

15

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

NITROGEN TRIAL

Catalogue No.: 43  
 This crop: P, 1R, 2R, 3R  
 Site: Benningfield, Inyaninga  
 Altitude: 300'  
 Soil series: Shale  
 Design: Random block 4 reps.  
 Variety: N:Co.382  
 Fertilizer: See below  
 Water regime: Dryland

Soil Analysis:

	pH	OM%	Clay%
P	5.4	4.5	-
1R	5.4	2.7	-
2R	5.2	4.8	-
3R	5.2	6.6	-

p.p.m.			
P	K	Ca	Mg
P 45	70	VH	260
1R 19	69	VH	294
2R 14	164	1924	357
3R 54	178	960	458

Age: P 17 mths. Mar. '60 - Sept. '61  
 1R 22 mths. Sept. '61 - June '63  
 2R 13 mths. June '63 - July '64  
 3R 14 mths. July '64 - Oct. '65

Rainfall: P = 60.64" 1R 2 64.57"  
 2R = 38.73" 3R = 40.77"

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

Fertilizer:

Plant	1 Ratoon	2 Ratoon	3 Ratoon
(Urea) N <sub>0</sub> -	N <sub>0</sub> -	Lan. N <sub>0</sub>	Lan. N <sub>0</sub> - lbs N/ac
N <sub>1</sub> 46	N <sub>1</sub> 46	N <sub>1</sub> 460	N <sub>1</sub> 115 "
N <sub>2</sub> 92	N <sub>2</sub> 92	N <sub>2</sub> 920	N <sub>2</sub> 230 "
N <sub>3</sub> 138	N <sub>3</sub> 138	N <sub>3</sub> 1380	N <sub>3</sub> 345 "
N <sub>4</sub> 184	N <sub>4</sub> 184	N <sub>4</sub> 1840	N <sub>4</sub> 460 "
N <sub>5</sub> 230	N <sub>5</sub> 230	N <sub>5</sub> 2300	N <sub>5</sub> 575 "
(S.P.) 498	(S.P.) 664	(S.P.) 498	(S.P.) 249 lbs P/ac
(M.P.) 250	(M.P.) 300	(M.P.) 300	(M.P.) K <sub>1</sub> 100 lbs K/ac K <sub>2</sub> 200 "

Treatments:

Plant	16 N/acre		
	1 Ratoon	2 Ratoon	3 Ratoon
N <sub>1</sub> 46	46	46	115
N <sub>2</sub> 92	92	92	230
N <sub>3</sub> 138	138	138	345
N <sub>4</sub> 184	184	184	460
N <sub>5</sub> 230	230	230	575

Results:

Treatment	T.C.A.	Suc. %	T.S.A.
N <sub>0</sub>	60.9	14.08	8.58
N <sub>1</sub>	59.7	14.26	8.51
N <sub>2</sub>	60.7	14.14	8.60
N <sub>3</sub>	63.1	14.05	8.85
N <sub>4</sub>	60.0	14.18	8.52
N <sub>5</sub>	63.2	14.20	8.98
N <sub>0</sub>	34.3	13.68	4.69
N <sub>1</sub>	24.3	13.60	3.30
N <sub>2</sub>	34.8	13.65	4.75
N <sub>3</sub>	33.9	12.74	4.32
N <sub>4</sub>	34.9	12.87	4.49
N <sub>5</sub>	29.9	13.58	4.06
N <sub>0</sub>	36.6	14.40	4.84
N <sub>1</sub>	35.4	13.84	4.90
N <sub>2</sub>	34.1	13.32	4.54
N <sub>3</sub>	33.9	13.32	4.52
N <sub>4</sub>	37.0	13.76	5.09
N <sub>5</sub>	28.9	13.78	3.98
N <sub>0</sub>	22.0	12.60	2.77
N <sub>1</sub>	22.6	12.13	2.74
N <sub>2</sub>	23.3	11.85	2.76
N <sub>3</sub>	20.7	11.98	2.48
N <sub>4</sub>	25.0	12.74	3.19
N <sub>5</sub>	25.6	12.59	3.22