

## GROWTH OF CANES AT THE PALUR AGRICULTURAL RESEARCH STATION

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Nine varieties of cane were raised at the above experimental station during 1936—37 for the testing of yields. Opportunity was taken to measure their relative growth rates during the different months.

These canes were planted in March in randomised blocks repeated six times on a total area of 1.5 acres. Their relative heights in the last week of every month were measured on twelve canes selected from each plot. The basal points were marked permanently by driving nails in bamboo stakes planted on a level with the buds of the setts. The measurements were taken in inches from these nails to the topmost collar.

The progressive growth of the varieties and their relative rates during every month are furnished in Table I. The weekly rainfall and the average maximum and minimum temperatures together with the humidities recorded during the week are given in Table II.

It will be seen from Table I that all the varieties put forth their first node by the end of April and were thirteen to twentyfour inches in height by the end of May. Varieties Co. 419 and Co. 421 were the tallest, while 247 B and P. O. J. 2878 were the shortest. In the next month P. O. J. 2878 manifested a better growth than 247 B. The rest were nearly equal. During July, August and September the growth rates continued to be alike in all of them, but in October a setback was noticed, varieties Co. 281 and Co. 407 being the least, and Co. 421 and 430 the most, affected. In the next month a similar slower rate was recorded by all except in the case of Co. 281 which showed a sudden fall. In December all varieties barring 247 B had a further retarded growth; the latter however failed to grow thence forward. By February the rest of the varieties practically ceased to add further to their heights. When their final heights were compared, varieties Co. 407, Co. 419, P. O. J. 2878 and Co. 421 were the tallest, while 247 B was definitely the shortest.

When the periodical growth rates were correlated with the meteorological conditions prevailing during the several months, it was seen that the general growth was similar in all the varieties and that the growth rate was at its height during the Southwest monsoon period when the temperature was relatively high and when the rainfall was better distributed though lower in quantity. During October and November, the heavy rains of Northeast monsoon occurred and there



was also a fall in temperature which seemed to affect the growth rate adversely. January and February had the least rainfall. The temperatures were the lowest and the mornings were dewy. During this period the canes hardly put forth any growth.

These observations may be summarised as follows:—

1. It may be stated in general that when sugarcanes were planted in March at Palur, all the nine varieties grown for yield tests produced their first node in April. They were nearly eighteen inches in height by the end of May.

2. The growth was uniform and at its highest during June to September when the temperature was high and the rainfall was well distributed.

3. In the early months of the Northeast monsoon, the cane varieties exhibited retardation in growth. During the cold months of January and February they hardly made any growth.

The writers take this opportunity to record their thanks to Nawabzada Sadat-Ullah Khan Esq., Deputy Director of Agriculture, IV Circle for the encouragement and facilities afforded to conduct the measurements.

Table I

Statement showing the height measurements of cane varieties in the comparative trial plots during 1936—37.

Serial No.	Name of the varieties	Progressive growth in inches during the month of										Actual growth in inches during the month of									
		May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.
1	247 B	13	25	47	68	88	99	114	126	127	128	13	12	22	21	20	11	15	12	1	1
2	Co. 281	20	40	60	80	101	117	126	131	135	135	20	20	20	21	16	9	5	4	-	-
3	Co. 407	19	39	65	90	109	125	135	145	148	150	19	20	26	25	19	16	10	10	3	2
4	Co. 408	20	39	65	84	107	119	132	138	142	144	20	19	26	19	23	12	13	6	4	2
5	Co. 413	20	39	62	83	101	113	129	135	137	138	20	19	23	21	18	12	16	6	2	1
6	Co. 419	24	49	61	81	101	116	129	139	147	148	24	16	21	20	20	15	13	10	8	1
7	Co. 421	24	42	67	92	114	124	135	143	146	147	24	18	25	25	22	10	11	8	3	1
8	Co. 430	20	41	65	87	108	118	132	141	144	145	20	21	24	22	21	10	14	9	2	1
9	P. O. J. 2878	15	34	57	83	104	117	133	141	146	148	15	19	23	26	21	13	16	8	5	2
Average		20	38	61	83	104	117	130	138	141	142	20	18	23	22	20	13	13	8	3	1

Table II.

