SOUTH AFRICAN SUGAR INDUSTRY AGRONOMISTS ASSOCIATION

Code : RVT(NI)9/90 Cat. No.: 1816

TITLE: Released variety trial-N21 and N22 : Pongola/Spring cycle.

1. Particulars of the crop:

This crop Site Region Soil system	:Plant :Blk 1102 Pongola :Northern area :Komatipoort		Soil pH 6.81	0.1	1.8 (11/6/85 P.D.	I.	
Soil form/series :Hutton/Shorrocks Design :Split plot			ppm						
Variety Fertilizer kg/ha - in furrow t/d Total	:see : N	treat P 49		Date Rain	fall:	9/90-:	• . •	Zn 91 M.:843mn	Al

2. Objectives:

To evaluate N21 and N22 in irrigated conditions where harvesting is done in spring.

To test the effects of ripeners on N21 and N22.

Treatments:

3.

Varieties: NCo376, N14, N21, N22 Ripener : Fusilade Super - 396 ml/ha on 17 September 1991

4. Results:

Table 1: Data from unripened of	cane
---------------------------------	------

Variety	NCo376	N14	N21	N22			
Yield component	Stalk data		at harvest		Mean	LSD 05	CV %
Pol%c	12.74	12.85	11.80	13.44	12.71		1.2
Erstc	10.64	10.94	9.74	11.56	10.72	1.7	0.97
Fibre%c	15.1	13,0	14.7	12.9	13.90		
Purity%	83.5	84.2	82.2	85.3	83.8	4.0	1.5
Pop.x1000/ha	120	113	112	112	114	6.9	7.0
Height cm	284	309	285	255	283	15.3	3.9
Mass g/stalk	1116	1477	1329	1329	1313	97.6	5.9
	Ŷ	Leld da	ta				
Cane t/ha	150	174	123	145	148	12.1	8.2
Ers t/ha As % of NCo376	16.0	19.0	12.1	16.8	16.0	2.4	8.5
Cane	100	116	82	97	99	8.2	
Ers	100	119	76	105	100	15.0	

Table 2: Effects of Fusilade Super (Fus. S - Con)

30 days after spraying								
Component	NCo376	N14	N21	N22	Mean	SED±		
ers % c g/stalk ers g/stk	+ 1.41 + 33 + 16.6	+1.21 -10 +13.3	-1.26 -23 -17.0	-0.18 -44 -7.8	+0.30 -11 +1.3	0.64 81.8 13.8		
	53 days after spraying							
ers % c g/stalk ers g/stk	+0.77 -48 +2.3	+0.75 +147 +28.2		+11	+0.83 57 17.2	0.29 56.3 8.2		
64 days after spraying								
ers % c g/stalk ers g/stk t cane/ha t ers/ha	+1.2 -34 +9.4 -8.6 +0.8	+0.36 -89 -4.8 -9.9 -0.4	-60 -10.7	+0.71 -88 -1.3 -3.8 +0.5	+0.4 -68 -1.9 -7.5 -0.3	0.1 43.3 6.8 0.78		

Comments:

* While the crop was well supplied with moisture for twelve months, the Et exceeded moisture received during the final two months. According to the P & L account moisture was probably only freely available for short periods during

the final 72 days before harvesting. The responses to the irrigation and good rainfall when temperatures were more favourable are reflected in the rapid gains in stalk mass during the final weeks before harvesting (Fig.1).

- The most beneficial response in terms of sucrose yields appeared 30 days after spraying for NCo376 (ns) and at 53 days for N14, N21 (p=05) and N22 (ns) (Table 2).
- The short periods of stress after the ripener was applied probably affected the position of the natural breaking point on the stalks and has made the interpretation of the true ripening effects difficult.
- N21 did not match the performance of the other three varieties headed by N14, which produced superior cane and sucrose yields.

RAD/gb

5 May 1992

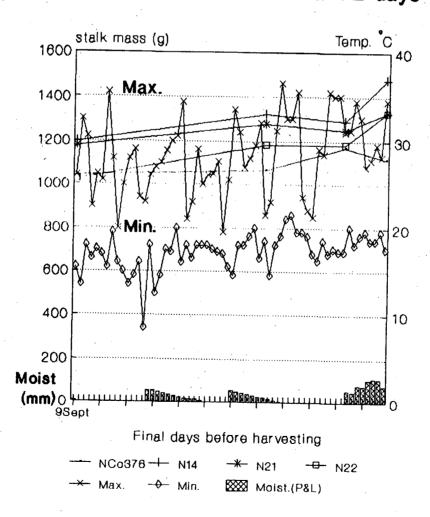


Fig.1:Stalk fresh mass -final 72 days