

COMPARISON OF TISSUE CULTURE WITH SUCKER PLANTING MATERIAL OF GRAND NAIN BANANA AT MONTHLY PLANTING DATES

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The objectives of this study were, firstly, to further evaluate the performance of the cultivar Grand Nain in the Burgershall area, secondly, to compare the effectiveness of planting bananas each month

On the 15th of each month, starting February 1990 and ending January 1991, a row of TC plants (200 mm tall) and a row of pared suckers (2 kg mass) were planted side by side at a density of 1905

timal and uniform between planting dates, and first ratoon suckers were selected 10 months after each planting. Results of the plant crop cycle in this trial are presented in Table 1.

TABLE 1 Comparison of plant morphology and components of yield, between TC and CON plants of Grand Nain, planted at monthly intervals at Burgershall Research Station

Planting date	Planting material	Plant height (m)	Stem circumf. (m)	Bunch mass (kg)	Planting to harvest (months)	Yield per annum (t/ha/an)	Mean harvest date (TC)
February	TC	2,68	0,77	30,3	18,0	38,5	Mid-Aug
	CON	2,49	0,70	27,2	19,0	32,8	
March	TC	2,77	0,82	32,5	17,7	41,9	Mid-Sep
	CON	2,38	0,69	28,2	20,2	31,9	
April	TC	2,59	0,77	33,8	18,6	41,7	Oct/Nov
	CON	2,35	0,72	28,7	20,1	32,7	
May	TC	2,61	0,78	31,3	18,6	38,4	Nov/Dec
	CON	2,38	0,73	29,7	20,2	33,6	
June	TC	2,55	0,79	32,4	17,5	42,3	Nov/Dec
	CON	2,38	0,71	29,5	19,9	33,9	
July	TC	2,45	0,77	35,3	17,6	45,9	Dec/Jan
	CON	2,29	0,73	31,0	19,2	36,9	
August	TC	2,33	0,75	32,2	18,3	45,1	Dec/Jan
	CON	2,16	0,71	29,2	17,1	39,1	
September	TC	2,29	0,75	32,5	15,8	47,0	Mid-Jan
	CON	2,24	0,71	28,9	17,0	38,9	
October	TC	2,31	0,74	33,6	16,5	48,4	Feb/Mar
	CON	2,11	0,68	28,5	16,3	40,1	
November	TC	2,25	0,71	31,1	15,7	45,4	Mid-Mar
	CON	2,16	0,66	25,6	15,5	37,7	
December	TC	2,57	0,71	29,8	16,1	42,4	Mid-Apr
	CON	2,29	0,65	26,3	16,2	37,2	
January	TC	2,63	0,76	30,7	16,2	43,3	Mid-May
	CON	2,31	0,68	22,7	17,3	30,0	
Mean	TC	2,50	0,76	32,1	17,1	43,2	
	CON	2,30	0,70	28,0	18,2	35,4	

of the year in respect of growth, yield and crop timing and thirdly, to compare the relative performance of tissue culture (TC) with conventional (CON) planting material for successive planting dates.

plants/ha (3 x 1,75 m). There were 41 data plants per row. Plantings started on the southern side moving northwards, to minimise shading and competition between planting dates. Management was op-

From Table 1 it is clear that TC planting material produced taller and thicker pseudostems than CON material over all planting dates. This confirms results from previous trials using single planting dates. On

average, TC pseudostems were 200 mm taller, representing a 9 % increase over CON pseudostems and TC pseudostems were also 9 % thicker. Extra plant vigour in the plant crop is considered vitally important, not only for plant crop yield but also for R1 sucker growth and R1 yield.

Bunches from TC plants were larger than those from CON plants and this was true for all 12 planting dates. Average bunch mass increase with TC was 15 %. The average time taken from planting to harvest was about one month shorter with TC, but this varied according to planting date (TC two months shorter with autumn/winter planting dates and no difference with spring planting dates). As a result of larger bunches and shorter cycle time, the yield/annum of TC plants was consistently greater than with CON plants, at each planting date. Average yield/annum increase over all planting dates was 22 % with TC.

The best planting dates for obtaining autumn fruit harvest were October, November, December and January. These were also the best planting dates from a yield/annum viewpoint. Autumn planting (March to May) produced the lowest yields, and fruit were harvested in an undesirable period.

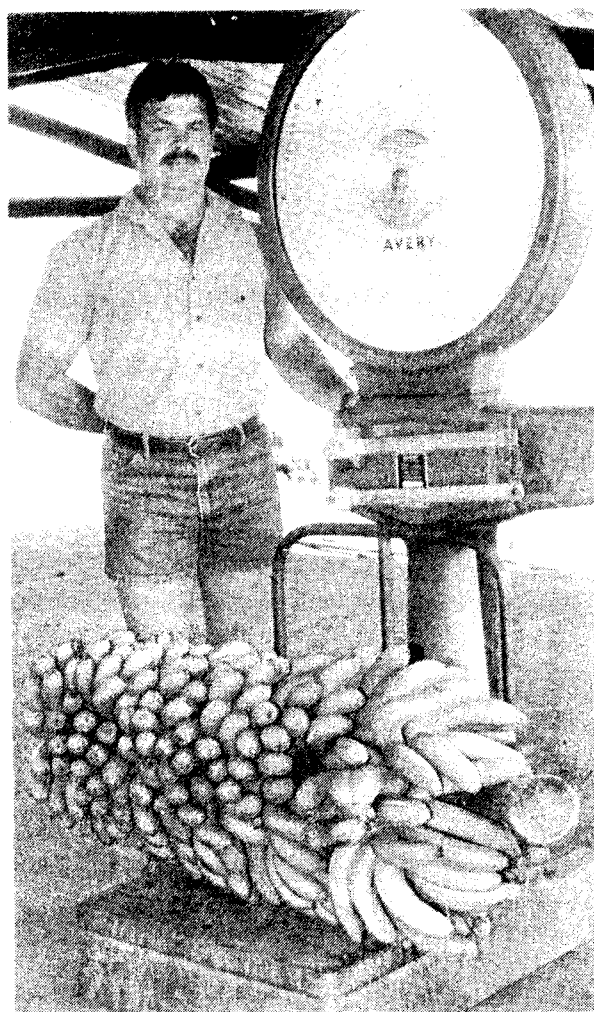
During the course of this trial, it was observed that TC plants had 100 % establishment, and that uniformity of height, bunch mass, and cycle time was much higher than with CON plants. Furthermore, it was observed that many of the CON suckers did not emerge due to either cold weather in the winter plantings, or excessive water in the summer plantings (due probably to frequent water applications for the TC plants). In addition, some of the CON plants succumbed to *Erwinia* rhizome rot during the bunch development phase, which was also ascribed to frequent watering given for the benefit of TC plants. Only perfectly normal and healthy CON plants were used for data collection, and for the comparisons shown in Table 1.

This study will be continued to evaluate the extent of any carry-over effect of using TC, into the R1 and subsequently into the R2 cycle. ●

NUWE REKORD

deur D. Nel

Mnr. Paul Smit, 'n boer van Levubu, het onlangs 'n nuwe rekord opgestel toe hy 'n Williams-piesangtros van 92,3 kg op Levubu Proefplaas laat inweeg het. Sover vasgestel kon word, is dit 'n nuwe SA Rekord. Die wêreldrekord vir die Grootste Piesangtros is 103,0 kg vir 'n Williams-tros wat in Queensland, Australië gegroei is. Mnr. Smit was ook vroeër vanjaar die wenner van die jaarlikse Troskompetiese vir die Levubugebied. ●



Mnr. Paul Smit