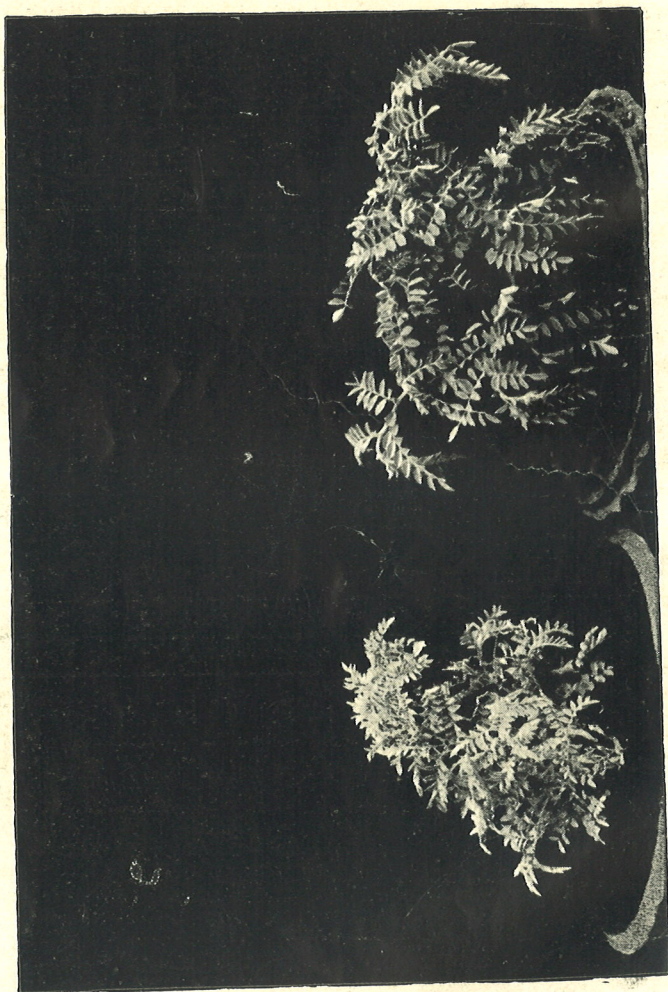
Season.	Month.	Week.	Rainfall 1936-37.	Average maximum Temperature.	Average minimum Temperature.	Average Relative Humidity.
	March	36	1-7	99.1	72	86.4
			8-14	99.7	74	82.6
			15-21	100.7	75	83.4
			22-28	101.3	77	82.1
		Total	0.39	Av. 100.2	Av. 74.5	Av. 83.6



Table II (Contd.).

Season.	Month.	Week.	Rainfall 1936-37.	Average maximum Temperature.	Average minimum Temperature.	Average Relative Humidity.	
Hot weather.	March	29-4	1'56	93'0	75	88'7	
	April	5-11	...	103'7	79	73'9	
		12-18	...	102'4	80	78'4	
		19-25	...	106'4	81	73'7	
	April-May	26-2	...	106'9	81	75'6	
		3-9	...	104'6	79	76'9	
		10-16	...	104'7	82	76'1	
		17-23	1'37	104'6	82	72'6	
	May-June	24-30	0'17	100'1	80	72'6	
		31-6	0'00	105'1	81	68'0	
		Total	3'10	Av. 103'2	Av. 80	Av. 75'6	
	South West Monsoon.	June	7-13	...	103'0	80'6	65'6
			14-20	2'57	103'3	79'7	64'1
			21-27	0'25	95'7	77'7	74'4
June-July		28-4	...	98'9	79'7	66'1	
		5-11	0'23	103'9	80'6	64'1	
		12-18	2'34	96'1	76'3	79'9	
July-Aug.		19-25	...	98'1	79'0	69'6	
		26-1	1'49	101'0	78'6	75'1	
		2-8	1'16	97'0	77'9	74'3	
		9-15	2'88	98'3	76'9	78'3	
Aug-Sept.		16-22	0'18	95'0	76'7	81'9	
		23-29	...	102'1	78'9	70'7	
		30-5	1'70	102'1	79'4	73'1	
		6-12	0'38	101'7	77'9	70'6	
	13-19	...	101'9	77'4	76'1		
	20-26	1'15	101'0	79'6	81'3		
	Total	13'33	Av. 99'9	Av. 78'6	Av. 72'8		
North East Monsoon.	September	27-3	2'35	95'1	77'4	73'7	
		4-10	0'04	99'7	79'6	79'4	
		11-17	...	103'4	78'4	74'3	
		18-24	0'77	101'6	77'6	79'9	
		25-31	1'72	93'0	77'9	82'1	
	November	1-7	13'68	85'4	73'9	86'0	
		8-14	4'12	92'1	75'4	85'3	
		15-21	1'02	93'6	76'7	88'1	
		22-28	0'75	94'7	74'1	82'9	
	Nov.-Dec.	29-5	...	95'7	70'3	83'9	
		6-12	1'29	98'0	74'0	84'6	
		13-19	3'13	88'1	72'6	87'6	
		20-26	0'16	95'4	73'9	91'0	
	Dec.-Jan.	27-2	...	95'4	71'6	81'6	
3-9		...	94'4	71'7	83'4		
10-16		1'45	92'3	72'7	85'0		
Total		30'48	Av. 94'9	Av. 74'9	Av. 83'1		
Cold Weather.		January	17-23	...	95'1	71'3	81'1
	24-31		...	95'9	69'4	84'1	
	1-7		...	98'6	72'4	87'0	
	February	8-14	...	97'6	72'0	85'1	
		15-21	...	99'1	75'4	85'9	
		22-28	...	100'0	75'5	84'0	
		1-7	...	100'6	75'3	81'9	
	March	8-14	1'14	98'4	73'6	82'9	
		15-21	1'04	95'9	76'5	83'3	
		22-28	...	101'1	76'7	78'1	
		Total	2'18	Av. 98'2	Av. 73'8	Av. 83'3	
	Grand Total 49'09.						





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