

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

SPACING x NK TRIAL

Catalogue No: 57
 This crop: P, 1R, 2R, 3R
 Site: Townlands, Nollsworth
 Altitude: 400'
 Soil series: Middle Ecca shale
 Design: Random Block, 2 reps.
 Variety: N:Co.310
 Fertiliser: See below
 Water regime: Irrigated

Soil Analysis:

	pH	OM%	Clay%	ppm			
				P	K	Ca	Mg
P	-	-	-	-	-	-	-
1R	5.75	4.32	-	47	100	4960	-
2R	5.56	3.17	-	23	138	5220	1746
3R	5.19	3.21	-	23	187	4860	1906
Age: P	17 mths (2/57 - 7/58)						
1R	17	"	(7/58 - 12/59)	✓			
2R	19	"	(12/59 - 7/61)				
3R	19	"	(7/61 - 2/63)				
Rainfall: P	71.07", 1R 42.52",						
	2R 57.53", 3R 63.99"						
Irrigation: P:	-			1R:	17"		
	2R:	8"		3R:	-		

Object: To compare cane yields at four row widths at two levels of K.

Fertilizer:

Plant	1st Ratoon		2nd Ratoon		3rd Ratoon	
	99 lbs N	99 lbs. N	99 lbs. N	99 lbs. N	99 lbs. N	99 lbs. N
N1	99 lbs N	N1 99 lbs. N	N1 99 lbs. N	N1 99 lbs. N	N1 99 lbs. N	N1 99 lbs. N
N2	148 "	N2 198 "	N2 198 "	N2 198 "	N2 198 "	N2 198 "
N3	198 "	N3 297 "	N3 297 "	N3 297 "	N3 297 "	N3 297 "
K1	160 " K	K1 100 " K	K1 100 " K	K1 100 " K	K1 100 " K	K1 100 " K
K2	320 "	K2 200 "	K2 200 "	K2 200 "	K2 200 "	K2 200 "
P1	83 " P	P1 41 " P	P1 41 " P	P1 41 " P	P1 41 " P	P1 41 " P

Treatments:

	P	1R	2R	3R	
K1	160	100	100	100	lbs K/ac.
K2	320	200	200	200	

Spacing:

3' 0"	spacing between lines	S1
3' 9"	" " "	S2
4' 6"	" " "	S3
5' 3"	" " "	S4

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	K1	59.7	15.35	9.15
	K2	62.2	15.44	9.60 ✓
1st Ratoon	K1	45.8	14.40	6.60
	K2	47.3	14.28	6.76
2nd Ratoon	K1	49.7	14.47	7.17
	K2	51.8	14.49	7.50
3rd Ratoon	K1	36.3	14.75	5.36
	K2	37.9	14.25	5.39

24

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Water regime: Irrigated

Soil Analysis:

	pH	OM%	Clay%	ppm			
				P	K	Ca	Mg
P	-	-	-	-	-	-	-
1R	5.75	4.32	-	47	100	4960	-
2R	5.56	3.17	-	23	138	5220	1746
3R	5.19	3.21	-	23	187	4860	1906
<u>Age:</u> P 17 mths (2/57-7/58)							
	1R	17	"	(7/58-12/59)			
	2R	19	"	(12/59-7/61)			
	3R	19	"	(7/61-7/63)			
<u>Rainfall:</u> P-71.87" 1R-42.52" 2R-57.53"							
				3R-63.99"			
<u>Irrigation:</u> P-							
						1R	17.00
				2R	8.00	3R-	

Object:

To compare 4 row widths at 3 levels of N.

Fertilizer:

	<u>Plant</u>	<u>1st Ratoon</u>	<u>2nd Ratoon</u>	<u>3rd Ratoon</u>
N1	99 lbs N	N1 99 lbs.	N1 99 lbs.	N1 99 lbs.
N2	148 "	N2 198 "	N2 198 "	N2 198 "
N3	198 "	N3 297 "	N3 297 "	N3 297 "
K1	160 " K	K1 100 " K	K1 100 " K	K1 100 " K
K2	320 "	K2 200 "	K2 200 "	K2 200 "
P1	83 " P	P1 41 "	P1 41 "	P1 41 "

Treatments:

	P	1R	2R	3R
N1	99	99	99	99 lbs N/acre
N2	198	198	198	" "
N3	198	297	297	297 " "

Spacing:

3' 0" spacing between lines S1
 3' 9" " " " S2
 4' 6" " " " S3
 5' 3" " " " S4

Results:

	Treatment	T.C.A.	Suc. %	T.S.A.
Plant	N1	56.8	15.38	9.25
	N2	61.3	15.33	9.39
	N3	61.3	15.49	9.49
1st Ratoon	N1	42.3	14.29	6.04
	N2	50.0	14.44	7.21
	N3	47.5	14.29	6.79

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2R	5.56	3.17	-	23	138	5220	1746
3R	5.19	3.21	-	23	187	4860	1906
<u>Age:</u> P 17 mths (2/57 - 7/58)							
1R 17 " (7/58 - 12/59)							
2R 19 " (12/59 - 7/61)							
3R 19 " (7/61 - 2/63)							
<u>Rainfall:</u> P 71.07", 1R 42.52",							
2R 57.53", 3R 63.99"							
<u>Irrigation:</u> P: - 1R: 17"							
2R: 8" 3R: -							

Object: To compare cane yields at four row widths in a plant crop and three ratoons.

Fertilizer:

	<u>Plant</u>	<u>1st Ratoon</u>	<u>2nd Ratoon</u>	<u>3rd Ratoon</u>
N1	99 lbs N	N1 99 lbs. N	N1 99 lbs N	N1 99 lbs. N
N2	148 "	N2 198 "	N2 198 "	N2 198 "
N3	198 "	N3 297 "	N3 297 "	N3 297 "
K1	160 " K	K1 100 " K	K1 100 " K	K1 100 " K
K2	320 "	K2 200 "	K2 200 "	K2 200 "
P1	83 " P	P1 41 " P	P1 41 " P	P1 41 " P

Treatments:

	P	1R	2R	3R	
N1	99	99	99	99	lbs N/acre.
N2	148	198	198	198	" "
N3	198	297	297	297	" "

Spacing:

S1	: 3' 0" spacing between lines
S2	: 3' 9" " " "
S3	: 4' 6" " " "
S4	: 5' 3" " " "

Results:

	Treatment	T.C.A.	S.%C.	T.S.A.
Plant	S1	67.2	15.47	10.38
	S2	64.2	15.38	9.86
	S3	58.8	15.36	9.03
	S4	53.6	15.38	8.24
1st Ratoon	S1	49.3	14.38	7.09
	S2	47.2	14.34	6.79
	S3	44.8	14.26	6.39
	S4	45.0	14.29	6.49
2nd Ratoon	S1	52.7	14.42	7.59
	S2	51.7	14.46	7.46
	S3	49.5	14.35	7.11
	S4	49.2	14.70	7.19
3rd Ratoon	S1	42.0	14.48	6.07
	S2	34.9	14.71	5.10
	S3	34.1	14.41	4.93
	S4	37.4	14.39	5.39

Ranked 57/58 (17m)
Diff. 55/59 (17m)
Ranking 50/61 (19)
Ranking 51/52

	Treatment	T.C.A.	Suc. %	T.S.A.
2nd Ratoon	N1	48.5	14.49	7.02
	N2	52.9	14.51	7.62
	N3	50.9	14.34	7.52
3rd Ratoon	N1	36.6	14.71	5.38
	N2	38.6	14.34	5.52
	N3	36.2	14.44	5.23