 2R
 Site: Cheek, Sputu
 Altitude: 400'
 Soil series: Cartref
 Design: Random block, 4 reps.
 Variety: N:Co.376
 Fertilizer: See below
 Water regime: Dryland

Soil Analysis:

	pH	OM%	Clay%	p.p.m.			
				P	K	Ca	Mg
P	4.5	.62	-	19	46	748	-
1R	5.1	.59	-	15	-	4701	-
2R	4.9	-	-	11	55	3656	70

Age: P 20 mths. Oct. '60 - June '62
 1R 17 mths. June '62 - Nov. '63
 2R 18 mths. Nov. '63 - May '65

Rainfall: P = 59.96" 1R = 51.59"
 2R = 46.46"

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

Fertilizer:

Plant	1st Ratoon	2nd Ratoon
(Urea) N ₁ 46 lbs N	(Urea) N ₁ 46	(Urea) N ₁ 115 lbs N
N ₂ 92 "	N ₂ 92	N ₂ 230 "
N ₃ 138 "	N ₃ 138	N ₃ 345 "
N ₄ 184 "	N ₄ 184	N ₄ 460 "
N ₅ 230 "	N ₅ 230	N ₅ 575 "
(S.P.) 41.5 lbs P	(S.P.) 41.5	(S.P.) 41.5 lbs P
(M.P.) 200 lbs K	(M.P.) 250	(M.P.) 100 lbs K

Treatments:

Plant	lb N/acre	
	1 Ratoon	2 Ratoon
N ₁ : 46	N ₁ : 46	N ₁ : 115 lbs N/ac
N ₂ : 92	N ₂ : 92	N ₂ : 230 "
N ₃ : 138	N ₃ : 138	N ₃ : 345 "
N ₄ : 184	N ₄ : 184	N ₄ : 460 "
N ₅ : 230	N ₅ : 230	N ₅ : 575 "

Results:

Treatment	T.C.A.	Suc. %	T.S.A.	
P	N ₀	27.7	14.67	4.07
	N ₁	36.6	14.20	5.20
	N ₂	41.7	13.84	5.78
	N ₃	33.5	13.87	4.65
	N ₄	34.7	14.41	5.00
	N ₅	35.5	13.76	4.89
1R	N ₀	27.2	15.32	4.17
	N ₁	24.5	15.09	3.70
	N ₂	35.0	14.73	5.16
	N ₃	26.8	14.29	3.83
	N ₄	32.2	14.35	4.62
	N ₅	33.8	13.83	4.67
2R	N ₀	10.6	13.49	1.43
	N ₁	20.2	13.16	2.66
	N ₂	19.4	12.67	2.46
	N ₃	14.3	12.00	1.72
	N ₄	15.0	12.08	1.81
	N ₅	13.4	12.82	1.72